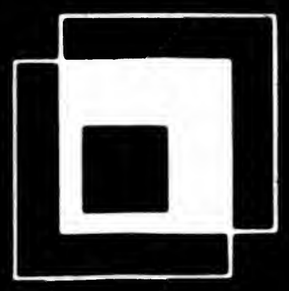
U. S.
OFFICIAL GAZETTE
UNITED STATES
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VOL 877
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MICRO PHOTO DIVISION



BELL & HOWELL

A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

August 4, 1970 Volume 877 Number 1

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of June 1970

Examiner affirmed	132
Examiner affirmed in part	16
Examiner reversed	34
Total	182

Certificates of Correction for the Week of Aug. 4, 1970

Re. 26,701	3,476,356	3,495,135	3,502,346
Re. 26,806	3,476,576	3,495,675	3,502,364
Re. 26,837	3,476,633	3,496,315	3,503,554
3,383,678	3,476,741	3,496,335	3,503,759
3,415,232	3,477,652	3,496,459	3,503,981
3,415,623	3,478,784	3,496,902	3,504,093
3,416,930	3,480,774	3,497,714	3,504,714
3,417,243	3,480,785	3,497,849	3,505,071
3,419,499	3,482,000	3,497,934	3,505,303
3,421,116	3,483,050	3,498,201	3,505,308
3,423,403	3,483,104	3,498,385	3,505,419
3,427,314	3,483,125	3,498,500	3,505,454
3,429,130	3,483,896	3,498,575	3,505,581
3,429,914	3,483,976	3,498,599	3,505,965
3,431,069	3,484,108	3,498,907	3,506,075
3,433,302	3,484,218	3,499,013	3,506,089
3,435,717	3,484,492	3,499,044	3,506,226
3,440,231	3,485,688	3,499,418	3,506,463
3,441,563	3,485,798	3,499,425	3,506,464
3,446,776	3,487,010	3,499,466	3,506,501
3,447,508	3,487,669	3,499,483	3,506,524
3,448,870	3,487,847	3,499,663	3,506,553
3,450,869	3,488,188	3,499,861	3,506,672
3,452,789	3,488,437	3,500,637	3,506,685
3,458,445	3,488,901	3,500,676	3,506,689
3,459,734	3,489,791	3,500,712	3,507,654
3,461,118	3,490,073	3,500,811	3,507,842
3,461,160	3,490,689	3,501,116	3,508,043
3,462,361	3,490,746	3,501,135	3,508,059
3,463,158	3,491,085	3,501,180	3,508,189
3,463,504	3,491,585	3,501,213	3,508,569
3,465,245	3,491,693	3,501,409	3,509,119
3,465,984	3,492,321	3,501,458	3,509,412
3,466,041	3,493,564	3,501,518	3,509,612
3,466,165	3,493,928	3,501,586	3,509,996
3,467,659	3,494,214	3,501,984	3,510,018
3,470,162	3,494,504	3,502,122	3,510,450
3,471,460	3,494,956	3,502,260	3,511,518

Disclaimer

3,487,999.—*Alan W. B. Nash,* Torrance, *Harvey W. La Branche,* Palos Verdes Peninsula, *Howard F. Newman,* Los Angeles, and *Marjorie Ann M. Smith,* Gardena, Calif. ROADWAY TOY. Patent dated Jan. 6, 1970. Disclaimer filed June 18, 1970, by the assignee, *Mattel, Inc.*

Hereby disclaims the terminal portion of the term of the patent subsequent to December 16, 1986.

Patent Front Page Format

August 4, 1970 marks the inauguration of certain changes and innovations in the form and method of producing printed copies of patents. Nearly 100 patents in this issue were electrophotographically composed for printing as part of a comprehensive system for developing and utilizing a patent full-text library in computer processable form. Numbers of patents produced in this manner are scheduled to increase until *all* patents enter the machineable data base.

Patents produced by this new system are distinguishable in appearance from all others in the following respects:

(a) Front Page

The first sheet of each patent presents an arrangement of the applicable bibliographic type of data elements which are itemized and discussed elsewhere; an abstract of the disclosure (or a claim when no abstract is available); and, a reduced reproduction of a representative drawing figure when the patent contains any drawings.

(b) Other changes

With identification of the patent appearing on the front page, the title of the invention and the name of the inventor will no longer be printed in the heading of drawings. The patent number, date of issuance, and sheet-of-sheets information will continue to be printed on the drawings.

All of the bibliographic type of data and the abstract which previously appeared on sheets containing text matter are removed from such pages and consolidated on the front page.

Data elements presented on the front page are accompanied by a number which appears in brackets.

The numbers are data element identifiers which have been adopted internationally for use on patents and published applications to facilitate the worldwide use of such documents as set forth below:

[11]	Patent number
[21]	Application number
[22]	Filing date
[31]	Application number (of a Convention priority application)

New Applications Received During May 1970

Patents	8198
Designs	462
Plant Patents	9
Reissues	38
	8707

Issue—August 4, 1970

Patents	900	No. 3,522,401 to No. 3,523,300, Incl.
Designs	50	No. 218,219 to No. 218,268, Incl.
Plant Patents	3	No. 2,986 to No. 2,988, Incl.
Total	953	

[32] Filing date (of Convention priority application)
[33] Country in which the Convention priority application was filed
[45] Date of Patent issue: followed by terminal disclaimer, if any
[51] International Patent Classification: basic classification in bold face type; other in light face
[52] U.S. Classification: Original class and subclass in bold face type; cross-references in light face
[54] Title of the invention: Followed by the number of claims and drawing figures
[56] References cited: List of prior art documents cited by the examiner, arranged in the following categories:
United States Patents
Foreign Patents or Applications
Other Publications
[60] Related U.S. Applications:
[62] Due to Division(s)
[63] Due to Continuation(s)
[64] Due to reissue(s)
[72] Name(s) of the Inventor(s)
[73] Assignee(s)
[*] Field of Search: Subclasses recorded on the file wrapper as searched by the examiner
[*] Primary Examiner: The person responsible for review of the patent allowance or who, in addition, examined and allowed the patent application
[*] Assistant Examiner: the person who examined and allowed the patent application, other than a primary examiner
[*] Attorney: the principal attorney of record at the time the allowed application was prepared for patent printing
[*] Abstract

Element numbers have not been assigned to the items denoted by the sign [*]

For earlier information respecting the front page format and date entries, reference is made to the notice published in the OFFICIAL GAZETTE of March 11, 1969 (860 O.G. 336–7).

WILLIAM E. SCHUYLER, JR.,
Commissioner of Patents.

July 16, 1970.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JULY 14, 1970

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	12-03-68
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	4-02-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	8-13-68
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director. Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	1-02-69
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director. Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	5-27-68
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	7-02-69
SECURITY, GROUP 220—S. BOYD, Director. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	9-09-68
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director. Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	12-09-68
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	11-27-68
PHYSICS, GROUP 280—R. L. EVANS, Director. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	8-27-68
DESIGNS, GROUP 290—S. BOYD, Director. Industrial Arts; Household, Personal and Fine Arts.	10-28-69
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director. Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	5-19-69
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director. Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	1-09-69
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director. Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	4-01-69
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director. Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	7-01-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director. Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	3-17-69
Total number of pending applications (excluding Designs)	184,894
Total number of Design applications pending	2,981

Expiration of patents: The patents within the range of numbers indicated below expire during July 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents.....Numbers 2,644,159 to 2,647,258, inclusive
Plant Patents.....Numbers 1,201 to 1,207, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE MAJESTIC DISTILLING COMPANY, INC.

No. 8220. Decided February 5, 1970

[57 CCPA —; 420 F.2d 1086; 164 USPQ 386]

1. TRADEMARK—DESCRIPTIVENESS—SUGGESTIVENESS.

"A mark may be 'merely descriptive' and not registrable if it only describes a characteristic of the goods. * * * On the other hand, a legal distinction has been drawn between merely descriptive terms and terms that are only suggestive of the goods or their characteristics."

2. SAME—SAME—SAME—*In re Colonial Stores* CONSTRUED.

"In support of its position that the term 'CHARRED KEG' is suggestive rather than descriptive, appellant relies on *In re Colonial Stores* * * *. The court there indicated that one of the tests used to determine whether a given mark is 'merely descriptive' is based upon what it would mean to a potential customer when applied to applicant's goods. In that case it was held that the term 'SUGAR & SPICE' applied to bakery goods did not tell the potential customer only what the goods were, their functions, characteristics, use, or ingredients, but would, by virtue of the old nursery rhyme, evoke an association with 'everything nice.'"

3. SAME—SAME—SAME—*In re Sunbeam Corp.* CONSTRUED.

"Appellant also cites *In re Sunbeam Corp.* * * * wherein it was held that the mark 'Spray Mist' as applied to an electric pressing iron, although suggestive of one feature or function of the goods, was not merely descriptive."

4. SAME—SAME—SAME—*Roselux Chem. Co.* v. *Parsons Ammonia Co.* CONSTRUED.

"In the *Roselux* case * * * it was sought to register 'Sudsy' as a trademark for ammonia containing synthetic detergent. The product was a new type of household ammonia which became sudsy when the bottle was shaken. We held that 'sudsy ammonia' was a common descriptive name for the product * * *."

5. SAME—SAME—SAME—"CHARRED KEG" FOR WHISKEY.

"In the instant case [where registration was refused on the ground that the mark was merely descriptive of the goods], while it appears that bourbon is an American-type whiskey which has been aged in charred containers, it does not, in our opinion, follow that 'CHARRED KEG' when used on whiskey conveys to the consuming public that it is a particular type of whiskey, though it may suggest that it is one which has been aged in charred containers. The record does not show that bourbon or other whiskey is actually aged in 'kegs.' Registration will not interfere with the right of the trade to state that fact that its whiskey has been aged in charred oak barrels, vats or other containers."

6. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—TRADEMARK—MISDESCRIPTIVENESS.

Upon reviewing a decision of the Trademark Trial and Appeal Board affirming the Examiner's refusal to register the mark "CHARRED KEG" for whiskey on the ground that the mark is merely descriptive, and with reference to the statement by the Board that "If said term were applied to a type of whiskey other than bourbon it could well be misdescriptive thereof," *Held* that "On the misdescriptive question, which we cannot regard as a ground of rejection, it may be that the Patent Office will wish to reconsider, in light of our reversal of the rejection for descriptiveness, whether the description of the goods is too broad in view of the specimens which show use only on bourbon."

APPEAL from Patent Office. Serial No. 204,484.

REVERSED.

Mercer L. Stockell, for appellant.

Joseph Schimmel (*Charles R. Fowler*, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, ALMOND, BALDWIN, LANE, *Associate Judges*, and RAO, *Chief Judge*, sitting by designation

RICH, *Acting Chief Judge*, delivered the opinion of the court.

This appeal is from a decision by the Trademark Trial and Appeal Board, 153 USPQ 884 (Abstract), affirming the Examiner's refusal to register "CHARRED KEG" as a trademark for whiskey on the ground that the mark is merely descriptive of applicant's goods. (Section 2(e)(1) Trademark Act of 1946, 15 U.S.C. 1052(e).) The Board also said: "If said term were applied to a type of whiskey other than bourbon it could well be misdescriptive thereof."

While appellant concedes that the mark is not purely arbitrary, it urges that it does not describe any ingredient, condition, or quality of the whiskey but merely suggests the aging of whiskey and serves as no more than a vague association with excellence.

[1] A mark may be "merely descriptive" and not registrable if it only describes a characteristic of the goods. *In re Walker Manufacturing Co.*, 53 CCPA 1133, 359 F.2d 474, 149 USPQ 528 (1966); *In re Preformed Line Products Co.*, 51 CCPA 775, 323 F.2d 1007, 139 USPQ 271 (1963); *Roselux Chem. Co.* v. *Parsons Ammonia Co.*, 49 CCPA 931, 299 F.2d 855, 132 USPQ 627 (1962). On the other hand, a legal distinction has been drawn between merely descriptive terms and terms that are only suggestive of the goods or their characteristics. *In re Colonial Stores*, 55 CCPA 1049, 394 F.2d 549, 157 USPQ 382 (1968); *Audio Fidelity, Inc.* v. *London Records, Inc.*, 51 CCPA 1429, 332 F.2d 577, 141 USPQ 792 (1964). The issue is whether, as applied to whiskey, "CHARRED KEG" is merely descriptive or merely suggestive.

Appellant's application sets forth that the mark has been used "For Whiskey," but the specimen label shows it is applied to "Straight Bourbon Whiskey." Certain background facts must be considered in resolving the issue.

Bourbon whiskey, as defined in Webster's Third International Dictionary (1966), is "a whiskey distilled from a mash containing at least 51 percent corn, the rest being malt and rye, and aged in new charred oak containers." Corn whiskey, however, is defined as "whiskey distilled from a mash made up of not less than 80 percent corn and aged in an uncharred or used oak container." [1]

The regulations under the Federal Alcohol Administration Act, Title 27, Code of Federal Regulations, part 5, section 5.10 provide:

(j) *Age.* * * * In the case of American type whiskies produced on or after July 1, 1936, other than corn whisky, straight corn whiskies, blended corn whisky, and blends of straight corn whisky "age" means the period during which the whisky has been kept in charred new oak containers.

[2] In support of its position that the term "CHARRED KEG" is suggestive rather than descriptive, appellant relies on *In re Colonial Stores*, supra. The court there indicated that one of the tests used to determine whether a given mark is "merely descriptive" is based upon what it would mean to a potential customer when applied to applicant's goods. In that case it was held that the term "SUGAR & SPICE" applied to bakery goods did not tell the potential customer only what the goods were, their functions, characteristics, use, or in-

[1] See also "The Earnest Drinker" by Oscar A. Mendelsohn; "Grossman's Guide to Wine, Spirits and Beers" by Harold J. Grossman; "The Bourbon Production Story" appearing in "Patterson's California Beverage Gazetteer" for September 1965. These indicate that bourbon and American type whiskeys, except corn whiskey, are aged in charred oak containers.

gredients, but would, by virtue of the old nursery rhyme, evoke an association with "everything nice."

[3] Appellant also cites *In re Sunbeam Corp.*, 54 CCPA 901, 370 F.2d 358, 152 USPQ 116 (1967), wherein it was held that the mark "Spray Mist" as applied to an electric pressing iron, although suggestive of one feature or function of the goods, was not merely descriptive.

[4] In the *Roselux* case, supra, it was sought to register "Sudsy" as a trademark for ammonia containing synthetic detergent. The product was a new type of household ammonia which became sudsy when the bottle was shaken. We held that "sudsy ammonia" was a common descriptive name for the product, stating (pp. 937–938):

> One common descriptive name of the product to which "sudsy" is applied is "detergent ammonia" but proof of this fact does not establish that "sudsy ammonia" is not also a common descriptive name. Another descriptive name is "ammonium hydroxide solution containing synthetic detergent." However, in considering whether "sudsy ammonia" is a *common* descriptive name of the product we cannot fail to take into consideration the class of people who will commonly be using it and what they will commonly call it. The record here shows, through the testimony of Mr. Ingham and in other respects, that the product is intended, not for chemists, but in his words for "Mrs. Consumer," the average housewife. Assuming her familiarity with clear ammonia or cloudy ammonia or even pine-scented ammonia, the thing she is most likely to remember about this new product, especially after having once used it or seen it demonstrated, is that it is *sudsy* ammonia.

[5] In the instant case, while it appears that bourbon is an American-type whiskey which has been aged in charred containers, it does not, in our opinion, follow that "CHARRED KEG" when used on whiskey conveys to the consuming public that it is a particular type of whiskey, though it may suggest that it is one which has been aged in charred containers. The record does not show that bourbon or other whiskey is actually aged in "kegs." Registration will not interfere with the right of the trade to state the fact that its whiskey has been aged in charred oak barrels, vats or other containers.

[6] On the misdescriptive question, which we cannot regard as a ground of rejection, it may be that the Patent Office will wish to reconsider, in light of our reversal of the rejection for descriptiveness, whether the description of the goods is too broad in view of the specimens which show use only on bourbon.

The decision of the Board is reversed.

REVERSED.

U.S. Court of Customs and Patent Appeals

THE PROCTER & GAMBLE COMPANY *v.* JOSEPH D. CONWAY, D.B.A. THE CERTIFIED CHEMICAL AND EQUIPMENT CO.

No. 8231. Decided January 22, 1970

[57 CCPA —; 419 F.2d 1332; 164 USPQ 301]

1. TRADEMARK—CONFUSING SIMILARITY—"MR. CLEAN" AND "MISTER STAIN" FOR CLEANING PRODUCTS.

"It is true that the words 'clean' and 'stain' in their usual construction and common acceptation have opposite meanings; 'clean' implies absence of 'stain' and 'stain' connotes that the object affected thereby is not clean. But we think the cardinal consideration here is the impact of the marks ['Mr. Clean' and 'Mister Stain'] *as used* on the basis of conditions and circumstances surrounding the purchase of the goods of the parties in the market place. When used, as here, in connection with cleaning products, we think that the impression to be gained by the average purchaser would be that both words pertain to a state of relative cleanliness. While the word 'stain,' disassociated from the product, connotes a blemish or a discoloration implying uncleanliness, it is our view that the commercial impression engendered by the mark when applied to a cleaning product would be that the cleaning product will remove the blemish, spot or stain."

2. SAME—SAME—SAME MEANING—"STAIN" AND "CLEAN."

"While here we have both aural and optical dissimilarity between 'stain' and 'clean,' such factors are not necessarily controlling on the issue of likelihood of confusion in the market place. A designation may well be likely to cause purchaser confusion as to the origin of goods because it conveys, as used, the same idea, or stimulates the same mental reaction, or in the ultimate has the same meaning."

3. SAME—SAME—DOUBT RESOLVED IN FAVOR OF PRIOR USER.

"It is our view that appellee acted at its peril when, with the world to choose from in selecting a name for its goods, it took the courtesy title long in priority used by appellant and coupled it with a word having a relationship to cleaning, or a state of cleanliness, for its trademark. While we are not persuaded that the record presents substantial doubt on the issue of likelihood of confusion, such doubt as there may be should be resolved against the newcomer."

APPEAL from Patent Office. Opposition No. 45,067.

REVERSED.

Melville, Strasser, Foster & Hoffman (*John W. Melville*) for appellant.

Jay M. Cantor for appellee.

Before RICH, *Acting Chief Judge*, ALMOND, BALDWIN, LANE, *Associate Judges*, and RAO, *Chief Judge*, sitting by designation

ALMOND, *J.*, delivered the opinion of the court.

The Procter & Gamble Company appeals from the decision of the Trademark Trial and Appeal Board, 153 USPQ 480, dismissing its opposition to the application of Joseph D. Conway, d.b.a. The Certified Chemical and Equipment Co. to register "MISTER STAIN" for a stain removing compound,[1] alleging continuous use in interstate commerce since March 4, 1964.

Appellant's opposition is predicated on its allegations of prior and continuous use of the registered marks MR. CLEAN for a sudsing cleaner, cleanser and detergent;[2] MR. CLEAR for a windshield cleaner,[3] and a sudsing cleaner, cleanser, and detergent;[4] MR. SHEEN,[5] LADY CLEAN[6] and MRS. CLEAN,[7] the latter three being each for a sudsing cleaner, cleanser, and detergent. The notice of opposition also alleges prior and continuous use of the common-law trademark MASTER-KLEAN for a liquid all-purpose detergent and cleaner.

The record reveals that only appellant-opposer took testimony. The appellee-applicant offered no testimony as to its use of the mark MISTER STAIN and therefore the earliest use upon which it can rely is the filing date of its application, namely, July 30, 1964; thus prior use resides with appellant.

It appears that appellant has, since about 1958, continuously used MR. CLEAN as a trademark for a sudsing cleaner, cleanser and detergent. The product under this mark is sold widely in groceries, supermarkets and similar outlets throughout the United States. The MR.

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[1] Serial No. 198,835, filed July 30, 1964.
[2] Reg. No. 658,915, issued February 25, 1958.
[3] Reg. No. 683,773, issued August 18, 1959.
[4] Reg. No. 697,194, issued May 3, 1960.
[5] Reg. No. 699,967, issued June 21, 1960.
[6] Reg. No. 723,976, issued November 14, 1961.
[7] Reg. No. 711,333, issued February 14, 1961.

CLEAN cleaner has been extensively advertised through such media as television, newspapers and radio. It has been promoted as a general cleaning preparation and is recommended for a variety of purposes. The MR. CLEAN product went into national distribution in 1959, since which time in excess of one million dollars has been spent yearly in advertising. Sales during this period have exceeded one million cases per year, representing more than twelve million bottles.

The record indicates that appellant and a predecessor have used the mark MASTER-KLEAN for a liquid all-purpose detergent and cleaner since 1943.

We deem it pertinent to note that the record on behalf of appellee discloses that the courtesy titles "Mr." and "Master" as parts of trademarks for cleaning and detergent products have been presumptively used and registered by several others. Of record are such third-party registrations of MR. CAPPS for rust and scale removing preparations; MR. PAUL for hair shampoo; MR. BUBBLE for a powdered detergent use as a bubble bath preparation; MR. MEARS for a glass cleaner and comb and brush cleaner; MISTER JINX for an all-purpose household cleaner and detergent; MR. BUB'L for bubble bath preparations, and MR. DRI for a pulverulent absorbent composition for absorbing oil, grease, and wet spots on surfaces.

We agree with the Board that the record augmented by the pleaded registrations is sufficient to establish appellant's prior rights in the marks MR. CLEAN, MR. CLEAR, MR. SHEEN, LADY CLEAN, MRS. CLEAN and MASTER-KLEAN, for the cleaning preparations associated therewith. While the competing products of the parties may vary in application, they are nevertheless, cleaning preparations which would in the ordinary course of trade be sold through the same retail outlets to the same class of purchasers. The sole issue for ultimate resolution, therefore, is whether or not appellee's mark MISTER STAIN so resembles any of appellant's marks that confusion in trade as to the source of the goods sold thereunder is likely to occur.

Appellant-opposer's position below, and in essence here, substantially as quoted in the opinion of the Board, is:

> The mark MR. CLEAN and each of opposer's other marks * * * consist of a courtesy title (Mr., Mrs., Lady, (Master)) coupled with a word having a significance associated with cleaning (CLEAN, CLEAR, SHEEN). The combination of a word associated with cleaning with a courtesy title and particularly with a courtesy title Mr. or Mister is wholly and entirely arbitrary in the field of cleaning products and obviously it is the courtesy title which makes the mark distinctive. It is the dominant portion of the mark.
>
> Thus, * * * the combination of the courtesy title Mister with the word STAIN, wherein the Mister portion of the mark is wholly and entirely arbitrary, is calculated to cause confusion in trade and to lead the purchasing public to believe that MISTER STAIN is another product of the manufacturer of MR. CLEAN, MR. CLEAR, MR. SHEEN, MRS. CLEAN, LADY CLEAN and MASTER-KLEAN, or is in some way sponsored by this opposer.

To countervail appellant's position, appellee advances the argument that MR. CLEAN is a weak mark and therefore is entitled to a limited scope of protection inasmuch as others vending their products in the area of cleaners and detergents have adopted the courtesy title "Mr." or "Mister" as a part of their trademarks; that "clean" is generic or descriptive of the goods and further, to combine the courtesy "Mister" with the word "stain" leave it far removed from "clean" not only in appearance but also substantially suggests an opposite meaning.

In response to the positions asserted by the parties, the Board observed that while appellant did not have exclusive title to the courtesy title "Mr." or "Mister" and that "clean" has an obviously descriptive significance, yet by reason of appellant's extensive use and promotion of the mark MR. CLEAN it had become well established as an indication of origin of its cleaning preparation, thereby investing appellant with "a protectable interest therein." While the record reflects a paucity of evidence relating to the extent of the use of the marks MR. CLEAR, MR. SHEEN, LADY CLEAN, MRS. CLEAN and MASTER-KLEAN, the Board recognized that proper effect must be accorded to appellant's prior use and/or registrations of these marks. The quandary posed, however, as noted by the Board, is the extent of the protection to be accorded to MR. CLEAN and the quantum of effect to be given to the latter marks. In response to the quandary posed, it was the view of the Board, arguendo, in which we share, that by virtue of its ownership and use of the marks of record, appellant has a right to preclude subsequent registration of a mark embracing the courtesy title "Mr." or "Mister" associated with a word conveying a *cleaning* connotation.

The Board found that such was not the situation here, holding that the word "stain" has a significance distinctly opposite to that engendered by the word "clean" or "cleaning," and that in view of the obvious differences between "stain" and "clean" and the over-all differences between MISTER STAIN and each of applicant's marks, purchasers were not likely to mistakenly assume that the products sold thereunder would emanate from the same producer.

Under the circumstances here adduced, we think the rationale applied by the Board, while sound in principle, was *in vacuo* and productive of an erroneous conclusion.

[1] It is true that the words "clean" and "stain" in their usual construction and common acceptation have opposite meanings; "clean" implies absence of "stain" and "stain" connotes that the object affected thereby is not clean. But we think the cardinal consideration here is the impact of the marks *as used* on the basis of conditions and circumstances surrounding the purchase of the goods of the parties in the market place. When used, as here, in connection with cleaning products, we think that the impression to be gained by the average purchaser would be that both words pertain to a state of relative cleanliness. While the word "stain," disassociated from the product, connotes a blemish or a discoloration implying uncleanliness, it is our view that the commercial impression engendered by the mark when applied to a cleaning product would be that the cleaning product will remove the blemish, spot or stain.

We find persuasive and logical the argument of appellant that:

> If MISTER STAIN were applied to a product for coloring wood prior to finishing, the mark would mean what it says; but where the mark MISTER STAIN is applied to a cleaning product, it obviously does not mean that the product will produce a stain. The impression created on a purchaser by the name MISTER STAIN as applied to a cleaning product is that it will clean stains or remove stains; and a product specifically for removing stains from rugs or upholstery and called MISTER STAIN could very well be a companion product for a specific purpose to appellant's general purpose cleaning product MR. CLEAN, particularly since the MR. CLEAN package instructions state that it should not be used on cloth.

[2] While here we have both aural and optical dissimiliarity between "stain" and "clean," such factors are not necessarily controlling

on the issue of likelihood of confusion in the market place. A designation may well be likely to cause purchaser confusion as to the origin of goods because it conveys, as used, the same idea, or stimulates the same mental reaction, or in the ultimate has the same meaning. We think that this record discloses such a situation.

[3] It is our view that appellee acted at its peril when, with the world to choose from in selecting a name for its goods, it took the courtesy title long in priority used by appellant and coupled it with a word having a relationship to cleaning, or a state of cleanliness, for its trademark. While we are not persuaded that the record presents substantial doubt on the issue of likelihood of confusion, such doubt as there may be should be resolved against the newcomer.

Upon consideration of the authorities relied on and the arguments presented, we are of the opinion that the Board committed error in dismissing the opposition.

The decision of the Board is, accordingly, reversed.

REVERSED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,690,610, Begle and Gaudreau, MILLING CUTTER, **filed** May 22, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70–1132–WPG. *Kysor Industrial Corporation* v. *Hevi-Kut, Inc. and Mor-Jon, Inc.*

2,731,120. (See 3,104,891.)

2,741,893, Vandamme and Rouyer, METHOD AND APPARATUS FOR PRODUCING CRINKLED YARN; **2,761,272**, same, APPARATUS FOR PRODUCING CURLED YARN; **2,780,047**, same; **2,788,634**, H. Crouzet, TWIST ARRESTORS FOR YARN TWISTERS; **2,823,513**, Vandamme and Rouyer, APPARATUS FOR PRODUCING CURLED YARN; **2,823,514**, same; **2,891,375**, same, APPARATUS FOR THE PRODUCTION OF HIGH-BULK YARN; **2,944,319**, H. Crouzet, HEATING DEVICE FOR FILAMENTS; **3,012,397**, H. Servage, METHOD OF MAKING HIGH-BULK YARNS; **3,117,361**, H. Crouzet, YARN HEAT TREATMENT APPARATUS; **3,117,410**, same, PRODUCTION OF BULKED PLY YARNS OF BALANCED TENSILE STRENGTH AND THE YARN; **3,123,973**, H. Servage, PROCESS FOR THE PRODUCTION OF FANCY YARNS HAVING A THREE DIMENSIONAL CURL; **3,137,119**, C. Crouzet, PROCESS FOR THE PRODUCTION OF HIGH BULK YARNS; **3,165,881**, De Moncult and Crouzet, PRODUCTION OF HIGH BULK YARNS; **3,166,881**, H. Servage, APPARATUS FOR THE MANUFACTURE OF HIGHLY CRIMPED YARNS BY FALSE TWIST; **3,232,037**, H. Crouzet, FALSE-TWIST SPINDLE; **3,237,392**, same, PROCESS FOR PRODUCING BULKED YARN; **3,283,414**, same, THERMAL TREATMENT OF SYNTHETIC TEXTILES; **3,333,409**, same, PROCESS FOR PRODUCING HIGH BULK STRETCH YARNS; **3,382,656**, H. Crouzet, FALSE-TWIST FRAMES AND METHOD FOR TEXTURING SYNTHETIC FILAMENTS, **filed** Apr. 8, 1970, D.C., M.D.N.C. (Greensboro), Doc. C–70–G–70, *The Schwarzenbach-Huber Company* v. *Deering Milliken Research Corporation et al.* **Same, filed** Apr. 28, 1970, D.C., M.D.N.C. (Greensboro), Doc. C–85–G–70, *Spring-Tex, Inc.* v. *Deering Milliken Research Corporation et al.* **Same, filed** Apr. 30, 1970, D.C., M.D.N.C. (Greenboro), Doc. C–90–G–70, *Jonathan Logan, Inc.* v. *Deering Milliken Research Corporation.* **Same, filed** May 1, 1970, D.C., M.D.N.C. (Greensboro), Doc. C–93–G–70, *Olympia Mills, Inc.* v. *Deering Milliken Research Corporation et al.* **Same, filed** May 20, 1970, D.C., M.D.N.C. (Greensboro), Doc. C–105–G–70, *Burlington Industries, Inc.* v. *Deering Milliken Research Corporation et al.* **Same, filed** May 20, 1970, D.C., M.D.N.C. (Greensboro), Doc. C–106–G–70, *Madison Throwing Company, Inc.* v. *Deering Milliken Research Corporation et al.*

2,761,272. (See 2,741,893.)

2,780,047. (See 2,741,893.)

2,788,634. (See 2,741,893.)

2,803,105, Stoddard and Seem, APPARATUS FOR PROCESSING TEXTILE YARNS; **2,803,108**, same, METHODS OF PROCESSING TEXTILE YARNS; **2,803,109**, same, METHOD OF PROCESSING THERMOPLASTIC YARNS; **3,044,247**, R. G. Hilbert, HIGH SPEED FALSE TWISTER SPINDLE AND MACHINE; **3,134,218**, same, HIGH SPEED FALSE TWIST SPINDLE DRIVE, **filed** Apr. 28, 1970, D.C., E.D.N.Y. (Brooklyn), Doc. 70C–554, *Carolina Throwing Company Inc.* v. *Leesona Corporation.*

2,803,108. (See 2,803,105.)

2,803,109. (See 2,803,105.)

2,816,591, K. Reiner, LIGHT WEIGHT METAL LOCK NUT HAVING A RELATIVELY HARD, THIN AND RESILIENT LOCKING SLEEVE PORTION, **filed** May 11, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70–1030–CC, *Kaynar Mfg. Co. Inc.* v. *Republic Fastener Mfg. Corp.*

2,823,513. (See 2,741,893.)

2,823,514. (See 2,741,893.)

2,841,056, L. D. Hincher, PAPER EDGE FLARING MACHINE, **filed** Dec. 12, 1969, D.C., E.D. Mo. (St. Louis), Doc. 69C–438(3), *Howard F. Hincher and Custom Paper Products* v. *Rbt. A. Smiley and Smiley Inv. Corp and Ward Paper Box Co.* Consent decree patent infringed by defendants, Apr. 13, 1970.

2,891,375. (See 2,741,893.)

2,944,319. (See 2,741,893.)

2,967,030, R. T. Whitcomb, BOUNDARY-LAYER CONTROL MEANS FOR LIFTING WINGS, **filed** May 18, 1970, U.S. Ct. of App., 4th Cir., Va (Richmond), Doc. 14,629, *General Dynamics Corp. and American Airlines, Inc.* v. *Richard T. Whitcomb.*

2,971,259. (See 3,168,909.)

3,012,397. (See 2,741,893.)

3,044,247. (See 2,803,105.)

3,057,195, Bently and Price, FORCE MEASURING SYSTEM; **3,074,279**, H. D. Morris, POSITION DETECTING TRANSDUCER, **filed** Mar. 6, 1969, D.C.N.J. (Camden), Doc. C–261–69, *Systron-Donner Corporation* v. *Schaevitz Engineering.* Action terminated administratively, without prejudice, May 21, 1970.

3,074,279. (See 3,057,195.)

3,104,891, T. B. Dalton, LANDING GEAR FOR SEMI-TRAILERS AND THE LIKE; **2,731,120**, same, RATCHET CRANK, **filed** May 15, 1970, D.C., S.D. Ohio (Cincinnati), Doc. 7507, *Westran Corporation* v. *Homan and Company, Inc.*

3,115,879, D. Kaplan, BODY SUPPORT GARMENT, **filed** May 21, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c1219, *Baka Mfg. Co.* v. *The Burrows Co.*

3,117,361. (See 2,741,893.)

3,117,410. (See 2,741,893.)

3,123,973. (See 2,741,893.)

3,134,218. (See 2,803,105.)

3,137,119. (See 2,741,893.)

3,165,881. (See 2,741,893.)

3,166,881. (See 2,741,893.)

3,168,909, Zurbrigen and Steinsberger, METHOD FOR LOCATING AND SEALING PIPE LEAKS; **2,971,259**, Hahnau and O'Toole, METHOD AND APPARATUS FOR DETERMINING THE POSITION OF SEWER LEAKS, **filed** May 20, 1970, D.C., S.D. Fla. (Miami), Doc. 70–711–C–CA, *The Penetryn System, Inc.* v. *Dick Burns, Inc.*

3,232,037. (See 2,741,893.)

3,237,392. (See 2,741,893.)

3,283,414. (See 2,741,893.)

3,333,409. (See 2,741,893.)

3,369,121, Bruno, Haney, Numerof and Reinhardt, RADIOACTIVE PACKAGE AND CONTAINER THEREFOR, **filed** July 23, 1968, D.C., E.D. Mo. (St. Louis), Doc. 68C–331(1), *E. R. Squibb and Sons, Inc.* v. *Mallinckrodt Chemical Works.* Stipulation for dismissal, Apr. 15, 1970.

3,382,656. (See 2,741,893.)

3,440,423, Bruno, Haney, Numerof and Reinhardt, PROCESS FOR PREPARING STERILE RADIOACTIVE MATERIAL OF THE PARENT-DAUGHTER TYPE, **filed** Apr. 24, 1969, D.C., E.D. Mo. (St. Louis), Doc. 69C–131(2) *E. R. Squibb and Sons, Inc.* v. *Mallinckrodt Chemical Works.* Stipulation for dismissal, Apr. 15, 1970.

3,444,621, E. C. Pletcher, ORTHODONTIC APPLIANCE, **filed** May 15, 1970, D.C.N.J. (Newark), Doc. 616–70, *G.A.C. International, Inc.* v. *Unitek Corporation.*

Plant Pat. No. 1,141, J. M. Garabedian, PEACH TREE, **filed** May 12, 1967, D.C., E.D. Calif. (Fresno), Doc. F–93–C, *John M. Garabedian* v. *Vaugh Girazian, Girazian Fruit Co., Inc. et al.* Dismissed for want of prosecution pursuant to Rules 16(6) and 41(b), FRCP, May 18, 1970.

PLANT PATENTS

GRANTED AUGUST 4, 1970

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing

2,986
ROSE PLANT
Marie-Louise Meilland, Cap d'Antibes, France, assignor to The Conard-Pyle Company, West Grove, Pa., a corporation of Pennsylvania
Filed July 1, 1968, Ser. No. 741,808
Int. Cl. A01h *5/00*

U.S. Cl. Plt.—18 **1 Claim**

A new and distinct variety of rose plant of the hybrid tea class, originated by crossing an unnamed seedling resulting from a cross of Baccara and White Knight, with an unnamed seedling of the cross of Happiness × Independence with Better Times.

2,987
BUDDLEIA PLANT
Maurice Croux, Hauts-de-Seine, France, assignor to Gulf Stream Products, Inc., Wachapreague, Va., a corporation of Virginia
Filed July 11, 1968, Ser. No. 744,178
Int. Cl. A01h *5/00*

U.S. Cl. Plt.—59 **1 Claim**

1. A new and distinct variety of Buddleia plant, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a general resemblance in plant and flower form and habit to those of the species botanically known as *Buddleia variabilis magnifica*, but being primarily distinguished therefrom by its exceptionally large and showy floral spikes ranging as long as twenty-four inches or more in length, and by its distinctive, exceptionally showy and attractive Peony Purple flower color.

2,988
MINIATURE ROSE PLANT
Ralph S. Moore, 2519 E. Noble Ave., Visalia, Calif. 93277
Filed Sept. 6, 1968, Ser. No. 758,165
Int. Cl. A01h *5/00*

U.S. Cl. Plt.—10 **1 Claim**

1. A new and distinct variety of miniature rose plant of hardy, moderately dwarf, rounded (or slightly spreading), much branched, bush type, as illustrated and described, characterized by buds and flowers resembling the Little Bucnaroo (Pat. 1,726) miniature rose in color and general effect but with more double flowers, the petals of which have a firmer texture and the color being a darker red; the bush being more spreading when young and the foliage harder textured; and further characterized by a plant which is vigorous in growth, yet compact, easy to propagate from cuttings, with small to medium size, medium to dark green, foliage, an abundance of bloom, with flowers usually borne several to the stem (on mature plants) in compact well arranged clusters.

PATENTS

GRANTED AUGUST 4, 1970

ELECTRICAL

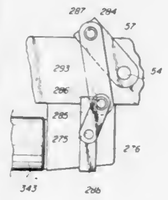
3,522,401
MANUAL MOTOR ACTUATED OPERATING MECHANISM FOR ELECTRICAL SWITCHES

Manfred Stene, Chicago, Ill., assignor to Erickson Electrical Equipment Co., Chicago, Ill., a corporation of Illinois

Continuation-in-part of application Ser. No. 555,621, June 6, 1966. This application Sept. 1, 1967, Ser. No. 667,044

Int. Cl. H01h *3/26*

U.S. Cl. 200—153 **8 Claims**



A switch operating mechanism for opening and closing the movable contacts of a load break pressure contact switch that can be actuated either manually or by an electrical motor on an interchangeable basis. The operating mechanism comprises a main shaft with a handle attached thereto for rotating the shaft in opposite directions through an arc of little more than ninety degrees between switch-open and switch-closed positions. Motor operation is effected by a drive linkage comprising a motor lever fixed to the main shaft and pivotally connected to a connecting link, the connecting link at its opposite end being pivotally connected to a drive crank journalled on the shaft of a drive motor. The motor rotates in only one direction and does not interfere with manual operation of the mechanism through the handle to either closed or open position. The motor circuit is interlocked with a door covering a part of the electrical switch apparatus to prevent energization of the motor whenever the door is open and to prevent opening of the door if the electrical switch is closed.

3,522,402
ILLUMINATED SWITCH CONSTRUCTION WITH RELEASING SLIDABLE CAM

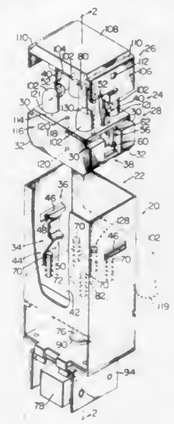
Anthony A. Di Pilla, Philadelphia, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Apr. 18, 1968, Ser. No. 722,305

Int. Cl. H01h *9/16*

U.S. Cl. 200—167 **15 Claims**

This application discloses a switch construction with a lamp holder and a push actuator relatively movably secured together and being insertable as a unit into a casing aperture. A casing supported locking lever engages and locks the lamp holder in the casing during an initial insertion procedure. The push actuator can then be repeated pushed in and released to produce actuated and unactuated condition of the switch construction. A push actuator supported lever and an independently slidable cam unlock the lamp holder from the casing during a releasing pulling out operation and releasing pushing in operation of the push actuator. This permits removal



of the lamp holder and lamp replacement in the lamp holder.

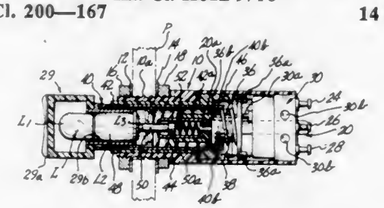
3,522,403
ILLUMINATED PUSHBUTTON SWITCH DEVICE

Maurice D. Fuller, Mercer Island, Wash., assignor to Korry Manufacturing Co., Seattle, Wash., a corporation of Washington

Filed Oct. 14, 1968, Ser. No. 767,299

Int. Cl. H01h *9/18*

U.S. Cl. 200—167 **14 Claims**



A generally tubular outer casing supports and encloses sets of electrical contactor elements and associated actuator elements for a switch unit affixed in one end of the casing and for a relampable illuminated pushbutton unit socketed in the opposite end of the casing, with said sets of elements occupying longitudinally overlapping positions normally established by stops and a return spring reacting from a support bushing located intermediate the ends of the casing. The support bushing carries lamp base terminal contact elements and serves as a base for a pushbutton return spring. This bushing is apertured to permit passage longitudinally through it of salient extensions of a pusher element for the pushbutton unit. These extensions engage a switch-actuating shuttle through the medium of a relatively stiff pusher spring so as to exert switch actuation force on the shuttle through the interposed spring. Conducitve terminal strips for the lamp base terminal contacts are brought out of the switch unit end of the casing through apertures in insulative segments which center the switch unit within the end of the casing and serve as spaced supports for the bushing. The pusher spring is precompressed between the switch-

engaging end of the shuttle and lugs on the ends of the salient extensions of the pusher member, which lugs are held captive by spring force between the adjacent end of the pusher spring and stop elements on the shuttle engaged behind such lugs by longitudinal insertion between the extensions followed by relative rotational displacement.

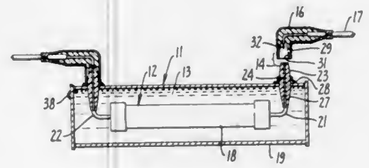
3,522,404
TOTALLY ENCLOSED COMPONENT

Frank C. Trayer, 25690 La Lanne Court, Los Altos Hills, Calif. 94022

Filed Nov. 22, 1967, Ser. No. 685,164

Int. Cl. H01h *9/04*

U.S. Cl. 200—168 **17 Claims**



An encapsulated electrical component for installation in medium-voltage power cables between the source and the load, having a circuit element to be interposed between source and load, such as a fuse, a current transformer, a switch or a potential indicator, surrounded by a jacket of electrically insulating material, either a fluid insulating material contained in a canister enveloping the circuit element, or a solid insulating material formed around the circuit element and connectors permanently mounted on either the canister or the block of insulating material and electrically connecting the circuit element fo the cables. The connectors are formed to mate with complementary connectors on the cable to form a removable and re-engageable hermetically sealed, low leakage, long dielectric path connection. In one form of the invention, a piece of transparent insulating material extends from the exterior of the insulating material to the vicinity of a potential-indicating gas discharge device near the circuit element to conduct light to the exterior of the component to indicate potential present. In another form, one wall of the canister is made flexible so that a vacuum circuit breaker within the insulating material may be operated from outside the insulating material by flexing the wall. In another form, a toggle linkage inside the canister is operated by hydraulic or pneumatic cylinders or electrical solenoids to open and close a vacuum circuit breaker.

3,522,405
APPARATUS FOR INDUCTIVELY HEATING METAL WORKPIECES

Gerhard Seulen and Friedhelm Reinke, Remscheid, Germany, assignors to AEG-Elotherm G.m.b.H., Remscheid-Hasten, Germany

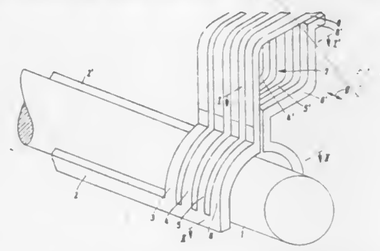
Filed May 28, 1968, Ser. No. 732,663

Claims priority, application Germany, Jan. 19, 1968, A 57,982

Int. Cl. H05b *5/00, 9/02*

U.S. Cl. 219—10.79 **16 Claims**

The apparatus according to the invention provides means whereby workpieces of different lengths or different portions of the length of a single workpiece, may be heated, and whereby changes in the heating effect of the conductor loop to obtain such effects may be continuously effected; by forming a plurality of parallel bars on at least one of the branches which extend longituidnally of a workpiece so as to conform to the workpiece shape, the end of the parallel bar forming a tunnel, the heating effect of the conductor being controlled by movement of an element in the tunnel affecting the impedance in the said parallel bars.



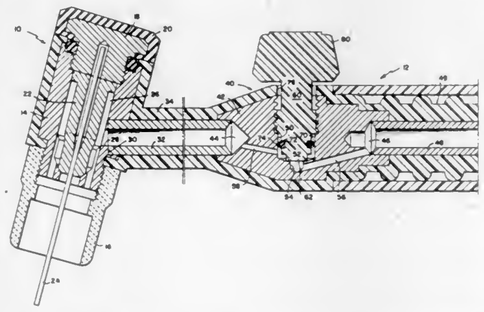
3,522,406
WELDING TORCH GAS CONTROL VALVE

John M. Sipos, Easton, and Watson R. Collins, Jr., Orelland, Pa., assignors to Air Products and Chemicals, Inc., Allentown, Pa., a corporation of Delaware

Filed Feb. 18, 1969, Ser. No. 800,083

Int. Cl. B23k *9/16; 35/38*

U.S. Cl. 219—74 **2 Claims**



A control valve for the shielding gas of a welding torch in which a one-piece valve member is constructed to serve as a combined valve head, valve stem, and valve seal supporting means.

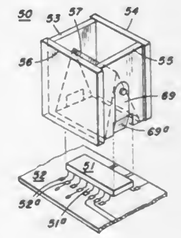
3,522,407
HEATING METHOD

Bernard J. Costello, Ringoes, N.J., assignor to Argus Engineering Company, Inc., Hopewell, N.J., a corporation of New Jersey

Filed Mar. 5, 1968, Ser. No. 710,546

Int. Cl. B23k *1/04*

U.S. Cl. 219—85 **7 Claims**



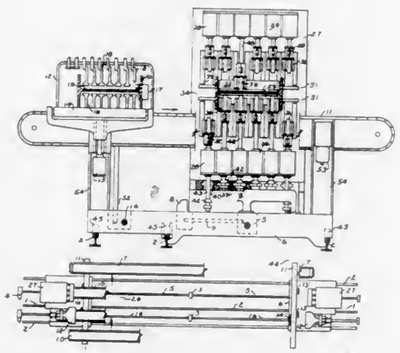
Apparatus employed in conjunction with a radiation source for heating or soldering electronic components wherein the apparatus is provided with one or more

chambers having highly reflective surfaces aligned relative to one another so as to direct radiation entering into the chamber downwardly through the chamber so as to be emitted through the bottom opening of the chamber and thereby greatly improve the uniformity of distribution of the radiation to irradiate a region of a workpiece being soldered such that the configuration of the irradiated region is exclusively determined by the configuration of the exit opening provided in the reflective chamber. The structure comprising the chamber may also be employed to hold and accurately position the electronic component as well as masking the component from radiation and hence undue heating.

3,522,408
APPARATUS FOR WELDING CONNECTION ANGLES TO STRUCTURAL BEAMS

John R. McConnell, 148 Woodside Ave., Ridgewood, N.J. 07450

Continuation-in-part of application Ser. No. 249,205, Jan. 3, 1963, now Patent No. 3,257,540. This application June 17, 1966, Ser. No. 558,301
Int. Cl. B23k *11/10*
U.S. Cl. 219—87 6 Claims



Conveyor belts move a structural beam first to a flame cleaning station, and then to a welding station where it is centered and where end connection angles are resistance welded against opposite sides of the beam web at each end thereof.

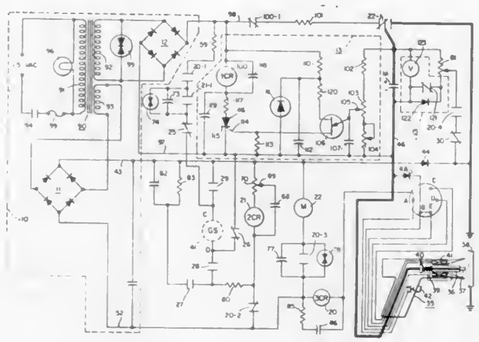
3,522,409
SELECTABLE MODE WELDING APPARATUS

Elliott J. Fay, Willingboro, and Francis J. Preston, Cinaminson, N.J., assignors to Omark Industries, Inc., Portland, Oreg., a corporation of Oregon

Filed Aug. 21, 1967, Ser. No. 661,932
Int. Cl. B23k *9/20*
U.S. Cl. 219—98 18 Claims

Welding apparatus selectively operable in either the drawn arc, initial gap, or initial contact modes of operation employing two power sources of different voltages in which the power source of higher voltage provides the source of welding energy and is connected in circuit with the gun solenoid for operation thereof when in the drawn arc mode of operation but in which the lower voltage power source is connected in circuit with the gun solenoid to hold the stud in lifted position when in the initial gap mode of operation and in which both the higher and lower voltage power sources are disconnected from the gun solenoid when in the initial contact mode of operation.

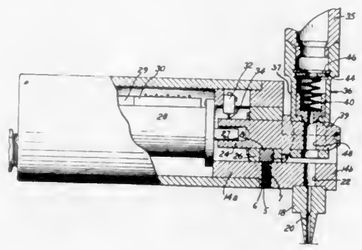
The main control circuit is actuated through a manually operable switch in circuit with the main welding circuit and alternate parallel paths including the stud and workpiece and a portion of the welding gun and workpiece together with isolating diodes for isolating the control circuit and the welding gun from the main welding energy circuit.



3,522,410
WELDING APPARATUS

Edward A. Benfield, Chicago, Ill., assignor to Compak-O-Matic, a corporation of Illinois

Filed Feb. 28, 1968, Ser. No. 708,877
Int. Cl. B23k *9/12*
U.S. Cl. 219—125 8 Claims



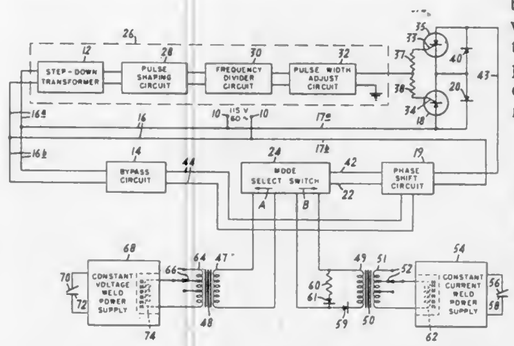
Welding apparatus comprising a compact attachment for welding a short seam. The attachment is retained on a welding head by a single set screw, hence, it is readily attached and removed from the welding head. The attachment includes barrel means rotatable through a short arc for effecting the seam weld on a workpiece, with the barrel means being releasably carried on its drive shaft to prevent damage to the shaft or barrel means in the event the barrel means strikes an obstruction in use and to facilitate removal of the barrel means from the shaft for repair or replacement.

3,522,411
WELD POWER SUPPLY CONTROL SYSTEM

Frits Rienks, Groton, Conn., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 28, 1966, Ser. No. 597,318
Int. Cl. B23k *9/10*
U.S. Cl. 219—131 2 Claims

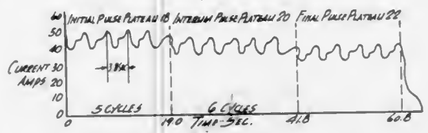
In the illustrative embodiment of the invention described herein, a pair of weld power supplies include biasing and control windings, respectively which control the levels of the unidirectional output welding currents supplied to welding arcs through electrodes of the arcs to sustain the arcs between the electrodes and workpieces. A pair of pulse control circuits which produce selectively spaced rectified alternating current signals and phase shifted alternating current signals, respectively, are selectively coupled to the biasing and control windings of the supplies to cause the supplies to supply selectively spaced higher unidirectional current levels to the welding arcs.



3,522,412
GAS TUNGSTEN ARC WELDING METHOD

Harvey Bell, Santa Monica, Stuart R. Ferguson, Beverly Hills, Leslie L. Littlefield, Bellflower, and Gerald R. Stoeckinger, Los Angeles, Calif., assignors to McDonnell Douglas Corporation, a corporation of Maryland

Filed Dec. 18, 1967, Ser. No. 691,382
Int. Cl. B23k *9/12*
U.S. Cl. 219—137 3 Claims

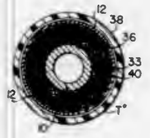


A welding method wherein a slow rate pulsation of a decreasing amplitude amperage with an increased rate of electrode travel speed reduces the heat input to the part to be welded. Special inserts and chill clamps are further used to avoid drop-through in the welding of small diameter tubes of a relatively soft metal material.

3,522,413
COMPOSITE ELECTRICALLY HEATED TUBING PRODUCT

Albert E. Chrow, Chagrin Falls, Ohio, assignor to Samuel Moore and Company, Mantua, Ohio, a corporation of Ohio

Original application July 1, 1964, Ser. No. 379,638, now Patent No. 3,355,572, dated Nov. 28, 1967. Divided and this application Oct. 2, 1967, Ser. No. 672,377
Int. Cl. H05b *3/58*
U.S. Cl. 219—301 10 Claims

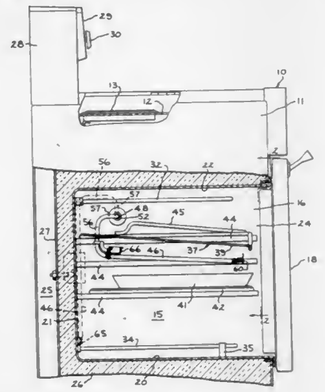


A composite tubing for sampling fluids includes a generally flexible metallic sampling line having a plurality of electrical heating wires held in heat exchange relationship to the peripheral surface thereof by means of a polymeric binder strand. A tubular thermo-barrier of expanded plastic foam material encompasses the sampling line and heating wires. Alternatively, the thermo-barrier may comprise a layer of fibrous filler material wrapped over with a layer of polymeric tape. The thermo-barrier is made fluid impervious by a flexible polymeric layer. A flexible corrugated metallic cover is disposed over the polymeric layer and a flexible polymeric sheath covers and protects the metallic cover.

3,522,414
HIGH SPEED BROILING OVEN WITH A PIVOTAL ELECTRIC BROILING ELEMENT

Robert G. Kramer, Louisville, Ky., assignor to General Electric Company, a corporation of New York

Filed Oct. 17, 1968, Ser. No. 768,308
Int. Cl. F27d *11/02*
U.S. Cl. 219—404 3 Claims

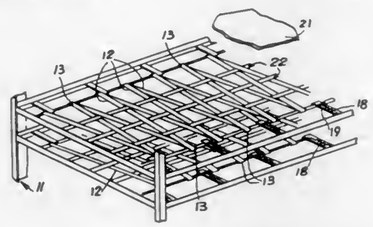


A broiling oven having walls forming an oven cooking cavity. There are electrical resistance heating elements for the oven, including an upper broiling element adjacent the top wall of the oven liner and a lower broiling element located intermediate the top and bottom walls of the oven liner. A food supporting rack is located between the two broiling elements. The lower broiling element includes hinging means whereby the lower element may be stored in an inoperative position against one wall of the oven liner when not in use.

3,522,415
ELECTRIC HEATING DEVICES

Paul Eisler, 57 Exeter Road, London, NW. 2, England

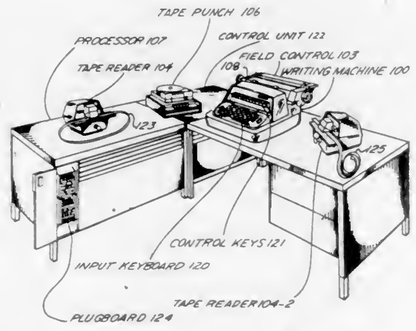
Filed Aug. 7, 1967, Ser. No. 658,785
Claims priority, application Great Britain, Aug. 8, 1966, 5,416/66
Int. Cl. H05b *3/36*
U.S. Cl. 219—528 16 Claims



An electric heating device comprises a plurality of limbs, generally in zig-zag disposition, of flat section

sheathed electric conductor, the width of the limbs being substantially coplanar and the limbs being held under longitudinal tension. The apices of the zig-zag may be supported by smooth good insulators rotatable on two supporting rods one fixed and the other pulled by tension springs, so that all limbs are under substantially the same tension. Insulating strips may be interwoven to produce a loose fabric and such fabric may be stored in the roll from which pieces can be cut. The sheaths need not be impervious or of adequate insulating quality in themselves and moisture may be driven off by preliminary operation at sub-normal voltage. Various uses and applications are described.

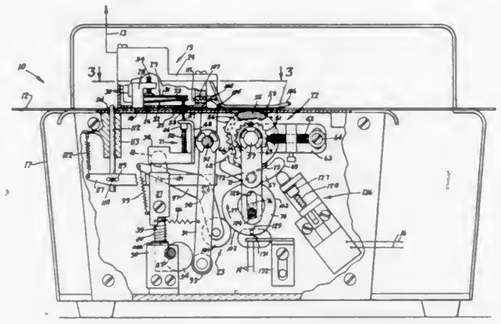
3,522,416
INPUT-OUTPUT CONTROLS
Winsor Soule, Jr., Berkeley, John Efstathiou, Oakland, and Leif Andreasen, Newark, Calif., assignors to SCM Corporation, New York, N.Y., a corporation of New York
Filed Feb. 23, 1965, Ser. No. 434,265
Int. Cl. G06f *15/00;* **G06k** *15/00*
U.S. Cl. 235—61.6 **18 Claims**



There is disclosed an externally programmed computer of the type in which operating instructions and data are stored together in record media such as paper tape, the instructions being variable-length series of coded characters sensed serially. These instruction words can be interrupted and data to which other elements of the system respond can be interspersed within the instruction word and yet not affect the subsequent execution of the computer operation defined by the computer instruction characters. Specifically, some of these instruction characters can be alphanumerics which have control significance when sensed in an instruction word, yet are distinguishable from alphanumeric data codes interspersed within the instruction word.

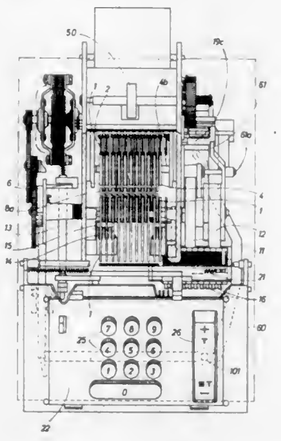
3,522,417
INFORMATION READER
Leslie R. Walstrom, Minnetonka, Minn., assignor to Fabri-Tek Incorporated, Edina, Minn., a corporation of Wisconsin
Filed Mar. 24, 1966, Ser. No. 537,104
Int. Cl. G06k *7/04;* **G11b** *23/14;* **B41j** *5/36*
U.S. Cl. 235—61.11 **8 Claims**

A punched tape reader including a plurality of sensing pins for reading the punched holes in the tape, a tape advance mechanism, and apparatus for providing a cycle reference signal to the data processor with which the



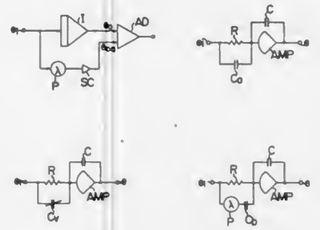
reader is adapted to be used, all of which are synchronized by a single rotatable cam member.

3,522,418
KEY MECHANISM FOR MECHANICAL CALCULATORS
Tibor Arval, Villevaude, France, assignor to Sperry Rand Corporation, Norwalk, Conn., a corporation of Delaware
Filed Dec. 19, 1968, Ser. No. 785,246
Claims priority, application France, Dec. 20, 1967, 133,206
Int. Cl. G06c *21/04*
U.S. Cl. 235—145 **5 Claims**



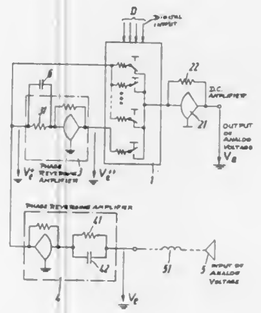
A calculating machine of the moving carriage type has control means operated by a key which is movable selectively to either side of a central, neutral position. This movement is transmitted to a lever pivoted at one end, the movement of the key causing longitudinal movement of the lever in the selected direction. The other end of the lever carries a ramp which serves to position a cam mechanism which controls the operation of the calculating machine. In addition to being longitudinally movable by the operating key, the lever is laterally displaced about its pivot by the carriage when the latter is in its inoperative position. The control ramp therefore has four possible positions corresponding to four different operations of the calculating machine.

3,522,419
ELECTRICAL DEVICE FOR COMPENSATING A DIGITAL EXECUTION TIME IN HYBRID COMPUTER SYSTEMS AND THE LIKE
Takeo Miura, Tokyo-to, and Junzo Iwata, Hanamaki-shi, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Marunouchi, and Hitachi Denshi Kabushiki Kaisha, both of Tokyo-to, Japan, both joint-stock companies of Japan
Continuation-in-part of application Ser. No. 365,336, May 6, 1964. This application May 1, 1968, Ser. No. 725,717
Claims priority, application Japan, May 15, 1963, 38/24,165
Int. Cl. G06g *7/18;* **G06j** *3/00*
U.S. Cl. 235—150.51 **4 Claims**



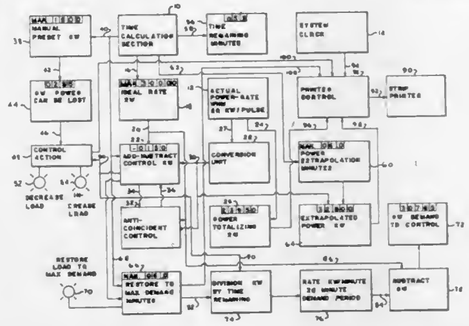
An electrical device for compensating a digital execution time in hybrid computer systems and the like, wherein the input signal of an analog integrator is applied to a potentiometer whose multiplication factor is set to be equal to the product of the digital execution time and the multiplication factor of said integrator and the output signal of the potentiometer is inverted by an inverter whose inverted output signal is added to the output signal of said integrator so as to compensate the digital execution time.

3,522,420
ANALOG-DIGITAL MULTIPLYING CIRCUIT
Gert Hartmann, Litzelstetten, and Günter Haussmann and Karl Nosch, Konstanz, Germany, assignors to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm, Danube, Germany
Filed May 10, 1968, Ser. No. 728,194
Int. Cl. G06j *1/00*
U.S. Cl. 235—150.52 **6 Claims**



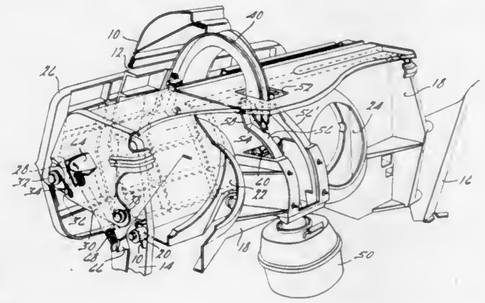
A circuit for multiplying an analog voltage with a digital value. The analog voltage input is connected to a phase-reversing amplifier to decouple the current of the analog voltage input from the analog voltage source. The input circuit of the phase-reversing amplifier is a capacitance-resistance network in order to avoid or reduce to a minimum the phase angle between the output voltage and the input analog voltage.

3,522,421
SYSTEM FOR MONITORING AND ADJUSTING POWER DEMAND
William H. Miller, R.F.D. 5, P.O. Box 29B, Valparaiso, Ind. 46383
Filed June 29, 1967, Ser. No. 650,078
Int. Cl. H02j *13/00*
U.S. Cl. 235—151.21 **10 Claims**



A system for monitoring and adjusting power demand for a preselected interval having a means for computing an ideal rate of power drain, a means for computing the actual rate of power drain, and a means for computing the difference between the actual rate of power drain and the ideal rate of power drain. A mechanism is also provided for calculating the amount of power which can be lost in the time remaining in the demand period without additional charge, and a means for comparing the amount of power which may be lost with the amount of power being gained or lost, and a means for effecting an increase or decrease in the power drain, and a means for computing the amount of power which should be drawn for the time remaining in the demand period so that the actual total power drain will equal the ideal total power drain at the end of the demand period.

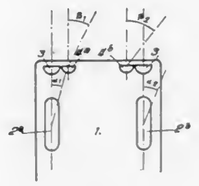
3,522,422
CONCEALED HEADLIGHT MECHANISM
Eugene H. Dukatz, Livonia, John L. Flanigan, Detroit, and Clarence L. Larson, Riverview, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 27, 1967, Ser. No. 693,971
Int. Cl. B60g *1/00*
U.S. Cl. 240—7.1 **9 Claims**



A mechanism for controlling the movement of a closure member that conceals a recessed vehicle headlight

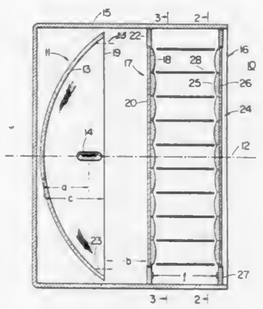
from view when the headlight is not in use. The control mechanism operates the closure member through a compound movement utilizing only a single motor means. This movement includes initial rotation of the closure member within the opening and subsequent rotation of the closure member out of the opening so that the headlight is exposed for normal operation.

3,522,423
VEHICLE HEADLAMPS
Edmond Henry-Biabaud, Paris, France, assignor to Societe Anonyme Automobiles Citroen, Paris, France
Filed Sept. 6, 1966, Ser. No. 577,287
Claims priority, application France, Sept. 15, 1965, 3,224
Int. Cl. B60q *1/12*
U.S. Cl. 240—8.25 **4 Claims**



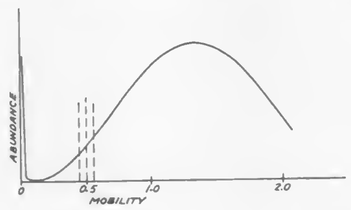
Headlamps for a motor vehicle which adequately light the roadway even when the vehicle rounds a curve. In addition to a pair of stationary headlamps the vehicle is provided with a pair of headlamps which pivot toward the direction in which the vehicle is turned, the pivoted lamp toward the inside of the curve pivoting through a greater angle than the lamp on the outside.

3,522,424
SEARCHLIGHT APPARATUS
Robert E. Fritsch, Fort Wayne, Ind., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware
Filed Apr. 12, 1968, Ser. No. 720,807
Int. Cl. F21v *11/06*
U.S. Cl. 240—41.3 **15 Claims**



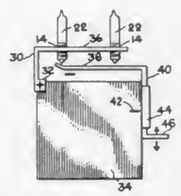
A searchlight has a substantially parabolic reflector with a light source positioned on the axis of the reflector at its focal point. A first matrix of condensing lens elements has substantially the same outside diameter as the effective aperture of the reflector is disposed in a plane normal to the axis of the reflector and spaced axially from the source. A second matrix of diverging lens elements which has substantially the same outside diameter as the effective aperture of the reflector is disposed in a plane normal to the axis and spaced axially from the first matrix, the second matrix has the same number of lens elements as the first matrix with each lens element being axially aligned with a respective lens element of the first matrix. In the preferred embodiment, each of the lens elements has the same focal length, each lens element of the second matrix is substantially the same size and configuration as the respective lens element of the first matrix, and the second matrix is spaced from the first matrix by that focal length. A plurality of tubular elements joined in a honeycomb structure is provided each extending between respective lenses of the first and second matrices in order to confine and direct light passing through each lens of the first matrix in a path to impinge upon only the respective lens of the second matrix.

3,522,425
APPARATUS FOR SELECTIVE SEPARATION OF IONS OF DIFFERENT MOBILITIES IN A GAS STREAM
Theodore A. Rich, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Nov. 28, 1967, Ser. No. 686,146
Int. Cl. H01j *39/34*
U.S. Cl. 250—41.9 **7 Claims**



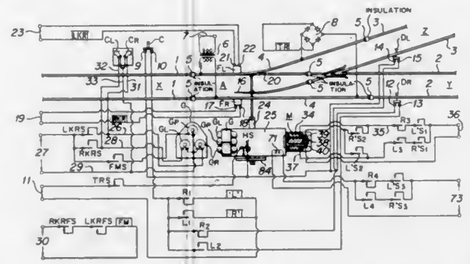
An apparatus and method of operation thereof is disclosed whereby ions of a particular mobility, may be selectively separated from ions of different mobilities in a gas stream and their abundance measured. This is accomplished by isolating an ion bearing sample of gas in a conduit through which the gas flows at a predetermined rate and applying a predetermined electric field thereupon so that ions of the desired mobility are retained while ions of different mobilities are removed, then discharging the retained ions and measuring the thus obtained current pulse.

3,522,426
DISPOSABLE POWER SOURCE FOR PROVIDING ILLUMINATION
Charles Franc, 1501 1st Ave., New York, N.Y. 10021
Filed Sept. 28, 1967, Ser. No. 671,330
Int. Cl. F21l *7/00, 15/08*
U.S. Cl. 240—52.5 **5 Claims**



A disposable power source for providing illumination having a flat rectangular battery with first and second output terminals. The first output terminal has an L-shape conductor attached thereto and a miniature lamp is secured in a hole in the horizontal portion of the conductor. The second terminal has a conductive retaining rail attached thereto for retaining the vertical portion of a slideable L-shaped conductor. The horizontal portion of the slideable L-shaped conductor is located between the battery and a terminal on the miniature lamp. The slideable L-shaped conductor has a horizontal handle on one end thereof to permit the conductor to be manually moved to make and brake contact with the lamp terminal.

3,522,427
AUTOMATIC SWITCH FOR A POINT OPERATED FROM A RUNNING CARRIAGE
Karoku Mine, 8 Motominami-cho, Fukuoka-shi, Japan
Filed Mar. 25, 1968, Ser. No. 715,851
Claims priority, application Japan, Nov. 29, 1967, 42/76,156
Int. Cl. B61l *5/06*
U.S. Cl. 246—240 **6 Claims**

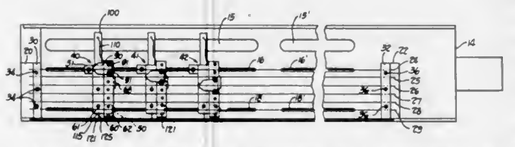


A switching arrangement for a switching point of a railroad system where a train running on a main line is switched to a side track or branch line by means of point tracks. The system operation is started by a switch lever which can be operated either on the ground or from the train. A motor is responsive to said switch lever and a stretcher bar is operated by the motor. This bar is connected to the point tracks to move them into and out of engagement with the branch and main lines. Clutch and gearing means are provided between the motor and the stretcher bar and, fail safe means are provided in case the point tracks do not properly make contact with the tracks of the main or branch line. Red and blue signal lights are operated by the system for indicating if the system is functionally operating properly.

ERRATUM

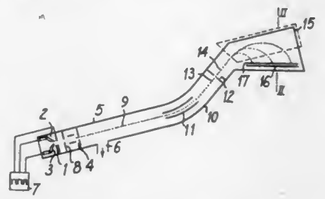
For Class 250—41.9 see:
Patent No. 3,522,425

3,522,428
MASS SPECTROMETER HAVING A PLURALITY OF RELATIVELY MOVABLE COLLECTORS
Patrick Powers, Binstead, Isle of Wight, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed May 16, 1967, Ser. No. 638,827
Claims priority, application Great Britain, May 17, 1966, 21,824/66
Int. Cl. B01d *59/44;* **H01j** *39/34*
U.S. Cl. 250—41.9 **14 Claims**



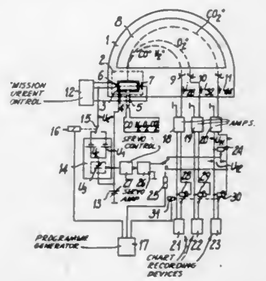
A mass spectrometer is provided with a collector arrangement in which collectors are movable relative to one another. Each collector is adapted to receive a portion of the mass spectrum analyzed.

3,522,429
DEVICE FOR THE MEASUREMENT OF THE ION CURRENT REACHING THE PHOTOGRAPHIC PLATE OF A PARTICLE SPECTROSCOPE USING MASS SEPARATION BY A MAGNETIC FIELD
Karleugen Habfast, Bremen, Germany, assignor to Varian Mat GmbH, Bremen, Germany, a limited company
Filed Sept. 13, 1967, Ser. No. 667,476
Claims priority, application Germany, Sept. 16, 1966, B 88,947
Int. Cl. H01j *39/34*
U.S. Cl. 250—41.9 **5 Claims**



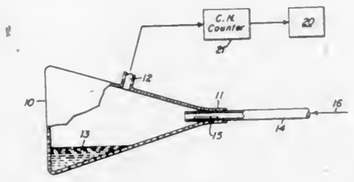
The invention provides a device for measuring the ion current reaching a photographic plate in a particle spectroscope, the device comprising a diaphragm disposed between a magnetic field of the spectroscope and the photographic plate and extending over the entire operative length of the photographic plate, the diaphragm being connected to an ion current measuring means.

3,522,430
METHOD AND APPARATUS FOR MAINTAINING CONSTANT THE EFFECTIVE IONIZATION ENERGY IN A MASS SPECTROMETER
Ludolf Jenckel, Bremen-St. Magnus, Germany, assignor to Varian Mat G.m.b.H., Bremen, Germany, a limited company
Filed Sept. 25, 1967, Ser. No. 670,475
Int. Cl. H01j *39/34*
U.S. Cl. 250—41.9 **15 Claims**



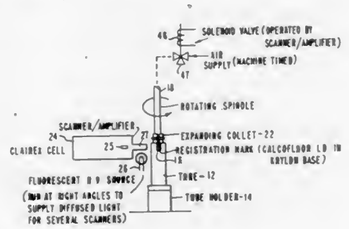
The present invention overcomes the problem of measuring very small concentrations of substances, such as CO or N_2, with a mass spectrometer in the presence of time fluctuations of the contact potential causing relatively strong fluctuations of the ion current. One of the mixture components, for example CO_2, serves as a standardization component causing measurement peaks which, with two different electron acceleration voltages in an electron beam mass spectrometer, are not appreciably masked by measurement peaks of other substance components. A control signal is provided of magnitude which corresponds to the ratio of the ion currents for the two different electron acceleration voltages and is utilized for controlling at least the smaller of the electron acceleration voltages to main the ratio of the ion currents substantially constant.

3,522,431
GAS CONVERSION APPARATUS AND METHOD FOR PRODUCING CONDENSATION NUCLEI
Peter E. Coffey, Ballston Spa, and Theodore A. Rich, Scotia, N.Y., assignors to General Electric Company, a corporation of New York
Filed Dec. 26, 1967, Ser. No. 693,334
Int. Cl. G01n *23/12*
U.S. Cl. 250—43.5 **5 Claims**



The invention disclosed herein relates to the detection and measurement of a chemically reactive gas such as ammonia contained in a relatively chemically inert gas such as air. The gas mixture is exposed to a radioactive material which emits ionizing radiation and ionizes the gas. The ionized gas is then treated with a chemical reagent vapor to produce condensation nuclei from the chemically reactive gas which are suspended in the carrier gas. The condensation nuclei are then counted in a conventional condensation nuclei counter.

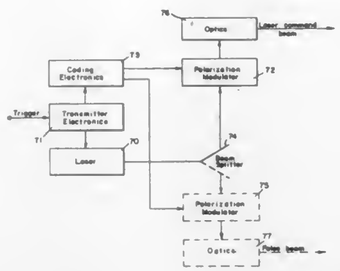
3,522,432
SCANNING APPARATUS FOR REGISTRATION MARKS USING ULTRA-VIOLET LIGHT
William L. Ortlieb, Hoboken, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Nov. 24, 1967, Ser. No. 685,458
Int. Cl. G01n *21/38*
U.S. Cl. 250—71 **1 Claim**



An alignment apparatus for containers such as a plastic tube having a registration mark thereon invisible to the naked eye and capable of re-radiating light preferably in a portion of the visible spectrum. Tube holder means are provided for mounting the tube, and suitable drive means are provided for rotating the tube. An ultra-violet light source is provided as is scanning means for signalling the presence of re-radiated light from the registration mark and for controlling the drive means.

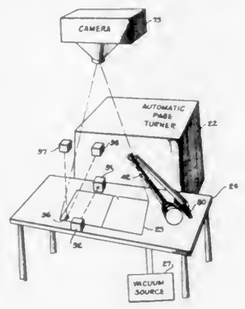
3,522,433
SATELLITE COMMAND SYSTEM
Richard A. Houghten, Fallbrook, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Jan. 15, 1968, Ser. No. 697,944
Int. Cl. H04b *9/00*
U.S. Cl. 250—199 **6 Claims**

A secure optical communications system primarily useful for the transmission of command signals to an orbiting space vehicle. The system makes use of the circular polarization modulation of a laser beam and limited access optical receivers. Security is further improved by the use of a false command beam having reciprocal



polarization modulation to cancel portions of the valid command beam in the region of the command system transmitter.

3,522,434
PHOTOCELL AND CONTROL CIRCUIT FOR AN AUTOMATIC PAGE TURNER
Robert J. Varson, Washington, D.C., and Robert L. Johnson, Waldorf, Md., assignors to the United States of America as represented by the Secretary of Commerce
Filed Nov. 12, 1968, Ser. No. 774,734
Int. Cl. G09f *11/08;* **H01j** *39/12*
U.S. Cl. 250—208 **11 Claims**



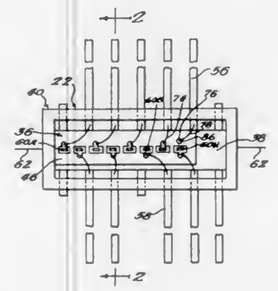
A circuit is described for testing the operation of a page turner and for controlling the turner and a related camera. A vacuum head, positioned on a revolving arm, turns the pages of a bound volume and a brush flattens each turned page. When a page is not turned or the arm is reset, the camera remains inoperative. When more than one page is turned or a page is turned but not flattened, the turner is inactivated. The turner is stopped after a spot on a predetermined page is sensed.

3,522,435
PHOTODIODE ASSEMBLY FOR OPTICAL ENCODER
John Brean and Curt M. Lampkin, Cincinnati, Ohio, assignors to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio
Filed Jan. 18, 1968, Ser. No. 698,742
Int. Cl. H01l *15/06*
U.S. Cl. 250—211 **17 Claims**

This application discloses a photovoltaic cell of low capacitance which responds rapidly to illumination. The photovoltaic cell here disclosed is one of small capacity and small sensitive area. The cell is formed by a slab of semiconductive material which has been doped with

either donor or acceptor impurities. On one surface of the slab, a small region of semiconductor material doped oppositely from that of the slab is disposed forming a junction with the slab. The regions may be formed either by mounting a separate small chip of oppositely doped semiconducting material on the slab or by diffusing opposite impurities into the slab.

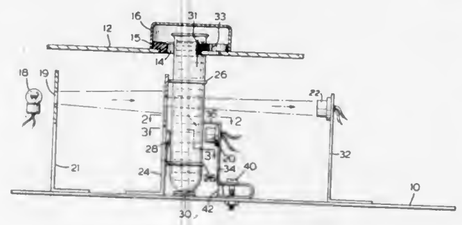
Electrical contact is provided to the slab and to the region of opposite impurity doping. The region of opposite impurity doping is provided with an electrical terminal in the form of a thin film of electrically conducting material which entirely surrounds the sensitive area of the region of opposite doping. The slab is mounted on an electrically insulating base which carries terminals elec-



trically connected to the terminals of the slab. A layer of electrically insulating material extends across the surface of the slab remote from the terminals for the regions of opposite doping, and a layer in the form of an electrically conducting film is disposed on the layer of electrical insulating material. A plurality of regions of oppositely doped impurities are shown on a common cell to form an assembly of photocells, and each of the regions of opposite doping is disposed in a particular location, namely, equally spaced along a straight line.

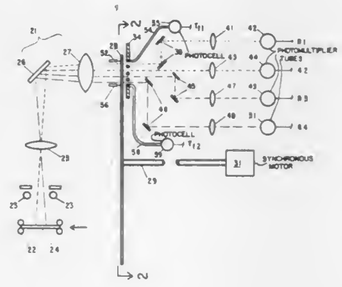
A photocell assembly thus constructed has particular utility in a shaft angle optical encoder, and this application discloses an encoder utilizing such an assembly of photovoltaic cells.

3,522,436
TURBIDIMETERS
Edward Salmon Posgate, 82 W. Deane Park Drive, Islington, Ontario, Canada
Filed Feb. 17, 1969, Ser. No. 799,742
Int. Cl. G01n *15/06, 21/24*
U.S. Cl. 250—218 **6 Claims**



A turbidimeter adapted to receive a conventional test tube and having a test tube holding bracket consisting of a pair of vertically spaced angled bars and a spring for urging the test tube against the angles of the bars. Also included are two photocells: one for receiving the light scattered after passing through the sample and the other for properly positioning the test tube.

3,522,437
READING APPARATUS FOR TWO OR MORE DIFFERENT SIZE TYPE FONTS
Pickard F. Bargh, Fairfax County, Va., assignor to Farrington Electronics Inc., Springfield, Va., a corporation of Massachusetts
Filed Dec. 3, 1964, Ser. No. 415,581
Int. Cl. G06k *9/00*
U.S. Cl. 250—219 **10 Claims**

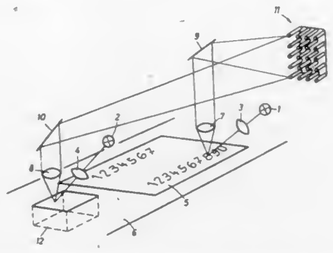


A high speed scanning device provides the capability of optically reading two or more type fonts on a single machine, where the fonts vary in size by as much as two to one and the reading rate is to be no less than for a single font. The scanner causes the character image to be projected onto a rotating disc containing a number of radial slits, through these moving slits onto a set of fixed slits, and through these to a set of photocells. The disc contains alternating long and short radial slits, and there are four fixed slits. Of the latter, two are long and are positioned so as to intersect the longer radial slits only. The other two are short and intersect every radial slit. When using the long slits, the height of the reading field is roughly twice that obtained with the short slits. These are used for reading the larger fonts. The shorter slits are used when reading smaller fonts, and since every radial slit is used, better horizontal resolution is achieved. The vertical resolution is the same for both fields. The recognition circuitry is adjustable for the different timings of the signals respectively corresponding to the different set of alternate slits.

3,522,438
OPTICAL SCANNING DEVICE HAVING PLURAL ILLUMINATING DEVICES AND A LIGHT SINK FOR EACH SUCH DEVICE TO REDUCE THE EFFECT OF THE DEVICES WHICH ARE NOT INSTANTANEOUSLY IN USE
Eberhard Auer, Stuttgart-Nord, Walter Dietrich, Pforzheim, and Christian Ortmann, Marbach, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 23, 1968, Ser. No. 769,787
Claims priority, application Germany, Oct. 28, 1967, 1,549,904
Int. Cl. G01n *21/30;* **G06m** *7/00;* **H01j** *39/12*
U.S. Cl. 250—219 **10 Claims**

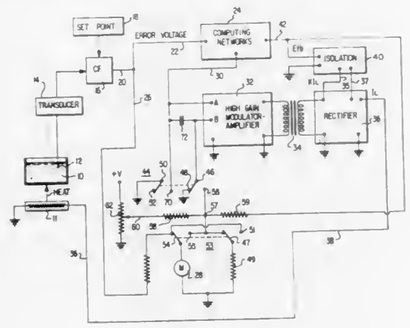
An optical scanning device in which the rays of information from the scanning stations are directed to a common transducer. The device is arranged in direction of a voucher feed so that the voucher will always be posi-

tioned under one of the scanning stations. At each scanning station there is provided an optical sink to prevent



the light of the unused station from effecting the common transducer.

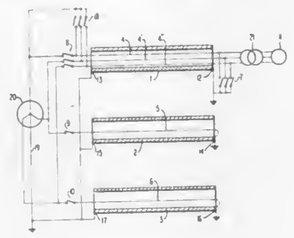
3,522,439
AUTOMATIC-TO-MANUAL SWITCHING SYSTEM FOR A PROCESS CONTROLLER
James A. Forbes, Hatboro, Pa., assignor, by mesne assignments, to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Oct. 28, 1964, Ser. No. 407,171
Int. Cl. G05b *7/00*
U.S. Cl. 307—29 **4 Claims**



A switching system for use in a process controller for switching between automatic and manual modes of operation. A dual input modulator-amplifier means is provided with an input switching arrangement adapted to reduce the undesirable effects of switch leakage currents on the system by grounding either the automatic or the manual signal input terminal to the modulator amplifier when the other mode of operation is in use.

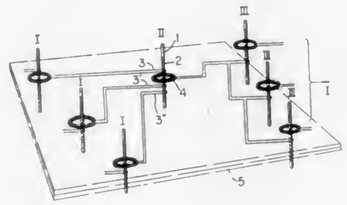
3,522,440
METHOD FOR SUPPLYING ELECTRICITY TO A HEAT-GENERATING PIPE UTILIZING SKIN EFFECT OF A.C.
Masao Ando, Kanagawaken, Japan, assignor to Chisso Corporation, Osaka, Japan
Filed Mar. 28, 1968, Ser. No. 716,726
Int. Cl. H02j *3/00*
U.S. Cl. 307—38 **5 Claims**

Method for supplying electricity at one time to at least one heat-generating pipe of ferro-magnetic material and at another time to an A.C. load which comprises at one time connecting a plurality of conductor lines connected to a source of A.C. supply, inserted within said heat-generating pipe in its longitudinal direction in electrically insulated relation from the inner wall portion of said heat-generating pipe and also electrically connected to the end of said heat-generating pipe remote from the A.C. supply source to provide current flow only through the inner wall portion of said heat-generating pipe and to transmit generated heat from the outer wall of the heat-generating pipe by the skin effect of the A.C. to the



material which is to be heated, and at another time breaking the connection at both ends of said heat-generating pipe while forming the connection from said A.C. supply source, through said plurality of conductor lines to said A.C. load.

3,522,441
PARAMETRON DEVICES AND METHOD OF MAKING THE SAME
Yu Hata, Tokyo, Japan, assignor to TDK Electronics Company, Limited, Tokyo, Japan, a corporation of Japan
Filed Aug. 3, 1967, Ser. No. 658,265
Claims priority, application Japan, Aug. 13, 1966, 41/53,067, 41/53,068
Int. Cl. G11c *5/02, 11/14, 11/20*
U.S. Cl. 307—88 **11 Claims**

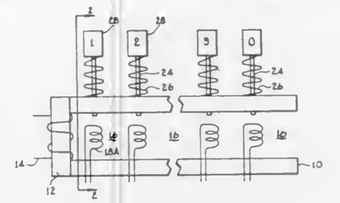


This invention relates to a parametron device comprising a core group in which a plurality of oscillating coils are arranged on a wire having a ferromagnetic film formed on the surface and the ferromagnetic wires having the above mentioned oscillating coils are arranged in parallel with each other and as separated from each other, printed base plates having output coils through which said cores are made to pass at center and input coils, and ferromagnetic shield plates, said ferromagnetic shield plates and at least one of said printed boards being piled up alternately.

3,522,442
SWITCH
Leslie R. Wood, Port Credit, Ontario, Canada, assignor, by mesne assignments, to Ferranti-Packard Limited, Toronto, Ontario, Canada
Filed June 4, 1968, Ser. No. 734,465
Int. Cl. H02b *1/24*
U.S. Cl. 307—115 **5 Claims**

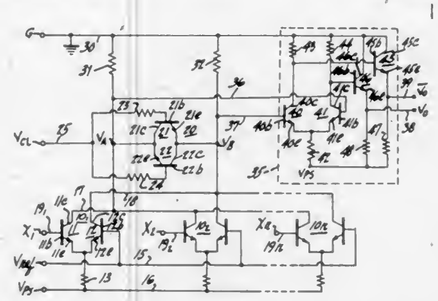
Opposed sense series wound coils are located in a variable magnetic field. A core is locatable in or out of one of the coils. The other coil is arranged to provide an equal and opposite E.M.F. to the first in the varying field in

either the "core-in" or "core-out" state of the first coil. An unbalanced E.M.F. condition exists in the opposite core state of the first coil. Switching is therefore per-



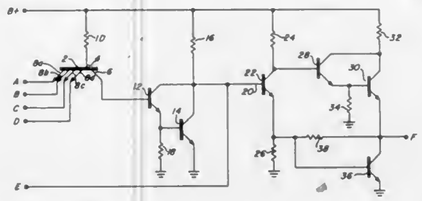
formed in the coil circuit by movement of the core and the coil circuit produces a substantial output in one state and substantially zero output in the other state.

3,522,443
LIMITING NETWORK
Daniel J. Kanter, Morris Plains, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed May 10, 1967, Ser. No. 637,582
Int. Cl. H03k *19/00*
U.S. Cl. 307—203 **10 Claims**



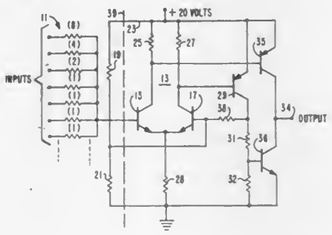
A limiting network is described in the environment of current mode threshold logic gates. A threshold logic gate in accordance with various input signal combinations selectively distributes current to a pair of current carrying lines across which the limiting network is coupled. The limiting network includes a pair of transistors having their collector-emitter paths connected across the lines and their base electrodes coupled to a clamp voltage V_{CL}.

3,522,444
LOGIC CIRCUIT WITH COMPLEMENTARY OUTPUT STAGE
Norman M. Lourie, Needham, Mass., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Mar. 17, 1967, Ser. No. 623,996
Int. Cl. H03k *19/08, 19/20*
U.S. Cl. 307—207 **9 Claims**



A high-speed semiconductor logic circuit adapted for fabrication as a monolithic circuit component. The circuit includes a multiple emitter type logic input element coupled by way of a phase inverter to a phase splitter driving, in turn, a pair of complementary operated output switches. The inverter is included to provide a desired additional signal inversion in the circuit, required to produce a non-inverted signal at the output, and is coupled to enhance the switching of the phase splitter as well as provide noise pulse immunity. The circuit further includes special signal bias circuitry to enhance the speed of the output switches.

3,522,445
THRESHOLD AND MAJORITY GATE ELEMENTS AND LOGICAL ARRANGEMENTS THEREOF
Roy P. Foerster, Thousand Oaks, Calif., assignor to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Filed Aug. 24, 1966, Ser. No. 574,790
Int. Cl. H03k *19/42*
U.S. Cl. 307—211 **13 Claims**

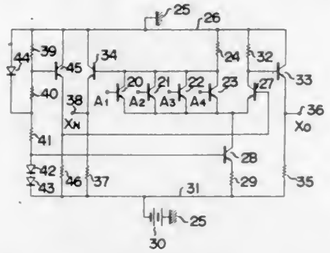


Threshold and majority logic circuits providing high "fan-in" and "fan-out" capabilities that permit the practical realization of threshold logic systems. The circuits are preferably comprised of precision thin film resistors forming both an input summation network and a voltage divider for establishing a desired threshold reference level. The summation result is compared with the threshold level by a differential amplifier. Outputs from the differential amplifier are coupled to open either one of two low impedance gates to connect an output terminal either to ground potential or to the power supply potential, depending on the results of the comparison. Thus, the magnitude of the output voltage swing almost exactly equals the power supply voltage. The circuits are used to form flip-flops, logic elements, arithmetic elements, etc.

3,522,446
CURRENT SWITCHING LOGIC CIRCUIT
Koji Kodama, Tokyo, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Aug. 28, 1968, Ser. No. 755,967
Claims priority, application Japan, Aug. 31, 1967, 42/55,499
Int. Cl. H03k *19/36*
U.S. Cl. 307—215 **10 Claims**

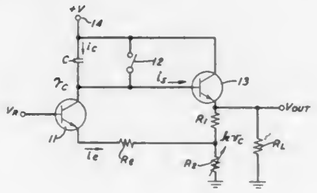
A current switching logic circuit comprising a constant current source consisting of transistors for converting a common emitter current to a constant current, a voltage comparator containing a first transistor connected to the constant current source and supplied with input signals and a second transistor supplied with a threshold level and a bias circuit composed of a group of elements having the same characteristics as those involved in the logic circuit and supplying a bias voltage to the constant current source and the voltage comparator characterized in that the subject logic circuit is provided with a means for impressing the constant current source with a first

bias voltage of $V_{EE}+2V_{BE}$ obtained from the bias circuits and also a means for supplying the voltage com-



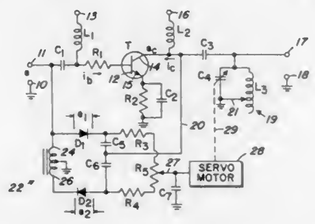
parator with a second bias voltage of $-3/2V_{BE}$ or $-5/2V_{BE}$ obtained from the bias circuits.

3,522,447
SWEEP VOLTAGE WAVEFORM GENERATOR
David P. Borenstein, Red Bank, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Oct. 27, 1967, Ser. No. 678,640
Int. Cl. H03k *3/00, 4/00*
U.S. Cl. 307—228 **5 Claims**



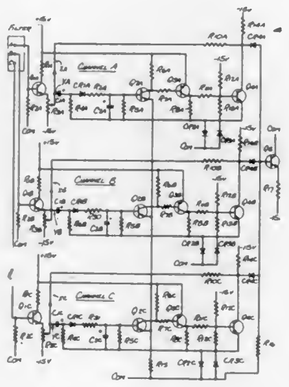
A circuit for generating a linear sweep voltage waveform includes a capacitor which is charged from a high impedance current source. Resistive loading, a primary source of sweep nonlinearity, is mitigated by a feedback circuit arrangement which corrects for any nonlinearity in the sweep waveform.

3,522,448
R-F PHASE DETECTOR
David B. Hallock, Marion, and Russell W. Hanson, Cedar Rapids, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed June 28, 1967, Ser. No. 649,589
Int. Cl. H03k *5/20*
U.S. Cl. 307—233 **3 Claims**



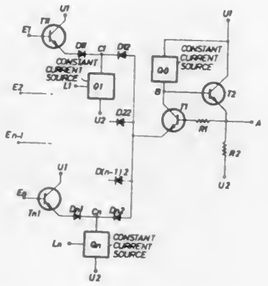
A phase detector circuit utilizing a transistor operated in a frequency range above the beta cutoff causing the base current to lead the collector current by ninety degrees.

3,522,449
AUTOMATIC FILTER SELECTOR
Charles L. McMurtrie, North Plainfield, N.J., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed July 17, 1967, Ser. No. 653,855
Int. Cl. H03k *5/20*
U.S. Cl. 307—235 **58 Claims**



The present invention is directed to a circuit having a series of identical channels each receiving an output signal from an individual filter in a filter network so that the circuit will automatically select the frequency band containing the largest signal voltage and direct the signals within that band to its own output. The circuit is particularly adapted for use in a flow meter.

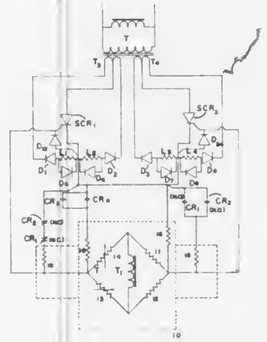
3,522,450
CURRENT AMPLIFYING SCANNING CIRCUIT
Ernst A. W. Muenter, Montreal, Quebec, Canada, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed July 12, 1967, Ser. No. 652,925
Claims priority, application Germany, July 14, 1966, St 25,639
Int. Cl. H03k *11/00*
U.S. Cl. 307—243 **9 Claims**



A plurality of input leads are coupled one at a time to a single output lead by a differential amplifier having a single output stage and a plurality of input stages each coupled to one of the input leads with the input stages being coupled one at a time to the output stage by a switching control arrangement coupled between each of the input stages and the output stage. The output stage

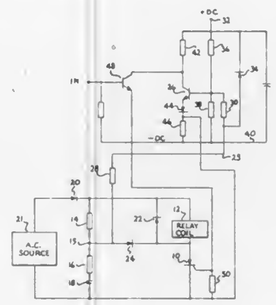
is coupled to the output lead by an amplifier with the signal on the output lead being fed back to the output stage.

3,522,451
AIR CONTROL SYSTEM, FURTHER IDENTIFIED AS AC–326
Frederick N. Lancia, Columbus, and Ralph C. Liebert, Worthington, Ohio, assignors to Liebert Corporation, Columbus, Ohio
Filed Aug. 29, 1968, Ser. No. 756,093
Int. Cl. H03k *17/00*
U.S. Cl. 307—244 **4 Claims**



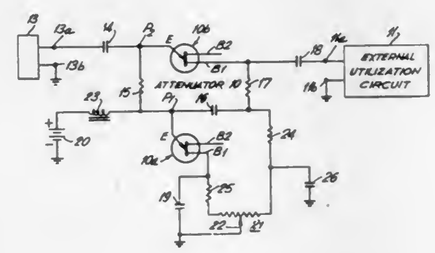
This invention relates to temperature and/or humidity electrical/electronic controls to maintain an enclosure at a constant temperature and humidity. Specifically, the electrical/electronic controls provide a step function to actuate one or more temperature and/or humidity conditioners in response to the degree of change.

3,522,452
HYSTERETIC GATING CIRCUIT FOR SILICON CONTROLLED RECTIFIER
Ronald E. Gareis, Roanoke, Va., assignor to General Electric Company, a corporation of New York
Filed May 20, 1968, Ser. No. 730,304
Int. Cl. H03k *17/00*
U.S. Cl. 307—252 **3 Claims**



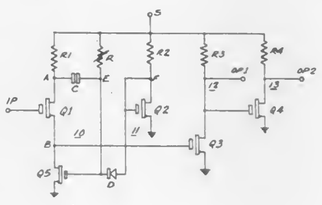
A hysteretic gating circuit including a biasing circuit connected across an SCR and to the base of a transistor having its emitter connected to the SCR cathode. When the SCR begins to conduct, the decrease in anode-to-cathode voltage causes a change in the transistor base voltage. The resulting change in the transistor conduction level reduces the SCR cathode voltage, thereby increasing the gate-to-cathode voltage. The increased gate-to-cathode voltage establishes an increased gate current which initially drives the SCR towards conduction and thereafter provides a deadband to prevent SCR switching due to noise currents at the SCR gate.

3,522,453
VARIABLE ATTENUATORS
Keneth A. Simons, Bryn Athyn, and George Otto Duty, Glenside, Pa., assignors to Jerrold Electronics Corporation, Philadelphia, Pa., a corporation of Delaware
Filed July 15, 1966, Ser. No. 565,532
Int. Cl. H03k *3/02*
U.S. Cl. 307—264 **4 Claims**



A high frequency attenuator free of harmonic distortion is described wherein a unijunction transistor is employed. The unijunction transistor has one emitter base junction connected generally in the path of high frequency signals operating in the frequency range from 100 kHz. up into the microwave frequency spectrum with the other base left unconnected in the floating condition. Several biasing circuits are described for forwardly biasing the emitter base junction to obtain variable signal attenuation by the variation of the bias current.

3,522,454
PULSE CONTROL CIRCUIT
Wayne D. Gilmour, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed July 8, 1968, Ser. No. 743,161
Int. Cl. H03k *1/18*
U.S. Cl. 307—265 **10 Claims**



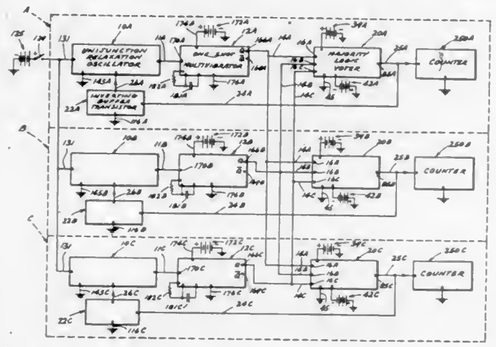
A first MOS transistor is connected in series with a R-C timing branch. Upon application of an input pulse at the gate of the first MOS transistor, a voltage change is created across the capacitor of the timing branch which voltage change is applied to the gate of a second MOS transistor connected in series with the first MOS transistor and the timing branch to form a Miller integrator connection to provide a substantially linear voltage

change. The junction between the first and second MOS transistors is connectd to the gate of a third MOS transistor, and an output terminal is connected to the junction of the third MOS transistor and an associated load resistor. To provide a limit for the voltage change across the capacitor, a diode connects the junction between the timing branch resistor and capacitor and the tap of a voltage divider which includes another MOS transistor.

3,522,455
METHOD AND MEANS OF SYNCHRONIZING TIMING PULSES OF A THREE CHANNEL TRIPLICATED SYSTEM

Frank J. Thomas, West Paterson, N.J., and David A. Tawfik, Flushing, N.Y., assignors to The Bendix Corporation, a corporation of Delaware

Filed July 27, 1967, Ser. No. 656,499
Int. Cl. H03k *5/01, 17/28*
U.S. Cl. 307—269 **11 Claims**

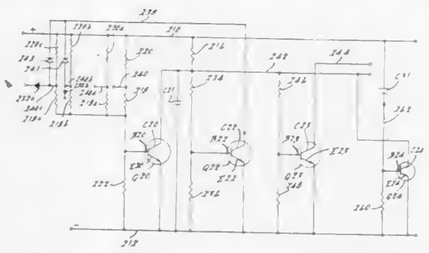


A method and means of synchronizing timing pulses of a three channel triplicated system by provision of a feedback control derived from a voted output to fire a relaxation oscillator network to provide synchronization of the timing pulses so that the period, pulse width, and phase of the timing pulses in all three channels of the triplicated system are synchronized, while temperature variations in the period, pulse width and phase of the timing pulses are minimized, and further through the voter arrangement there is provided a majority logic network which will function as long as any two of the three inputs to the voter agree so as to effect a fail-operative feature in the system, due to the voter arrangement.

3,522,456
ELECTRONIC BISTABLE CIRCUIT

Kenneth D. Wright, Pontiac, Mich., assignor to Design Products Corporation, Troy, Mich., a corporation of Michigan

Filed Oct. 23, 1965, Ser. No. 508,638
Int. Cl. H03k *3/12*
U.S. Cl. 307—292 **3 Claims**

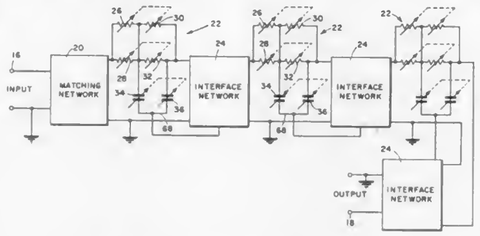


An electronic logic circuit including first and second transistors with the conductivity of the second being controlled by the first and including a feedback circuit whereby the second transistor, once actuated, will control the first transistor whereby the second transistor will be maintained in its actuated state.

3,522,457
FILTER HAVING PASSIVE RC STAGES AND ACTIVE INTERFACE NETWORKS

Frank M. Perra, Laurel, Md., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed Mar. 16, 1967, Ser. No. 623,635
Int. Cl. H04b *1/10, 15/00;* **H03f** *3/18*
U.S. Cl. 307—295 **7 Claims**

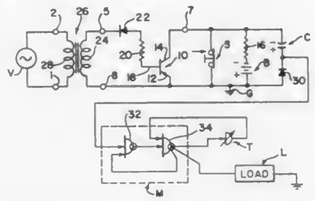


An active filter including RC filter stages serially coupled by interface networks of double Darlington configuration and a positive Darlington feedback circuit feeding an adjustable signal to the preceding RC shunt component reference lead so as to provide a floating reference potential therefor.

3,522,458
STARTING CIRCUIT FOR ENERGIZING A LOAD IN SYNCHRONISM WITH LINE FREQUENCY

James Howard Hufford, Moline, Ill., assignor, by mesne assignments, to Gulf & Western Industries, New York, N.Y., a corporation of Delaware

Filed Dec. 29, 1966, Ser. No. 605,856
Int. Cl. H03k *5/153*
U.S. Cl. 307—232 **5 Claims**



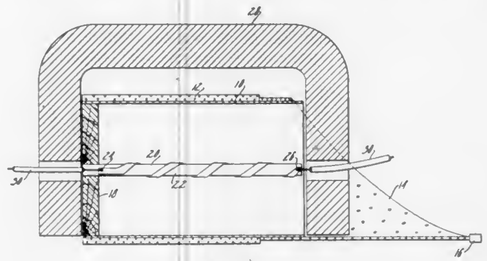
A starting circuit for energizing a load by a randomly actuatable switch so that the commencement of energization of the load is synchronized with line frequency. A capacitor charges when the switch is opened and a capacitor shunting transistor is nonconductive. The transistor is rendered alternately conductive and nonconductive at a frequency corresponding with line frequency. The capacitor commences to discharge as the transistor becomes conductive, and a circuit responds to this condition to energize the load.

3,522,459
EXPLOSIVELY GENERATING ELECTRIC PULSES

Harry E. Stubbs and Timothy Fohl, Lexington, Mass., assignors, by mesne assignments, to Harry Eugene Stubbs, Lexington, Mass.

Continuation of application Ser. No. 482,572, Aug. 25, 1965. This application Aug. 9, 1968, Ser. No. 757,196
Int. Cl. H02k
U.S. Cl. 310—10 **10 Claims**

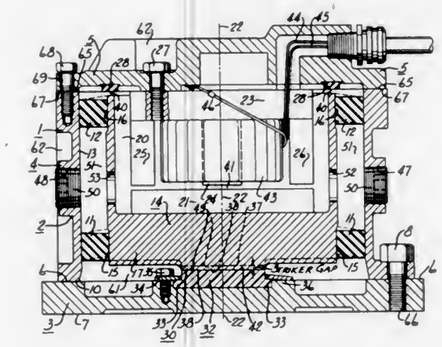
Electrical pulses are generated by exploding an explosive element annular in cross-section to compress axially extending lines of magnetic force inwardly in a primarily radial direction to produce current in an output circuit element coaxial with the explosive element, preferably in the same circuit with neither a field-forming nor a conductive liner. A metal liner, annular in cross-section and coaxial with the explosive and output elements, is preferably used therebetween.



3,522,460
VIBRATOR

William V. Spurlin, Indiana, Pa., assignor to FMC Corporation, a corporation of Delaware

Filed Nov. 2, 1967, Ser. No. 680,117
Int. Cl. H02k *33/02*
U.S. Cl. 310—29 **6 Claims**



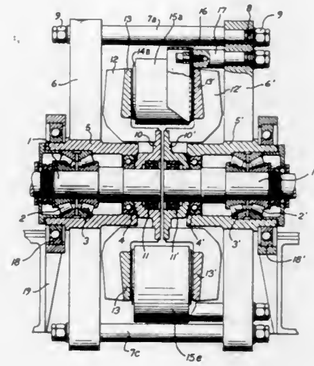
This invention is directed to a novel vibrator and the method of vibrating an object with a two mass vibratory spring system tuned in respect to the input frequency and to a vibrator wherein potential energy stored in the spring system is released when the exciter is de-energized allowing a striker on the moving mass to impact an anvil on the reaction base to provide a high output energy level relative to the input energy and providing an impact force adjustable through a range from zero to maximum.

3,522,461
EDDY CURRENT BRAKE

Herman R. Geul, Leiden, Netherlands (% Sun Electric (Nederland) N.V., Ariana Nozemanstraat 8, Amsterdam, Netherlands)

Filed Oct. 2, 1968, Ser. No. 764,555
Claims priority, application Netherlands, Oct. 6, 1967, 6713597
Int. Cl. H02k *49/04*
U.S. Cl. 310—93 **3 Claims**

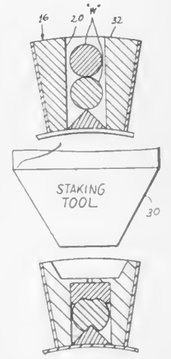
An improved eddy current brake for a roller testing stand comprising a single stator system formed of a number of poles, preferably arranged in a circular array, and further comprising a plurality of rotor systems, with at least one rotor system located on each side of the stator system such that the magnetic flux generated at the stator poles will be equal in the rotors and therefore, the braking effect on the rotors also will be approximately equal, even at different speeds of rotation of the rotors, each of said rotors being fastened to a shaft, which shafts are supported by bearings in separate housings that are rotatably supported in a cruciform yoke that also carries the stator system.



3,522,462
COMMUTATOR WINDING CONNECTORS

Christian J. Schwartz, Springfield, Ohio, assignor to Robbins & Myers, Inc., Springfield, Ohio, a corporation of Ohio

Filed Sept. 11, 1968, Ser. No. 758,966
Int. Cl. H02k
U.S. Cl. 310—234 **10 Claims**

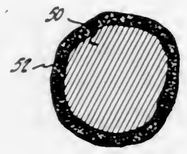


An improved commutator and method for staking same by the steps which includes placing a plurality of insulated wire leads in a commutator wire slot, whereby said slot is characterized by substantially parallel radial sides and a substantially convex base. To this assembly, heat and pressure is applied to deform the wire leads in intimate contact with the base.

3,522,463
ELECTRON TUBE MULTICOLOR DUAL PERSISTENCE SCREEN COMPRISING PHOSPHOR-COATED PHOSPHOR PARTICLES

Alfred E. Bishop, Lancaster, Pa., assignor to RCA Corporation, a corporation of Delaware

Filed July 15, 1968, Ser. No. 744,887
Int. Cl. H01j *29/18, 29/30, 29/32*
U.S. Cl. 313—92 6 Claims



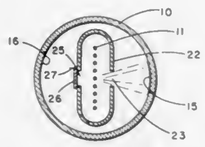
An electron tube having a penetration type luminescent screen which includes phosphor coated phosphor particles of two different types. A particle of the first type is comprised of a core of a first phosphor and a coating thereon of a second phosphor. A particle of the second type is comprised of a core of a third phosphor and a coating thereon of the second phosphor.

At low operational voltages, the second phosphor (the coatings) is excited to emit light of a second color. At high operational voltages, the first phosphor (cores) is excited to emit short persistence light of a first color. The emission from the first phosphor also excites the third phosphor (cores) to emit long persistence light of a third color. Thereby, the viewer may distinguish different displayed information according to the different colors and persistences displayed.

3,522,464
STANDARD LIGHT SOURCE

Guy L. Fougere, Lincoln, Mass., assignor to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts

Continuation-in-part of application Ser. No. 297,061, July 23, 1963. This application Aug. 17, 1967, Ser. No. 661,337
Int. Cl. H01j *1/52, 5/16;* H01k *1/26*
U.S. Cl. 313—117 2 Claims

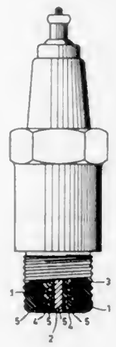


This invention relates to a stable source of radiant energy and, more particularly, to a standard source of constant radiance with a color temperature in the range of about 2,000° K. to 2,600° K. The source components include a lamp with a tungsten filament connected to a voltage source and an anode, the current to which is controlled by a servo amplifier and feedback arrangement. External control of the anode current makes it possible to control filament temperature and hence radiation.

3,522,465
SLIDE-SPARK ELECTRODE SYSTEM

Wilhelmus Franciscus Knippenberg and Gregorius Thedorus Maria Neelen, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 28, 1968, Ser. No. 708,990
Claims priority, application Netherlands, Mar. 18, 1967, 6704095
Int. Cl. H01t *13/50, 13/52*
U.S. Cl. 313—131 6 Claims

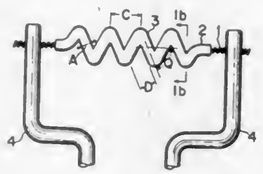


The slide-spark type spark plug has the space between the electrodes filled with a semiconductive material which allow a chain of small sparks across the surface. The semiconductive material is silicon carbide with the surface doped to permit current to flow.

3,522,466
ELECTRIC DISCHARGE LAMPS HAVING HOT CATHODE

Takeo Kamegaya, 365 Kyodo-cho, Setagaya-ku, Tokyo, Japan; Naoyuki Takamura, 28 1-chome, Harumi-cho, Fuchu-shi, Tokyo, Japan; Mitsuo Inoue, 930 Koadach, Romae-cho, Kitatama-gun, Tokyo, Japan; Akira Someya, 176 4-chome, Noge-machi, Naka-ku, Yokohama-shi, Japan; and Tsunekazu Hashimoto, 430 Seijo-cho, Setagaya-ku, Tokyo, Japan

Continuation-in-part of application Ser. No. 459,842, May 28, 1965. This application July 29, 1968, Ser. No. 748,369
Int. Cl. H01j *17/06, 61/08*
U.S. Cl. 313—212 2 Claims

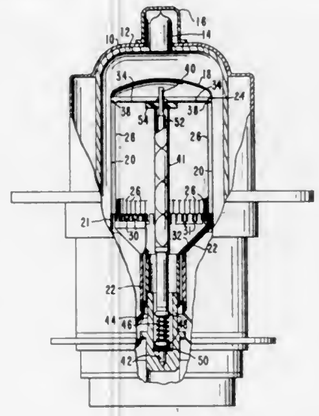


In a positive column type low pressure vapor discharge lamp, the improvements wherein at least one self-sustained hot cathode electrode has an elongated electron emissive body or bodies having a distance around the surfaces of said body or bodies longer than $1.1\times\sqrt[3]{J}$ mm., and providing an effective diameter less than $1.2\times J$ mm., where J represents the lamp current over the magnitude of from 0.2 ampere to 1.0 ampere.

3,522,467
ELECTRON TUBE FILAMENT SUPPORT STRUCTURE EMPLOYING DEFORMABLE LOOP PORTIONS OF THE FILAMENTS

Jean A. Baker, Belmont, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Oct. 26, 1967, Ser. No. 678,275
Int. Cl. H01j *1/94, 19/48*
U.S. Cl. 313—278 16 Claims



An electron tube filament structure having a filament wire and a filament support. The filament wire has a bight looped over one member of the support and two rectilinear strands extending between the bight and another member of the support. The supporting members are spaced and biased from each other to hold the strands taut. The bight dampens deviations in strand tension through bowing action confined to a plane substantially parallel adjacent grid wires thereby maintaining a constant filament-to-grid spacing.

3,522,468
IMAGE ORTHICON COMPRISING CATHODE, CONTROL GRID, AND TARGET SERIALLY CONNECTED BY INTERNAL RESISTANCES

Chester L. Heflin, Schwenksville, and Arthur H. Mengel, Pottstown, Pa. (both % Teltron, Inc., Box 131, Boyertown, Pa. 19512)

Filed Nov. 1, 1967, Ser. No. 679,888
Int. Cl. H01j *29/96, 31/36*
U.S. Cl. 315—3 1 Claim

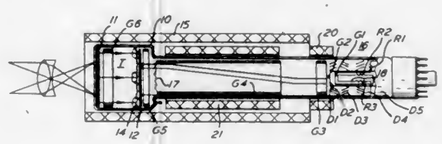
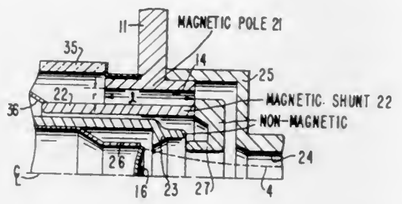


Image orthicon television tubes having circuitry which provides for maintaining the scanning beam current at a constant value which results in a reduction of noise level, longer tube life and improved performance. The circuitry involves a departure from prior circuitry and includes providing resistors of fixed value between the electron gun control grid and ground of that grid and the thermionic cathode and that cathode to the target whereby the target will be bombarded evenly with no oversaturation throughout low to high light level operation.

3,522,469
MAGNETIC BEAM FOCUSING STRUCTURE FOR A TRAVELING WAVE TUBE EMPLOYING MAGNETIC SHUNTS BETWEEN THE POLE PIECES AND THE EMITTER

George V. Miram, Daly City, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Apr. 12, 1968, Ser. No. 720,884
Int. Cl. H01j *25/34, 23/08*
U.S. Cl. 315—3.5 4 Claims

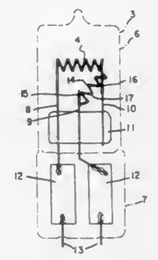


A microwave tube is disclosed. The tube includes an electron gun at one end for projecting a beam of electrons over an elongated beam path through an interaction circuit to a collector structure at the opposite end of the tube. A beam focus solenoid surrounds the tube and includes a pair of magnetic pole piece structures disposed at opposite ends of the solenoid for providing a beam focusing magnetic field through the interaction circuits. One or two cylindrical magnetic shunts concentrically surround the cathode emitter in the space between a cylindrical bore in the cathode pole piece and the cathode emitter for shunting a substantial amount of the stray leakage field of the electron beam focusing magnetic field to the pole piece structure.

3,522,470
QUARTZ-HALOGEN PROJECTION LAMP

Robert P. Bonazoli, Hamilton, and Lawrence P. Cleary, Lynn, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Mar. 29, 1968, Ser. No. 717,250
Int. Cl. H01j *1/38, 5/16, 5/34*
U.S. Cl. 315—71 10 Claims

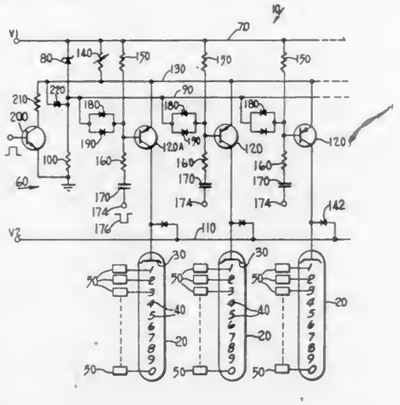


An ellipsoidal reflector and a lamp are fixedly attached to a base, with the lamp filament positioned at the focus of the reflector. A ballast coil within the lamp envelope is in series with the filament to reduce the voltage across the filament. The filament and ballast coil are compactly mounted on a 3-wire quartz bridge and each has a coiled leg connected to, and encircling, a common support wire.

3,522,471
TRANSISTOR DRIVER CIRCUITS FOR CATHODE GLOW DISPLAY TUBES

Arpad Somlyody, Raritan, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Mar. 19, 1968, Ser. No. 716,700
Int. Cl. H01j *17/38, 17/48*
U.S. Cl. 315—84.6 **5 Claims**

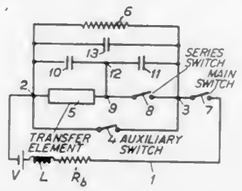


The disclosure is of a circuit for operating one or more cathode glow indicator tubes and includes a separate driver, a transistor, coupled between a power supply and the anode of each indicator tube to be operated. Various diodes are coupled to the transistor(s) for providing the necessary bias voltages, and a single common variable resistor provided in the emitter circuits of all of the transistors can be used to vary the current through each transistor as it operates its indicator tube. Means are also provided for holding off the transistors and their tubes as required during quiescent periods to prevent spurious cathode glow.

3,522,472
DIRECT CURRENT BREAKER

Bo Breitholtz, Vasteras, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden

Filed May 26, 1966, Ser. No. 553,243
Claims priority, application Sweden, May 26, 1965, 6,919/65; Dec. 31, 1965, 17,056/65
Int. Cl. H02b *7/14;* **H05b** *37/00, 41/00*
U.S. Cl. 315—126 **8 Claims**

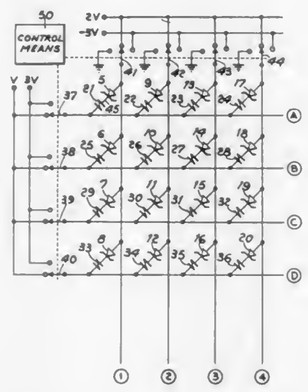


A device for breaking a high voltage direct current circuit includes a series connection of a divided circuit and a main switch. The divided circuit consists of a parallel connection of a resistor which can conduct the entire current, a transfer element which for at least a short moment can conduct the entire current and an auxiliary switch which is normally closed and conducts the current in the circuit. During the beginning of a breaking process, the auxiliary switch is opened and a starting impulse is given to the transfer element, which rapidly decreases its impedance to a value which is much lower than the value of the impedance of the resistor. When the current through the auxiliary switch is broken, the transfer element increases its impedance to a value which is much higher than the impedance of the resistor. The transfer element is a gas discharge valve in which the arc discharge is controllable from plasma condition with low arc voltage drop to space charging condition with very high arc voltage drop.

3,522,473
ELECTROLUMINESCENT DISPLAY UTILIZING VOLTAGE BREAKDOWN DIODES

Burton A. Babb, Fort Wayne, Ind., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware

Filed Dec. 26, 1967, Ser. No. 695,313
Int. Cl. H05b *37/00, 39/00*
U.S. Cl. 315—169 **9 Claims**

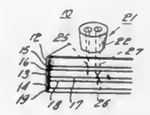


An electroluminescent display system utilizing a voltage breakdown diode (such as Zener diodes) in series with each electroluminescent cell in an array and wherein DC voltage sources and simple switching apparatus are utilized to apply an effective AC excitation voltage to selected electroluminescent cells in the array. The voltage breakdown diodes serve to enable each electroluminescent cell to store a charge thereon for predetermined periods of time and to provide a discharge path for each electroluminescent cell responsive to a control signal.

3,522,474
ELECTRIC SUPPLY MEANS

David Piel, New York, N.Y., assignor of ten percent to Barry R. Goldberg and Fredric B. Gershon, both of New York, N.Y.

Original application Jan. 20, 1966, Ser. No. 521,938, now Patent No. 3,383,641, dated May 14, 1968. Divided and this application May 14, 1968, Ser. No. 739,581
Int. Cl. H05b *37/00*
U.S. Cl. 315—169 **1 Claim**

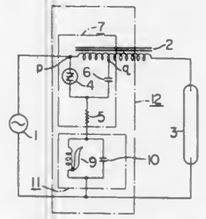


A planar conductive means capable of permitting electrical connection thereto at any location desired over the surface of the assembly which is comprised of a pair of piercible conductive means spaced from one another by suitable piercible insulation means. Connection thereto is made by a connecting assembly comprised of first and second tapered pins. One of said pins is of a length sufficient to pierce only one of the conductive layers. The remaining pin is of a length sufficient to pierce both conductive layers and is provided with an insulating coating or sheathing to electrically insulate the longer pin from the conductive layer which the shorter pin pierces. A power source may be coupled to the conductive layers through a connection means similar to that described above or any other desirable arrangement. The connection means coupling the energized planar assembly may be employed to couple lamps, characters capable of being illuminated or any other sort of load to the power source.

3,522,475
DISCHARGE LAMP STARTING DEVICE

Tsuguhito Hashimoto, Himeji, Japan, assignor to Matsushita Electric Works, Limited, Osaka, Japan, and Ikeda Electric Works, Limited, Himeji, Japan, both corporations of Japan

Filed June 7, 1968, Ser. No. 735,369
Claims priority, application Japan, June 29, 1967, 42/41,837
Int. Cl. H05b *41/14*
U.S. Cl. 315—239 **6 Claims**

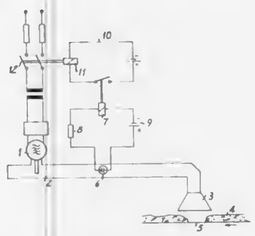


The present invention relates to a starting device for discharge lamps with an improved starting effect. The effect is produced by providing a distorted wave generating circuit connected in series with a starting pulse generating circuit. The distorted wave generating circuit is adapted so as to superpose a plurality of starting pulses on the source voltage during each half cycle thereof. The thus formed series circuit comprising the starting pulse generating circuit and the distorted wave generating circuit provides smooth and stable starting of the discharge lamp connected to both ends of said series circuit.

3,522,476
ARRANGEMENT FOR THE PROTECTION OF CROSS-FIELD GENERATOR TUBES OF HIGH CONTINUOUS WAVE POWER OR PULSE POWER

Herbert August Puschner, Bremen, Germany, assignor to Atlas-Mak Maschinenbau G.m.b.H., Bremen, Germany, a limited company of Germany

Filed Nov. 10, 1966, Ser. No. 593,477
Int. Cl. H02h *7/00;* **H04b** *3/04*
U.S. Cl. 317—13 **4 Claims**

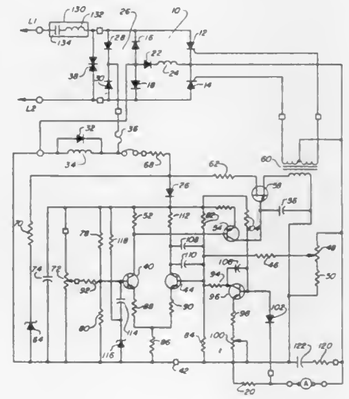


A waveguide couples high power microwave energy from a C-W magnetron to a dissipative load. A glow tube is located in the waveguide and connected by a relay to a low voltage source that provides a potential just below that of the ignition potential of the glow tube so that the presence of the microwave energy field superimposed upon the potential from the low voltage source ignites the glow tube and operates the relay. During abnormal operation caused by frequency jumping and interruption of the microwave field, the glow lamp is extinguished to release the relay and thereby cause the interruption of applied energy to the magnetron. A diode may be substituted for the glow lamp. Under normal conditions it rectifies the microwave energy to operate the relay while during abnormal operation the rectified energy is too small to operate the relay.

3,522,477
BI-ELEMENT CIRCUIT BREAKER FOR MOTOR CONTROL CIRCUIT

Dudley D. Nye, Jr., Fort Lauderdale, Fla., assignor to Airpax Electronics, Incorporated, Cambridge, Md., a corporation of Maryland

Filed Mar. 1, 1968, Ser. No. 709,668
Int. Cl. H02h *7/085*
U.S. Cl. 317—13 **20 Claims**



An electric motor protection arrangement comprising an electric motor, a power line, a rectifying type motor controller coupling power from the power lines to the motor field windings and armature, the improvement comprising a circuit breaker to interrupt power transmission from the line to the armature in response to armature current inceasing above a rated D.C. trip point and including means for maintaining the value of the trip point substantially constant and independent of motor speed.

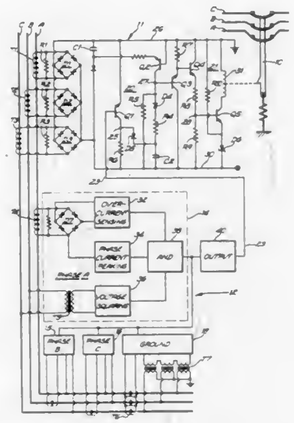
3,522,478
DIRECTIONAL RELAY FOR CIRCUIT INTERRUPTERS

Norbert J. Reis, Wauwatosa, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed Mar. 10, 1967, Ser. No. 622,213
Int. Cl. H02h *7/26, 3/28*
U.S. Cl. 317—18 **20 Claims**

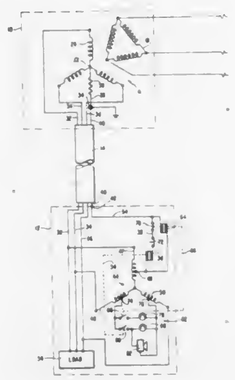
A polyphase circuit interrupter having normally inactive time delay switch opening means and an individual directional control for each phase and for ground faults and each operative to initiate a switch opening operation if fault current flow is in the preferred direction. Each directional control includes a first circuit for

producing a signal functionally related to the polarity of the voltage between two phases, a second circuit for producing a pulse in a time delayed relation to alternate changes of sense of the current in the third phase and a third circuit which produces an electrical signal when



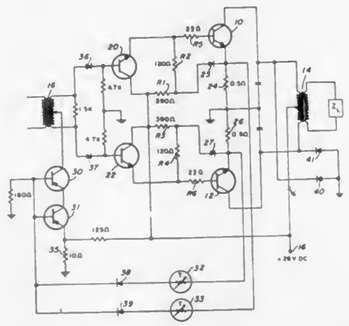
the current in the third phase is of fault proportions. Each directional control also includes an AND gate which is responsive to a signal from each of its associated circuits for actuating an output circuit which in turn initiates a time delayed switch opening operation.

3,522,479
PROTECTIVE ELECTRICAL SYSTEMS FOR MOBILE MACHINES
Douglas F. Parker, Hobbs, N. Mex., assignor to Kerr-McGee Corporation, a corporation of Delaware
Filed Dec. 15, 1967, Ser. No. 690,841
Int. Cl. H02h *1/02, 7/00*
U.S. Cl. 317—18 **10 Claims**



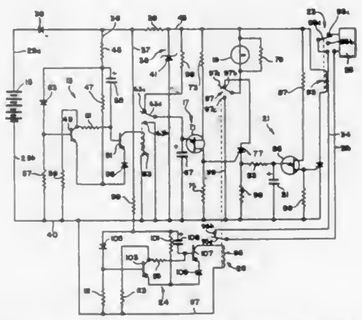
Apparatus for continuous low-voltage monitoring of continuity of a ground wire in mobile machine trailing cable, and for detecting a ground fault in a phase conductor. A Y-connected power transformer secondary having a grounded neutral supplies power to the machine through phase conductors in the trailing cable. An autotransformer carried by the mobile machine is connected to the phase conductors and tapped to provide a low reference voltage. The tap is connected to the ground wire, which is connected to the neutral of the power transformer. In one form of the apparatus, two parallel relay coils are interposed between the tap and the ground wire. When a discontinuity appears in the ground wire, one coil is deenergized and actuates an alarm signaling the opening of the ground circuit. When a ground fault occurs in a phase conductor, the other relay coil is energized and activates an alarm signaling the presence of the fault. In a modification, a warning lamp is interposed between the tap and the ground wire instead of the relay coils. When the ground wire becomes discontinuous, the lamp goes out, signaling the opening of the ground circuit. When a ground fault occurs in a phase conductor the lamp becomes very bright, signaling the presence of the fault.

3,522,480
PROTECTION CIRCUIT FOR POWER TRANSISTOR
Claude C. Routh and Keith E. Geren, San Diego, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Feb. 2, 1968, Ser. No. 702,688
Int. Cl. H02h *3/18*
U.S. Cl. 317—20 **3 Claims**



To prevent reverse bias of the emitter-base junction of a power transistor with a reactive load, a diode clamp is connected between the emitter and the base. A current protective circuit is also incorporated.

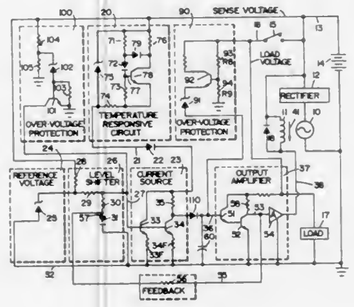
3,522,481
STORAGE BATTERY PROTECTIVE DEVICE
Brant Terzic, Chicago, Ill., assignor, by mesne assignments, to KW Battery Company, Skokie, Ill., a corporation of Delaware
Filed Mar. 1, 1968, Ser. No. 709,696
Int. Cl. H02l *3/24*
U.S. Cl. 317—31 **11 Claims**



A protective device for use with storage battery-powered apparatus includes a low-voltage sensing means and a battery-disconnect sensing means coupled to the battery.

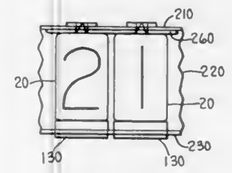
When the battery voltage drops below a first preselected minimum level, the low-voltage sensing means actuates an indicator to inform the operator that the battery has reached a given critical state of discharge. If the condition is not corrected in a predetermined time period, a primary disabling means disables an operational function of the apparatus. If a discharged battery is reconnected to reset the protective device, a secondary disabling means disables the operational function until such time that a charged battery is connected to the apparatus.

3,522,482
TEMPERATURE COMPENSATED VOLTAGE REGULATION
James Elbert Thompson, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Dec. 26, 1967, Ser. No. 693,485
Int. Cl. H02h *3/28;* **H02p** *9/30*
U.S. Cl. 317—31 **8 Claims**



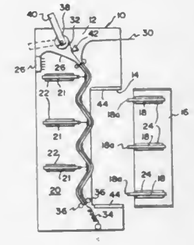
An on-off type voltage regulator wherein a sensed voltage to be regulated is level shifted through a temperature responsive variable voltage to a control circuit. The control circuit compares the shifted voltaged from the temperature variable voltage shifter with a reference signal. Depending upon the comparison results, an output amplifier is switched between current conduction and nonconduction. Positive feedback causes the on-off switching action. Two over-voltage protection circuits protect the output amplifier and the sensing current source.

3,522,483
DISPLAY TUBE MOUNTING ARRANGEMENT
William M. Hennessey, Somerville, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed July 2, 1968, Ser. No. 742,031
Int. Cl. H02b *1/04*
U.S. Cl. 317—99 **6 Claims**



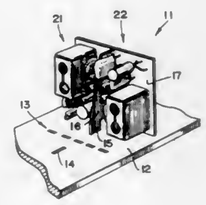
The disclosure is of apparatus for mounting a series of indicator tubes comprising a bracket including openings for receiving the tubes and having a keyway adapted to mate with a key on a mounting member coupled to the tube. The mounting member includes a relatively large slot for receiving a group of tube pins or leads, and a plurality of holes for receiving separate ones of the leads to provide coupling and alignment of the mounting member with the tube.

3,522,484
ELECTRICAL CONNECTOR
John W. Clements, Naperville, Ill., assignor to Flexicon Electronics, Inc.
Filed July 10, 1967, Ser. No. 652,216
Int. Cl. H02b *1/04*
U.S. Cl. 317—101 **12 Claims**



Apparatus for connecting flexible flat conductor cables to each other or to one or more circuit cards.

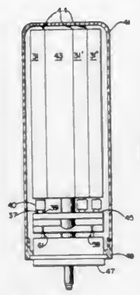
3,522,485
MODULAR CIRCUIT CONSTRUCTION
John De Metrick, Lexington, Mass., assignor to Automatic Radio Manufacturing Co., Inc., Melrose, Mass., a corporation of Massachusetts
Filed Nov. 21, 1967, Ser. No. 685,244
Int. Cl. H05k *1/04*
U.S. Cl. 317—101 **8 Claims**



A module board is formed with depending tabs for insertion into mating slots in a main circuit plate. A support plate is secured to the modular circuit board with the plane of the support plate perpendicular to that of the circuit board and formed with a depending tab at right angles to the circuit board tabs for insertion into a mating slot in the main circuit plate. In a preferred form the support plate is made of metal and secured to the circuit board by dip soldering at the time the other components are dip soldered to the circuit board. Preferably, the distance between the support plate depending tab and the circuit board depending tabs is slightly greater than that between the main circuit plate mating slots and the support plate mating slot prior to insertion in the main circuit plate so that the supporting plate tab may be urged toward the circuit board prior to insertion and then released to both mechanically lock the circuit plate into

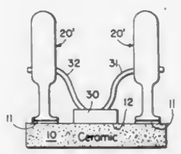
position and establish good electrical contact with the main circuit plate so that the support plate may additionally function as an electrical connection path between the circuit board and the main circuit plate.

3,522,486
CONTROL APPARATUS
Norman P. Johns, Minneapolis, Clyde M. Kobe, New Brighton, and Louis A. Larson, Minneapolis, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Apr. 19, 1968, Ser. No. 722,691
Int. Cl. H05k *1/04;* **H02b** *1/04*
U.S. Cl. 317—101 **3 Claims**



A weight saving packaging technique utilizing flexible printed electrical circuitry encapsulated in low density potting material thereby providing a rigid potted module having a substantial weight reduction over conventional modules using rigid metal module frames for the flexible circuitry and wherein further weight saving is effected when connecting the potted module to external circuitry by forming the conductors of the electrical circuitry into connector pins which may be inserted into holes in conductors of interconnecting cabling.

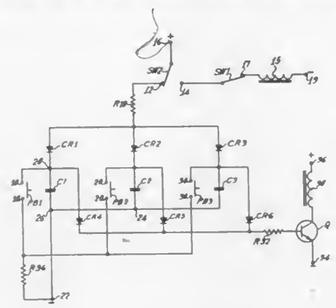
3,522,487
ELECTRONIC DEVICE WITH METAL PIN UNITED TO METALLIZED CERAMIC SURFACE
Philip S. Hessinger, West Caldwell, N.J., assignor to National Beryllia Corp., Haskell, N.J., a corporation of New Jersey
Filed Apr. 15, 1969, Ser. No. 816,340
Int. Cl. H05k *3/32*
U.S. Cl. 317—101 **4 Claims**



The invention relates to a metal pin of the type which is to be butt-soldered to a metallized surface of a ceramic wafer or base plate of an electronic device and to the resultant electronic device, the metal pin being formed with a necked-down portion close to the surface of the head that is to be soldered to said metallized surface so that it can be bent readily during assembling of the device or will bend before failing if accidentally subjected to stress after assembling.

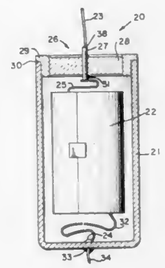
3,522,488
ANTIDETECTING NETWORK FOR PUSHBUTTON COMBINATION LOCK
Edward M. Tellerman, East Rockaway, N.Y., assignor to Continental Instruments Corp., Lynbrook, N.Y., a corporation of New York
Filed Nov. 1, 1967, Ser. No. 679,872
Int. Cl. E05b *47/00*
U.S. Cl. 317—134 **10 Claims**

An antidetecting network for a combination lock of the type having a plurality of pushbuttons wherein the actuation of a preselected number, less than all, of said pushbuttons in predetermined sequence is operable to release said lock. There is provided switch means in the path of the energizing current for the locking release mechanism which switch means prevents the flow of such energizing current unless all of the pushbuttons have been pushed.



The switch means is under the control of a relay coil which, so long is energized, causes the switch means to prevent current flow to the release mechanism. The relay coil becomes unenergized only after all pushbuttons have been actuated to prevent the detection of the particular pushbuttons involved in the combination.

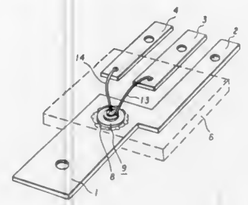
3,522,489
GLASS TO ALUMINUM SEAL AND HERMETICALLY SEALED ALUMINUM ELECTROLYTIC CAPACITOR
Lawrence R. Sparrow, Rockville, Md., and Aleksandar P. Gacic, Palm Bay, Fla., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
Continuation-in-part of applications Ser. No. 504,410, Oct. 24, 1965, and Ser. No. 507,346, Nov. 12, 1965. This application Dec. 4, 1968, Ser. No. 781,021
Int. Cl. H01g *9/00, 9/10*
U.S. Cl. 317—230 **19 Claims**



A glass-to-aluminum seal for an aluminum electrolytic capacitor is described which includes an aluminum ring, an aluminum anode terminal member connected to at least one of the aluminum electrodes which projects through the opening in the aluminum ring and a mass of glass filling the opening of the aluminum ring so as to fixedly retain an aluminum terminal member spaced

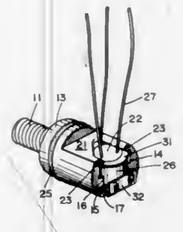
from the aluminum ring. The aluminum ring, aluminum terminal member and glass mass cooperates to form a glass-to-aluminum seal.

3,522,490
SEMICONDUCTOR PACKAGE WITH HEAT CONDUCTING MOUNTING EXTENDING FROM PACKAGE ON SIDE OPPOSITE CONDUCTOR EXTENSIONS
John E. Kauffman, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Continuation of application Ser. No. 467,533, June 28, 1965. This application Jan. 30, 1967, Ser. No. 612,737
Int. Cl. H05k *5/00*
U.S. Cl. 317—234 **11 Claims**



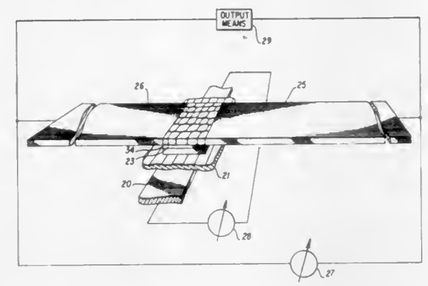
Disclosed is a semiconductor package utilizing a unitary frame having a semiconductor mounting area with a heat conducting mounting tab member extending from the mounting area and a member extending in the opposite direction from the tab member with a cross terminal member having a number of finger members extending toward the semiconductor mounting area. After a semiconductor is mounted on a mounting area, the mounted semiconductor is encapsulated and the terminal cross member is removed to complete the finished device.

3,522,491
HEAT TRANSFER APPARATUS FOR COOLING SEMICONDUCTOR COMPONENTS
Thomas D. Coe, Winchester, Mass., assignor to Wakefield Engineering, Inc., Wakefield, Mass., a corporation of Massachusetts
Filed May 31, 1967, Ser. No. 642,427
Int. Cl. H01l *1/12, 1/14*
U.S. Cl. 317—234 **5 Claims**



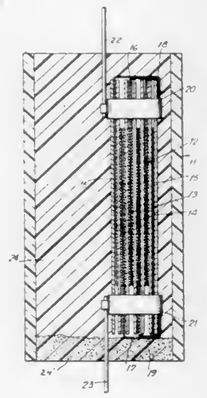
A studded semiconductor device heat sink is formed with a channel for accommodating the semiconductor device so that the axis of the semiconductor device can is generally perpendicular to the heat sink axis. A spring clip resides within the heat sink channel to establish good thermal and mechanical contact between the semiconductor device to be cooled and the heat sink. In one modification an electrically insulating thermally conducting layer of epoxy filled with aluminum oxide grits mechanically secures a studded base to the channelled portion of the heat sink.

3,522,492
SUPERCONDUCTIVE BARRIER DEVICES
Joe T. Pierce, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 23, 1967, Ser. No. 677,327
Int. Cl. H01l *15/00*
U.S. Cl. 317—235 **4 Claims**



Disclosed are superconductive barrier devices, comprising a gate region with a control line adjacent to the gate, which can perform cryogenic switching and logic functions. According to the various embodiments, the gate region may comprise a relatively thin superconductive layer separated by a very thin insulative layer from a relatively thick superconductive layer, a discontinuous superconductive layer separated by a thin insulative layer from a thick superconductive layer, a pair of superconductors separated by an insulating barrier thin enough to permit electron pair tunneling therethrough, or a granular superconductor wherein the grains are separated by an insulating barrier thin enough to permit electron pair tunneling therethrough. Also disclosed are superconductive barrier devices comprising granular superconductors which may be employed as millimeter or submillimeter radiation generators or detectors.

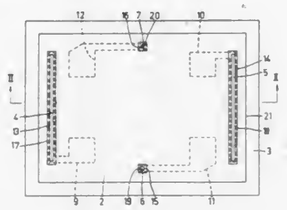
3,522,493
TUBULAR MICA CAPACITOR
William H. O'Mara, New Bedford, and Owen J. Wood, Mattapoisett, Mass., assignors to Aerovox Corporation, New Bedford, Mass., a corporation of Massachusetts
Filed July 10, 1968, Ser. No. 743,787
Int. Cl. H01g *1/02, 3/07*
U.S. Cl. 317—258 **4 Claims**



A rectangular shaped mica capacitor is positioned in a rigid tubular casing of insulating material and is fixed

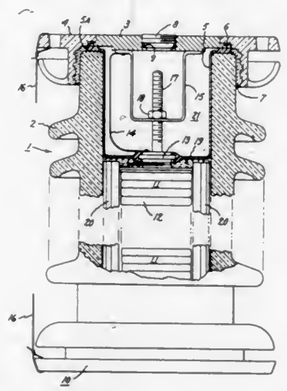
therein with a filling of thermosetting resin. The leads of the capacitor protrude from opposed ends of the tubular casing.

3,522,494
HALL ELEMENT
Gerrit Bosch, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 5, 1968, Ser. No. 757,612
Claims priority, application Netherlands, Sept. 8, 1967, 6712327
Int. Cl. H01l *11/00, 15/80*
U.S. Cl. 317—235 **8 Claims**



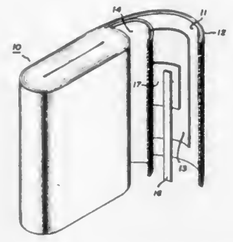
A semiconductive Hall element of silicon comprising a single crystal substrate having an epitaxial layer, a junction being formed at the interface. The epitaxial layer is provided with an annular region of opposite type conductivity forming a boundary p-n junction defining an island constituting the Hall element. An insulating layer is on the surface. Through openings in the insulating layer are extended contacts to the island for conveying current through the Hall element and for deriving a Hall signal. Solid state amplifiers can be incorporated in other islands of the silicon crystal for amplification of the Hall signal.

3,522,495
COUPLING CAPACITOR
John C. Devins, Burnt Hills, N.Y., and Wendell T. Starr, Berwyn, Pa., assignors to General Electric Company, a corporation of New York
Filed Nov. 4, 1968, Ser. No. 773,157
Int. Cl. H01g *3/02*
U.S. Cl. 317—244 **10 Claims**



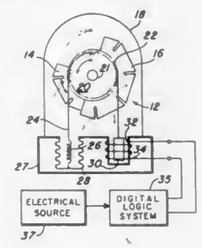
A gas-pressurized capacitor comprises a gas-pressurized, insulating container divided into two chambers by a flexible partition made of a moldable fluoropolymer to separate the pressurizing gas, which is one of a specified group of electronegative gases, from the dielectric fluid in which the capacitor units are immersed. The combination provides a capacitor having improved corona starting voltage and dielectric characteristics greatly extending its lifetime.

3,522,496
COMBINATION CAPACITOR HAVING A POROUS DIELECTRIC STRIP BETWEEN A METALLIZED DIELECTRIC STRIP AND A FOIL STRIP ELECTRODE
Frederick W. Grahame, Glens Falls, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 14, 1968, Ser. No. 767,275
Int. Cl. H01g *1/14*
U.S. Cl. 317—258 **3 Claims**



A combination capacitor roll section includes one electrode of a self-supporting nature such as a foil strip, and an opposite electrode as a metallized coating on a relatively non-porous dielectric strip such as a synthetic resin strip. A further relatively porous dielectric strip such as a paper strip is positioned between the electrodes so that, in each turn of the roll, the paper strip has one side adjacent the foil electrode and the opposite side adjacent the metallized layer. At the same time the paper dielectric strip is between two adjacent electrodes in the roll while the resin strip is between the next adjacent pair of electrodes.

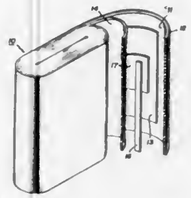
3,522,497
DIGITALLY-CONTROLLED HIGH SPEED CAPACITOR TUNING APPARATUS
Eugene R. Crippa, El Cajon, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 17, 1968, Ser. No. 768,339
Int. Cl. H01g *5/04*
U.S. Cl. 317—250 **4 Claims**



Apparatus for selectively adjusting the capacitance of a hermetically-sealed variable capacitance device is disclosed. A digitally-controlled drive mechanism is operatively connected to a set of capacitor plates moveable with respect to a fixed set. The drive mechanism comprises an electromagnetic flux responsive element positioned within a hermetically sealed enclosure to impart

movement to the movable plates in response to electromagnetic flux from a source positioned outside the enclosure. The entire capacitor is disposed in substantially a vacuum to enable high power operation.

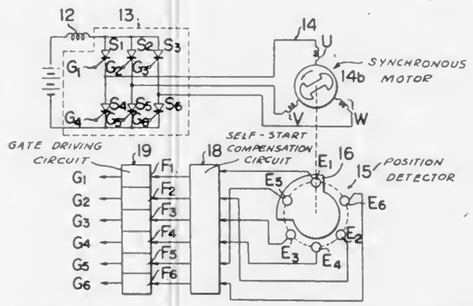
3,522,498
COMBINATION CAPACITOR HAVING A MARGINLESS METALLIZED DIELECTRIC STRIP AND A FOIL ELECTRODE
Frank D. Price, South Glens Falls, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 14, 1968, Ser. No. 767,283
Int. Cl. H01g *1/13*
U.S. Cl. 317—258 **6 Claims**



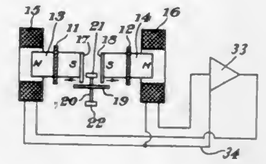
A combination capacitor roll section includes one electrode of a self-supporting nature such as an aluminum foil, and an opposite electrode of a metallized coating on a dielectric strip. A further dielectric strip is positioned between the electrodes. Because of the structure of the combination capacitor involving a dielectric strip between a metallized electrode and a self-supporting electrode, the metallized electrode need not include a non-metallized edge margin.

3,522,499
BRUSHLESS MOTOR HAVING IMPROVED SOLID STATE COMMUTATION
Masateru Kuniyoshi and Junpei Inagaki, Yokohama-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Sept. 26, 1967, Ser. No. 670,565
Claims priority, application Japan, Sept. 28, 1966, 41/63,500; Feb. 1, 1967, 42/6,020; Apr. 6, 1967, 42/21,489; Apr. 10, 1967, 42/22,550; Apr. 18, 1967, 42/24,275; May 23, 1967, 42/32,277
Int. Cl. H02k *27/00*
U.S. Cl. 318—158 **8 Claims**

A brushless A.C. synchronous motor wherein the armature is excited by A.C. outputs from a multi-phase thyristor bridge actuating. The control of the angle at which each of the thyristors for the thyristor bridge is fired is carried out by following the prescribed sequence according to the outputs obtained by passing through the gate control circuit the outputs from a detector to define the position of rotation angle of a rotor of the motor. The gate control circuit has a self start compensation circuit to ensure that the motor will start regardless of the position of the rotor.

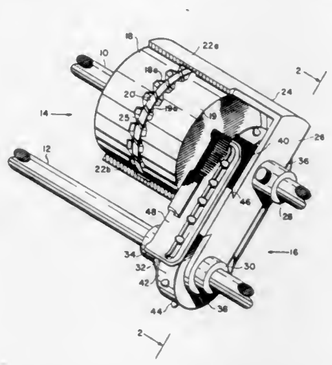


3,522,500
ELECTROMECHANICAL OSCILLATOR
Cecil Frank Clifford, Newbridge Works, Bath, Somerset, England
Filed June 20, 1967, Ser. No. 647,396
Claims priority, application Great Britain, July 6, 1966, 30,255/66
Int. Cl. H02k *33/00*
U.S. Cl. 318—128 **3 Claims**



Electromechanical oscillator in which a single oscillating member or the tines of a tuning fork, cooperate inductively with signal and drive coils connected to an amplifier by which the member or the fork is maintained in oscillation, and also cooperate magnetically with a wavy magnetic track formed on an escape wheel so that the escape wheel is driven by the oscillating member or the tuning fork.

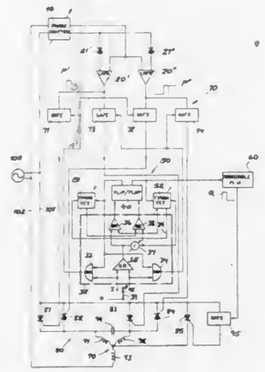
3,522,501
INCREMENTING DEVICE
Alexander Nyman, Dover, Mass., assignor to Mohawk Data Sciences Corporation, East Herkimer, N.Y., a corporation of New York
Filed Jan. 4, 1968, Ser. No. 695,620
Int. Cl. H02k *37/00*
U.S. Cl. 318—138 **10 Claims**



Each of a plurality of paper feed tractors adapted to engage edge perforations in a web of forms for feeding thereof is connected to a compact incrementing motor device which is operable in a stepping mode for feeding the forms line-by-line or in a slewing mode for feeding the forms continuously. Each incrementing motor comprises a set of radially spaced holding pole teeth connected to a first permanent magnet and a set of radially spaced drive pole teeth connected to a second permanent magnet. The two sets of pole teeth are mounted in opposed, offset relation to one another and an armature containing a plurality of radially spaced ferrous segments is rotatably mounted between the sets of teeth and connected to the drive sprocket of the paper feed tractor. A bucking coil

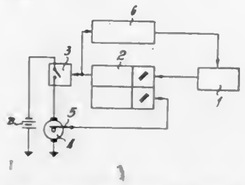
is provided in association with each of the sets of pole teeth and a control circuit operates to pulse the coils in selected patterns to either step the armature or rotate it continuously.

3,522,502
CIRCUIT ARRANGEMENT FOR INTERMITTENT ENERGIZATION OF INDUCTION MOTOR
Ernst Tuchen, Jerxen-Orbke, near Detmold, Germany, assignor to Schleicher Regelautomatik GmbH & Co., KG., Bielefeld, Germany, a corporation of Germany
Filed Jan. 2, 1968, Ser. No. 695,084
Claims priority, application Germany, Jan. 19, 1967, 1,638,857
Int. Cl. H02p *1/40*
U.S. Cl. 318—203 **10 Claims**



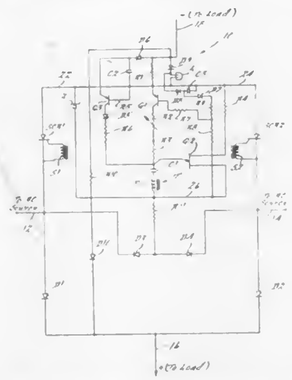
An induction motor, e.g. of the squirrel-cage type, is intermittently energized from a source of single-phase alternating current through a thyraton-type valve circuit controlled by a clock network that includes a bistable circuit alternately set and reset by two associated timing circuits which may be independently adjusted to vary the "on" and "off" times of the motor. The valve circuit is split into two sections for reversible operation of the motor; one of the stator windings of the motor is energizable at the beginning of each "off" period under the control of a monostable multivibrator to exert a braking action.

3,522,503
ELECTRONIC SPEED SYNCHRONIZING REGULATOR FOR DIRECT CURRENT MOTORS
Walter Feulner, Munich, Germany, assignor to Retobobina Handelsanstalt, Schaan, Liechtenstein, a corporation of Liechtenstein
Filed Aug. 20, 1968, Ser. No. 753,957
Claims priority, application Germany, Sept. 5, 1967, 1,588,654; Apr. 22, 1968, 1,763,220
Int. Cl. H02p *5/32, 5/34*
U.S. Cl. 318—314 **6 Claims**



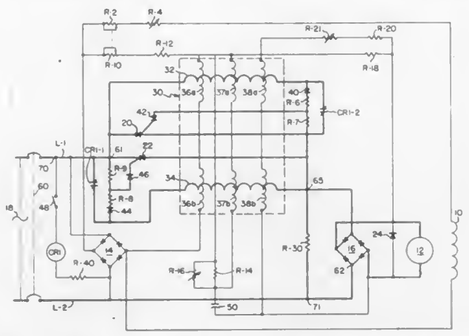
The speed of a preferably small direct current motor is automatically controlled to be of a constant value by an electronic speed synchronizing regulator which employs an impulse generator for periodically operating a flip-flop circuit which by means of an electronic switch closes the motor circuit. A mechanical contact is connected with the flip-flop circuit and is adapted to be operated by at least one axially extended commutator bar of the motor armature to impart an impulse to the flip-flop circuit so that momentarily the flip-flop may open the motor circuit at least once during each revolution of the motor and thereby regulate the speed of the motor.

3,522,504
REGULATED MOTOR CONTROL CIRCUIT
Edward F. Rigby, Highland Park, Mich., assignor to Ram Meter Inc., Ferndale, Mich., a corporation of Michigan
Filed Oct. 26, 1966, Ser. No. 589,678
Int. Cl. H02p *5/16*
U.S. Cl. 318—332 **11 Claims**



A load control circuit for controlling the magnitude of the current to an electric motor from a source of alternating potential including apparatus for sensing the magnitude of the motor load and for varying the current to the motor in accordance therewith, and further including control apparatus for selectively varying the current to the motor, with the circuit including an overload circuit having a time delay for eliminating its actuation in response to transients.

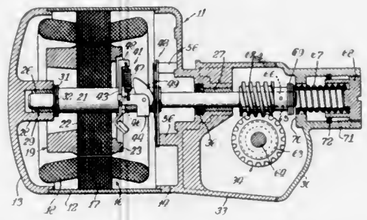
3,522,505
SOLID STATE STARTER AND CONTROLLER FOR ELECTRIC MOTOR
Triest J. Cappello, Depew, N.Y., assignor to CF Electronics Incorporated, Depew, N.Y., a corporation of New York
Filed Apr. 9, 1969, Ser. No. 814,730
Int. Cl. H02p *5/18*
U.S. Cl. 318—431 **6 Claims**



To control current surges in the armature of a D.C. motor during starting, two silicon controlled rectifiers and the gate windings of a magnetic amplifier are connected in parallel with one another and in series with

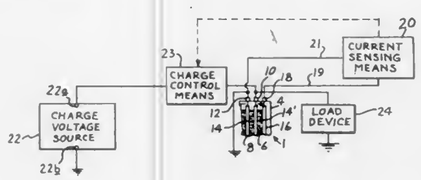
the input terminals of a full wave rectifier across an alternating current source, and the armature is connected across the output of the full wave rectifier. Two normally-closed, relay-operated switches normally shunt out the triggering diodes of the SCR devices, and connect the gate windings as high impedence with the rectifier input terminals to stop the armature. When the switches are open, the SCR devices are triggered and gradually increase the current flow to the input terminals to start the armature.

3,522,506
REVERSIBLE ELECTRIC MOTOR DRIVE
Edward J. Schaefer, Bluffton, Ind., assignor to Franklin Electric Co., Inc., Bluffton, Ind., a corporation of Indiana
Filed Mar. 29, 1967, Ser. No. 626,766
Int. Cl. H02h *7/085*
U.S. Cl. 318—475 **13 Claims**



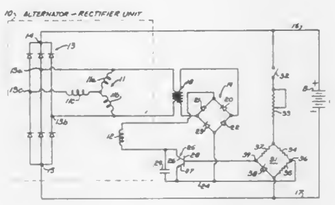
This disclosure deals with a reversible electric motor drive for a mechanism such as a garage door, the motor including running and starting windings and a centrifugal switch for controlling energization of the starting winding. The drive further includes limit switches which automatically deenergize the running winding when the mechanism reaches its limit of travel in either direction, and direction sensing means for reversing the connections to the starting winding after the mechanism has been driven in either direction for a relatively short distance. The motor further includes obstruction sensing means which automatically and instantly reverses the motor in the event the drive encounters an obstacle, such instant reversal being accomplished by closing the centrifugal switch to energize the starting in the reverse direction.

3,522,507
RECHARGEABLE BATTERY AND CHARGE CONTROL CIRCUIT THEREFOR
Harvey N. Seiger, East Brunswick, N.J., assignor to Gulton Industries, Inc., Metuchen, N.J., a corporation of New Jersey
Continuation-in-part of applications Ser. No. 343,771, Feb. 10, 1964, and Ser. No. 424,913, Jan. 12, 1965. This application Apr. 28, 1966, Ser. No. 545,924
Int. Cl. H02j *7/00*
U.S. Cl. 320—31 **4 Claims**



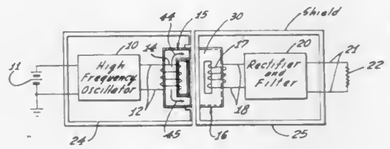
A three electrode battery with the third electrode being of the oxygen consuming type. When the battery becomes charged, the third electrode absorbs the evolved oxygen until a voltage is caused to develop between the negative and control electrodes. The resulting current energizes a relay which opens the charging circuit.

3,522,508
CONTROL CIRCUIT IN ELECTRICAL GENERATING SYSTEM
Edward Gadd, Cleveland, Ohio, assignor to Victoreen Leece Neville, Inc., a corporation of Ohio
Filed Apr. 5, 1967, Ser. No. 628,714
Int. Cl. H02j *7/04*
U.S. Cl. 320—39 **12 Claims**



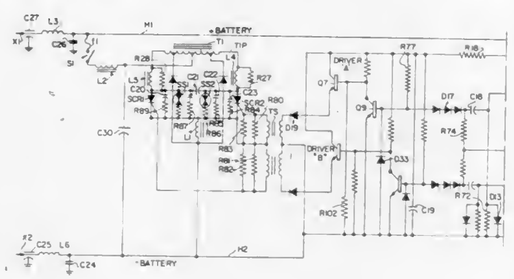
A control circuit for a vehicle battery-charging alternator-rectifier unit includes a switching transistor connected to the field winding of the alternator to control its energization. The output voltage of the alternator-rectifier unit is regulated by an impedance bridge having a Zener diode in one leg. This voltage-regulating bridge turns on the switching transistor when this voltage drops below rated value. A full-wave rectifier bridge is transformer-coupled to one A.C. output phase of the alternator in circuit with the field winding and the switching transistor for energization of the field winding from this output phase of the alternator through the switching transistor. This rectifier bridge isolates the voltage-regulating impedance bridge from the field winding so that its regulating action is not influenced by the field current.

3,522,509
FLOATING POWER SUPPLY
Ralph D. Hasenbalg, Thousand Oaks, Calif., assignor to Scientific Data Systems, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Oct. 30, 1968, Ser. No. 771,773
Int. Cl. H02m *3/22, 7/00*
U.S. Cl. 321—2 **6 Claims**



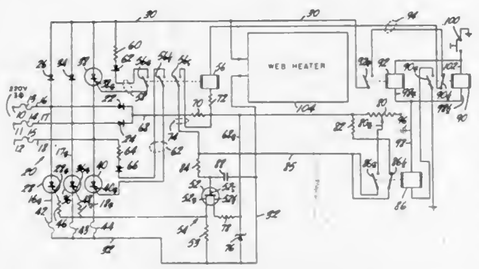
A magnetic coupler for a power supply having a floating direct-current output. The power supply converts a direct current into a high-frequency alternating current. The coupler couples the input circuit to the output circuit with a minimum of magnetic leakage. The coupler has electrically conductive walls circumscribing a chamber for confining the magnetic flux. Any magnetic leakage is opposed by electric eddy currents on the film. The coupler has a geometric configuration so that no section through the coupler has a closed electric circuit in any plane transverse to the magnetic flux.

3,522,510
DC TO DC CONVERTER
Douglas R. G. Cameron, Montreal, Quebec, Canada, assignor to Pylon Electronic Development Company, Ltd., Lachine, Quebec, Canada
Filed Oct. 31, 1968, Ser. No. 772,286
Claims priority, application Canada, Nov. 7, 1967, 4,437
Int. Cl. H02m *3/22, 1/18, 7/52*
U.S. Cl. 321—2 **12 Claims**



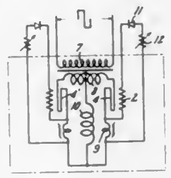
A DC to DC converter wherein a source of DC voltage charges a capacitor which is periodically discharged alternately through first and second halves of a transformer primary winding wound on a saturable magnetic core. The winding halves are connected in series with SCR's which are alternately triggered on by pulses derived from a flip-flop driven by a unijuction oscillator, means are provided for causing the capacitor to always discharge through whichever winding half will tend to drive the core away from a previously saturated state. A substantially square-wave voltage is produced on a secondary winding on the transformer and this is rectified, filtered and regulated to produce a DC output.

3,522,511
POLYPHASE POWER CONTROL CIRCUIT FOR WEB HEATERS
Ihor Wyslotsky, Evanston, Ill., assignor to Standard Packaging Corporation, New York, N.Y., a corporation of Virginia
Filed July 9, 1968, Ser. No. 743,556
Int. Cl. H02m *7/20;* **H05b** *3/00, 1/02*
U.S. Cl. 321—5 **12 Claims**



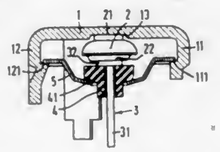
As described herein, the conductivity in each leg of a three phase rectifier bridge circuit is selectively controlled in order to supply a variable DC power signal to the web heater of a vacuum packaging machine. In two legs of the rectifier bridge circuit, a silicon controlled rectifier and a diode are connected in series between a pair of bus bars. The conductivity of the silicon controlled rectifiers is controlled by a unijunction transistor relaxation oscillator circuit having a variable frequency of operation. The third rectifier leg includes a pair of silicon controlled rectifiers connected in series between the bus bars and a pair of 90° phase shift triggering circuits coupled to the gate terminals of the silicon controlled rectifiers for a selected period of time control the conductivity of the silicon controlled rectifiers.

3,522,512
FLUX PUMP WITH THERMAL CRYOTRONS
Theodor A. Buchhold, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Sept. 15, 1967, Ser. No. 667,934
Int. Cl. H02m *7/00;* **H03k** *3/38*
U.S. Cl. 321—8 **8 Claims**



A thermal cryotron is made by sandwiching layers of materials such as a heated resistive tape having on both of its sides a bifilar niobium-zirconium tape and on the outside of each of the niobium-zirconium tapes an insulating material and a conductive metal strip may be placed (on the outside of the layers). A system for utilizing this switch in a flux pump is described.

3,522,513
RECTIFYING APPARATUS
Herbert Vogt, Munich, Germany, assignor to Siemens Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
Filed Nov. 4, 1968, Ser. No. 773,085
Claims priority, application Germany, Jan. 12, 1968, 1,639,388; Aug. 7, 1968, 1,764,795
Int. Cl. H02m *7/100;* **H02k** *9/00*
U.S. Cl. 321—8 **13 Claims**

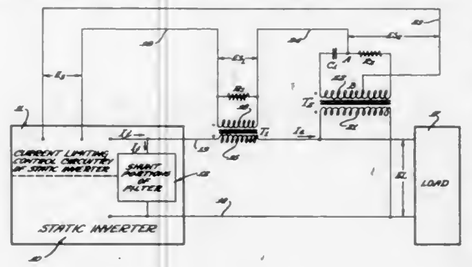


A rectifier apparatus has a bus frame for interconnecting a plurality of adjacent semiconductor components. Steel spring members are secured between two legs of the frame to hold the components in place under pressure in respective seats provided in the frame thereby establishing a connection between the components and the frame which is both heat conductive and electrically conductive. An insulator separates the component from the spring member and connecting member is seated in the insulator. The spring member is in pressure contact with the insulator and applies a force thereto which places a pressure surface of the connecting member in pressure contact with the component.

3,522,514
CURRENT SENSING CIRCUIT FOR FILTERED STATIC INVERTERS
Edward W. Tornberg, Novelty, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 13, 1967, Ser. No. 690,310
Int. Cl. H02h *7/12;* **H02m** *1/18*
U.S. Cl. 321—14 **1 Claim**

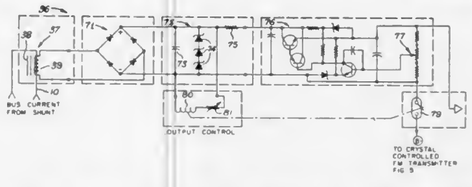
A circuit for sensing the current in a static inverter having a filter and connecting the output to a current limiting control circuit of the static inverter to protect

if from overload. A voltage proportional to load current and a voltage proportional to the power-frequency



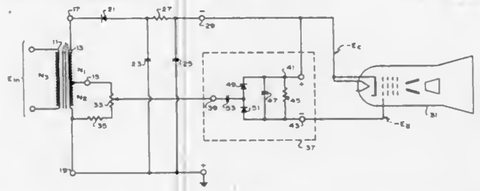
component of the shunt filter current are combined to obtain the control voltage.

3,522,515
CONTROL AND MEASURING SYSTEM FOR HIGH VOLTAGE ELECTRIC POWER TRANSMISSION SYSTEMS
Robert H. Harner, Park Ridge, Ill., assignor to S & C Electric Company, Chicago, Ill., a corporation of Delaware
Original application Oct. 20, 1965, Ser. No. 498,696, now Patent No. 3,460,042, dated Aug. 5, 1969. Divided and this application June 14, 1968, Ser. No. 751,326
Int. Cl. H02m *1/18, 7/20*
U.S. Cl. 321—14 **2 Claims**



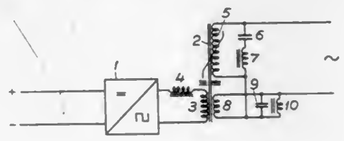
Power supply for radio transmitter on high voltage conductor includes a magnetic core linking the conductor and having high induction at low current and saturable at low flux density, a secondary winding linking the core for energizing a bridge rectifier that energizes a voltage regulator to provide a constant direct voltage. A voltage limiter between the rectifier and the regulator prevents high voltage being applied to the regulator. A filter between the rectifier and limiter eliminates ripple in the direct current supplied to the regulator.

3,522,516
POWER SUPPLY HAVING INCREMENTALLY RELATED HIGH VOLTAGE OUTPUTS
David S. Cochran, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed June 6, 1968, Ser. No. 735,118
Int. Cl. H02m *7/04*
U.S. Cl. 321—15 **4 Claims**



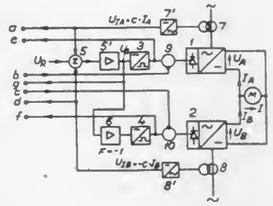
A circuit produces two high D.C. output voltages having values on the order of 3000 volts and separated in magnitude from one another by a low voltage increment. A power transformer with a single secondary winding provides both high and low voltages, which are independently rectified and filtered. The low voltage rectifying and filtering circuit is a voltage multiplier, which is referenced to the high D.C. voltage. A potentiometer connected to the input of the voltage multiplier permits accurate adjustment of the incremental output voltage.

3,522,517
DEVICE FOR CONVERTING A VARIABLE DIRECT VOLTAGE TO A SUBSTANTIALLY CONSTANT ALTERNATING VOLTAGE
Owe Backman, Nacka, and Marius Widakowich, Bromma, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed Apr. 17, 1968, Ser. No. 722,119
Claims priority, application Sweden, Apr. 18, 1967, 5,349/67
Int. Cl. H02m *1/08*
U.S. Cl. 321—16 **2 Claims**



In a DC/AC converting device of the kind in which an inverter is connected in series with a voltage stabilising transformer of the ferro-resonant type, the current which must be commutated is normally very high. To reduce this current and at the same time obtain an improved voltage regulation and less distortion in the output voltage, an unsaturated series reactor is connected between the inverter and the primary winding of the transformer.

3,522,518
CONTROL SYSTEM FOR ANTIPARALLEL-CONNECTED CONVERTERS
Arne Dybvig, Bengt Sinner, Vilmos Török, and Per Kain, Vasteras, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed Oct. 4, 1967, Ser. No. 672,826
Claims priority, application Sweden, Oct. 6, 1966, 13,473/66
Int. Cl. H02m *1/08, 7/08*
U.S. Cl. 321—18 **12 Claims**



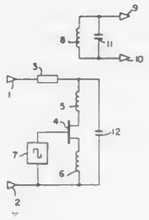
A control system for antiparallel-connected converters connected to a load; means is provided to control the output voltage of the converters; the value of the direct current is measured and controls pulse devices for the converters; the pulses are compared with a reference pulse; blocking means are provided which block the pulses to one of the converters at all times and also block the pulses

to a converter when the length of the current pulses fed to such converter decreases below the length of the reference pulse.

3,522,519
ELECTRONIC CHOPPER UTILIZING A FIELD EFFECT TRANSISTOR SWITCH

Berthus Petersen, Delft, Netherlands, assignor to N.V. v/h P. J. Kipp & Zonen, Delft, Netherlands

Filed July 10, 1967, Ser. No. 652,254
Claims priority, application Netherlands, July 13, 1966, 6609879
Int. Cl. H02m *7/44;* **H03f** *3/16;* **H03b** *17/00*
U.S. Cl. 321—44 **4 Claims**

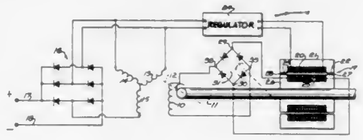


An electronic chopper is disclosed utilizing a field effect transistor as the switch to convert DC-to-AC by interrupting current in the primary of a transformer. Any leakage in the field effect transistor which would cause transients is compensated for by connecting an impedance in parallel with the primary to act as a short circuit for high frequency signal components. Alternative embodiments utilize other impedance elements in parallel with the primary to short circuit high frequency components. A circuit is shown which enables a pair of asymmetric field effect transistors to function as a single, symmetric field effect transistor in the present invention.

3,522,520
ALTERNATOR WITH ROTARY TRANSFORMER FOR SELF-EXCITATION

David Goldman, Cleveland, Ohio, assignor to Victoreen Leece Neville, Inc., a corporation of Ohio

Filed Nov. 20, 1967, Ser. No. 684,129
Int. Cl. H02p *9/38*
U.S. Cl. 322—28 **2 Claims**

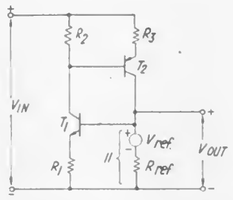


In the present system an alternator has a field winding mounted on a rotary shaft which is driven from the engine of an automotive vehicle. The alternator field winding is excited by a rotary transformer having a stationary primary and a rotatable secondary mounted on the same shaft as the alternator field winding. The primary and secondary of the rotary transformer each have a pair of annular pole tips and respective windings, with the secondary pole tips being in confronting relationship, respectively, to the primary pole tips so that the secondary is energized from the primary independent of the rotation of the secondary with respect to the primary. The transformer primary is connected to be energized from the alternator output through a regulator. A rectifier bridge, which is mounted on the same shaft as the alternator field winding and the transformer secondary, connects the transformer secondary to the field winding to provide DC energization of the field winding from the transformer secondary.

3,522,521
REFERENCE VOLTAGE CIRCUITS

George Howard Lloyd, Hertfordshire, England, assignor to Hawker Siddeley Dynamics Limited, Hertfordshire, England

Filed Sept. 27, 1966, Ser. No. 582,456
Claims priority, application Great Britain, Nov. 4, 1965, 46,839/65
Int. Cl. G05f *1/58*
U.S. Cl. 323—22 **7 Claims**

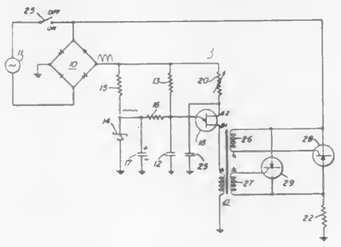


A reference voltage circuit for regulating the low voltage D.C. supply consists of two circuit branches each including a transistor and impedances in series, which two circuit branches are connected across the supply terminals in parallel with one another. The transistor in each circuit branch has its base connected to a junction point in the other branch and the two transistors are of opposite conductivity type. There is thus set up a positive feedback loop but this does not cause oscillation because the gain is arranged to be less than one. Temperature compensating diodes are connected in series in both circuit branches.

3,522,522
DUAL CHARGING OF A CAPACITOR TO PRODUCE A CONSTANT A.C. VOLTAGE

Jerome J. Tiemann, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Feb. 15, 1968, Ser. No. 705,721
Int. Cl. G05f *3/04*
U.S. Cl. 323—22 **3 Claims**



A power control circuit for delivering to a load substantially constant RMS voltage over a wide range of AC input voltages by controlling, in each half cycle of input voltage, the time at which the load is energized. This is accomplished by applying to the emitter of a unijunction transistor a voltage from a capacitor which is charged jointly from the input voltage after full-wave rectification and from a substantially constant DC voltage, and utilizing the voltage pulses produced by the unijunction transistor to trigger a controlled rectifier.

3,522,523
METHOD AND APPARATUS FOR TESTING THIN MAGNETIC FILM CARRIED ON A WIRE SUBSTRATE

Geoffrey N. Portas, Ilford, England, assignor to The Plessey Company Limited, Ilford, England, a British company

Filed June 3, 1968, Ser. No. 734,133
Claims priority, application Great Britain, June 9, 1967, 26,757/67
Int. Cl. G01r *33/18*
U.S. Cl. 324—34 **3 Claims**

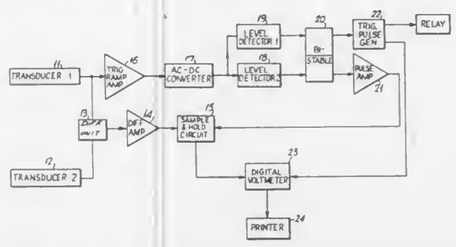


A method of testing at regular intervals a logical device comprising an elongated substrate having a thin magnetic film deposited thereon, the film having a preferred direction of magnetisation, the method comprising applying a stress to the film and sensing displacement of the preferred direction of magnetisation.

3,522,524
GEAR PITCH COMPARISON APPARATUS

Philip Smith, James Shelley Rafferty, and Alastair Inglis, East Kilbride, Scotland, assignors to National Research Development Corporation, London, England, a British corporation

Filed June 4, 1968, Ser. No. 734,473
Claims priority, application Great Britain, June 7, 1967, 26,392/67
Int. Cl. G01m *13/02*
U.S. Cl. 324—34 **3 Claims**



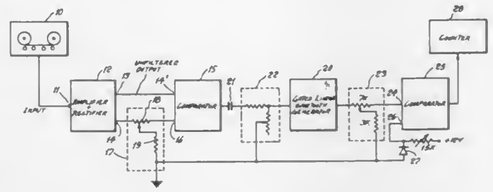
In gear pitch comparison apparatus a pair of measuring probes which are separated by the required span between gear teeth, or a multiple thereof, are alternately inserted into and withdrawn from successive gaps between the teeth as the gear wheel is rotated. The measuring probes provide a voltage signal indicative of the departure of the span of the gear teeth from a norm. This signal is applied to charge or discharge a capacitance-resistance combination for a variable time period proportionate to the speed of rotation of the gear wheel and the voltage across the capacitance at the end of the time period is measured.

3,522,525
AUTOMATIC MAGNETIC TAPE DROPOUT EVALUATOR

Ronald S. Cottin, Bronx, and Stanley Schmulewitz, Brooklyn, N.Y., assignors to the United States of America as represented by the Secretary of the Navy

Filed July 15, 1968, Ser. No. 744,820
Int. Cl. G01r *33/12*
U.S. Cl. 324—34 **5 Claims**

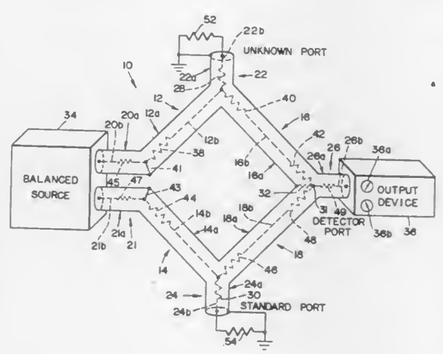
Apparatus for detecting and recording defective areas or dropouts in a given length of magnetic tape. A tone signal is recorded and then played back through a rectifier/amplifier from which an unfiltered and a filtered output are derived. These outputs are electrically compared and if the amplitude difference exceeds selectable limits the comparator applies an output sufficient to gate a linear sawtooth generator. The sawtooth output amplitude is a function of time and this amplitude voltage is applied to another comparator simultaneously with a standard calibrated signal. Thus, this second comparator provides an output signal only when the sawtooth generator has operated for a period greater than that set by the calibrated signal. This output is fed into a counting means which records counts for every signal recorded on the tape which is less in amplitude than specified and exists for a certain time period.



3,522,526
MULTIPORT RADIO FREQUENCY MEASURING AND COUPLING CIRCUITS HAVING MATCHED INPUT IMPEDANCE AT UNKNOWN PORT

Albert E. Sanderson, Forest Park Drive, Carlisle, Mass. 01741

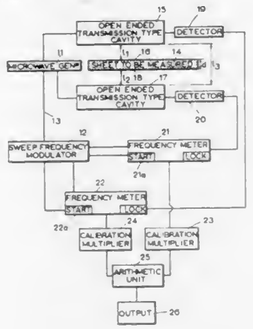
Filed Mar. 17, 1967, Ser. No. 623,851
Int. Cl. G01r *27/04;* **H01p** *5/12*
U.S. Cl. 324—58 **31 Claims**



It is herein disclosed that radio frequency multiport circuits that meet two requirements: (1) null output with a matched unknown-port termination and (2) matched unknown-port input impedance with essentially any design impedances at source and detector ports, operate as unusually low-error measuring circuits of complex reflection coefficients. In some arrangements, the error is theoretically zero. The circuits are also useful as couplers.

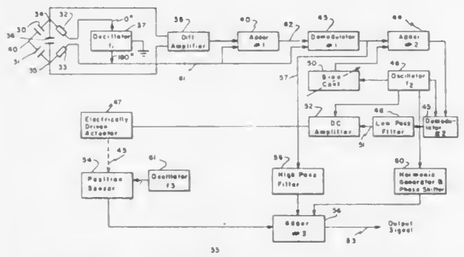
Also disclosed is a four-arm transmission line bridge circuit having resistive inner conductors and which satisfies the two conditions. It operates with a balanced input signal. Alternatively, it can be coupled with a balun for operation with an unbalanced source. A circulator circuit in which a nonreciprocal circulator is fitted with two tuners also meets the two conditions.

3,522,527
METHOD AND APPARATUS FOR MEASURING MATERIAL THICKNESS
Royson V. Williams, Staines, and Brian L. Dalton, London, England, assignors to The British Iron and Steel Research Association, London, England
Filed Sept. 13, 1967, Ser. No. 667,522
Int. Cl. G01r *27/04*
U.S. Cl. 324—58.5 **11 Claims**



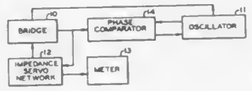
A method and apparatus for measuring the thickness of objects such as rolled steel from a plate mill. A pair of cavity resonators are disposed closedy adjacent each side of the object. Each resonator has applied thereto a swept frequency microwave signal. The instant at which each resonator resonates is detected by respective detectors, sensitive either to the amplitude of the signal from the resonator or to the phase change of the resonator signal at resonance. The microwave frequency at the respective resonant instants is determined. The thickness may then be calculated from the two determined frequencies and from the known distance apart of the resonators, since the resonant frequencies are related to the distance between each cavity and the nearer face of the object.

3,522,528
NONCONTACTING CAPACITANCE DISTANCE GAUGE HAVING A SERVOSYSTEM AND A POSITION SENSOR
George H. Towner, Palos Verdes Peninsula, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Feb. 27, 1968, Ser. No. 709,591
Int. Cl. G01r *27/26*
U.S. Cl. 324—61 **8 Claims**



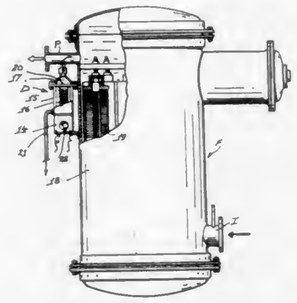
A capacitance gauge for precisely measuring small distances of less than 1 mil or on the order of a microinch between the gauge and a dielectric or other surface. The gauge includes two closely spaced electrodes to which an electric high-frequency carrier wave is applied. Additionally, the electrodes are mechanically vibrated with respect to the surface by a subcarrier wave. A servosystem is provided for maintaining constant the average distance between the gauge and the surface. The output signal may be obtained from the servosystem, or alternatively from a position sensor which senses the actual position of the electrodes with respect to the surface.

3,522,529
IMPEDANCE MEASURING ALTERNATING CURRENT BRIDGE HAVING AN AUTOMATICALLY ADJUSTABLE FREQUENCY OSCILLATOR
William N. Doggett and Duane A. Suppes, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 14, 1967, Ser. No. 690,545
Int. Cl. G01r *29/22;* **H01j** *39/12*
U.S. Cl. 324—57 **6 Claims**



Impedance elements, such as geophones, are tested by means of an alternating current bridge circuit. The applied potential is maintained at the natural resonance frequency of the element being tested by means of a phase comparison servo system. An impedance servo system is provide to rebalance the bridge. Both servo systems can utilize radiation sources and radiation sensitive elements.

3,522,530
DEVICE FOR DETECTING QUANTITY OF WATER IN A LIQUID FUEL
Jacques Muller, La Garenne-Colombes, France
Filed Feb. 28, 1968, Ser. No. 709,090
Claims priority, application France, Mar. 3, 1967, 97,274
Int. Cl. G01r *27/02;* **B01d** *39/10*
U.S. Cl. 324—65 **8 Claims**

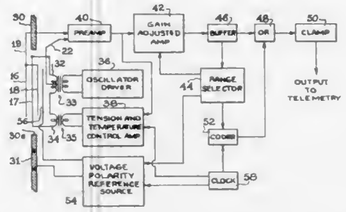


A device for detecting the amount of water present in a liquid fuel by determining the resistivity and hence the current flowing between conductor plates of a cartridge.

3,522,531
ELECTRIC FIELD INTENSITY INDICATOR EMPLOYING A VIBRATORY CONDUCTOR SENSOR
George I. Cohn, 915 Monarch Drive, Pasadena, Calif. 91103
Filed July 26, 1966, Ser. No. 567,906
Int. Cl. H01g *7/00;* **G01r** *5/28*
U.S. Cl. 324—72 **8 Claims**

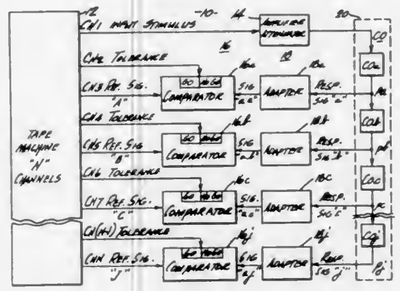
An electric field intensity indicator for use on spacecraft and like structures whereon protruding objects are

undesirable or not permissible, comprising a tensioned conductor disposed flush with the surface of the structure in an elongated slot therein, the conductor being vibrated so as to bow into and out of the ambient electric field



adjacent the slot to induce a fluctuating potential in the conductor relative to a reference provided by the structure, and means utilizing the fluctuating potential to produce an indication of the intensity of the potential.

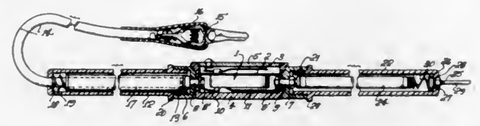
3,522,532
COMPARISON SYSTEM FOR TESTING POINTS IN A CIRCUIT USING A MULTI-CHANNEL ANALOG SIGNAL RECORD AND PLAYBACK MEANS
Herbert L. McCoy, Torrance, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Oct. 21, 1965, Ser. No. 500,417
Int. Cl. G01r *31/00, 17/00*
U.S. Cl. 324—73 **9 Claims**



Automatic comparison system for testing electronic equipment by a comparison method. System includes, for the recording phase, a signal generator for producing selected stimulus signal which is applied to a standard unit and recorded in one channel of a multiple channel recording and playback device that also records the response signals from different points of the standard unit in the other channels. In the test phase, the recorded stimulus signal is applied to a test unit and analog comparators are connected to compare the test unit response signals with the respectively corresponding recorded standard unit response signals for acceptable similarity.

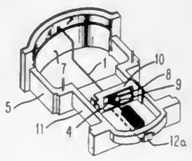
3,522,533
HIGH VOLTAGE TEST PROBE
Ramon Bergero, Los Angeles, Calif., assignor of one-half to Alva M. Henderson, Los Angeles, Calif.
Filed Nov. 15, 1966, Ser. No. 594,505
Int. Cl. G01r *1/06*
U.S. Cl. 324—149 **1 Claim**

There is disclosed a hand-held apparatus for measuring high applied voltages in electrical circuits comprising a tube-like non-conductive case within which is mounted, in series electrical connection, a reduced diameter probe point, a resistor of predetermined value, a voltmeter,



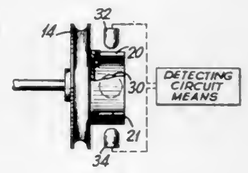
and a flexible electrical connector adapted at one end thereof for external attachment.

3,522,534
INDICATING DEVICE WITH WIRE POINTER-BALANCE
Elbert K. Mackenzie, North Wales, Pa., assignor to Electro-Mechanical Instrument Company, Inc., Perkasie, Pa., a corporation of Pennsylvania
Filed Jan. 9, 1968, Ser. No. 696,592
Int. Cl. G01r *1/08*
U.S. Cl. 324—154 **8 Claims**



The disclosure describes a one-piece hard aluminum wire pointer-balance for an electrical indicating meter. The wire pointer-balance is flattened at one end to form a pointer for the scale and is coiled at the other end to serve as a counterbalance weight. The wire pointer-balance is deformed into a loop between the two ends for securing it to the meter magnet. The particular meter shown is of the edgewise type including an elongated hollow casing of dielectric material having a relatively wide perimetric groove adjacent the rear end and a rounded front end with a window for viewing the scale. An arbor mounted for rotation within the casing carries the permanent magnet. A current-carrying coil of wire is wrapped around the casing within the perimetric groove to secure the two casing sections together, as well as to activate the meter movement.

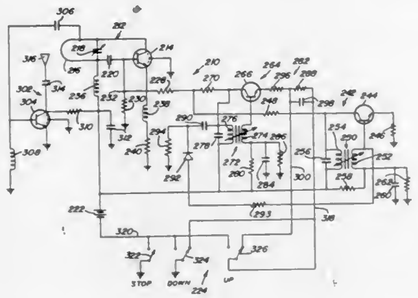
3,522,535
MOTION DETERMINATOR HAVING A LIGHT SOURCE, A SHUTTER HAVING A PLURALITY OF APERTURES AND LIGHT RESPONSIVE PHOTORESISTORS
Robert T. Adams, Short Hills, N.J., assignor to Sichak Associates, Nutley, N.J., a corporation of New Jersey
Filed Sept. 30, 1965, Ser. No. 491,613
Int. Cl. G04f *9/00*
U.S. Cl. 324—18 **13 Claims**



This invention relates to a motion determinator using a light source. A motion is coupled to a shutter having at least two apertures. At least two series connected

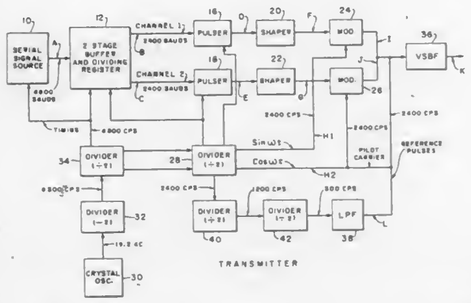
photoresistors are connected in series and positioned to receive light passing through the respective apertures. The apertures of the shutter and the resistors are spaced so that both resistors cannot be illuminated simultaneously. A control device detects a condition of the resistors when light fails to illuminate both of said photoresistors.

3,522,536
REMOTE CONTROL SYSTEM WITH PLURAL MODULATION
Willard S. Reynolds, Hollywood, Fla., assignor to Telectron Company, Division of Elliott & Evans, Inc., a corporation of Ohio
Filed Nov. 24, 1967, Ser. No. 685,583
Int. Cl. H04b *7/00*
U.S. Cl. 325—37 **18 Claims**



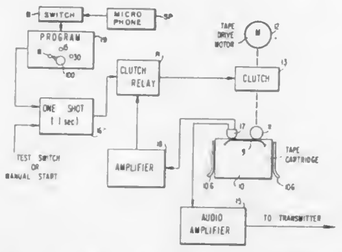
A remote control system in which an RF oscillator transmits a carrier frequency output sequentially modulated by two different audio frequency tones derived from two audio oscillators energized simultaneously with the RF oscillator. An oscillating output from one of the audio oscillators applies a reverse bias to the transistor associated with the other audio oscillator to prevent simultaneous operation. One of the audio oscillators has a time controlled operational period in order to obtain sequential modulation at the two different audio frequencies.

3,522,537
VESTIGIAL SIDEBAND TRANSMISSION SYSTEM HAVING TWO CHANNELS IN QUADRATURE
John E. Boughtwood, Halsite, N.Y., assignor to The Western Union Telegraph Company, New York, N.Y., a corporation of New York
Filed July 25, 1966, Ser. No. 567,768
Int. Cl. H04b *1/68*
U.S. Cl. 325—49 **1 Claim**



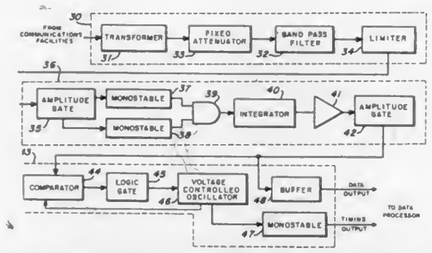
A data transmission system in which serial data signals are divided and transmitted as two suppressed carrier, vestigial sideband, amplitude modulated, synchronous channels in quadrature phase in a single voice frequency band along with a pilot signal. Received channels are sampled at times when quadrature crosstalk components are zero and are then combined to reproduce original data signals. A phase-locked loop produces local bit timing generation which controls timing of the received channels, sampling and combining, in synchronism with the original data signals.

3,522,538
AUTOMATIC STATION IDENTIFIER
George Czumak, New Carrollton, and Louis Frederick Schuster, Jr., Adelphi, Md., assignors to Divelpro, Inc., Beltsville, Md., a corporation of Maryland
Filed Oct. 27, 1967, Ser. No. 678,716
Int. Cl. H04b *1/04*
U.S. Cl. 325—166 **19 Claims**



Apparatus and method for automatic transmission of station call letters of a radio station utilizing a tape having voice record of station call letters and a fixed frequency control signal. A trigger signal actuated mechanism is utilized to initiate transmission and a transducer translates the recorded signals into electrical signals corresponding thereto, the control signal maintaining transmission before, during and after transmission of station call letters. The station call letters may be transmitted automatically at periodic intervals at the close of a message or period of activity by the operator at the radio station.

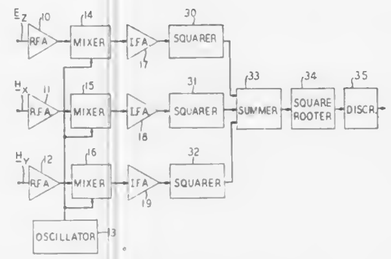
3,522,539
SYSTEM FOR DEMODULATING DIGITAL DATA INFORMATION CONTAINED IN FREQUENCY SHIFT KEYED SIGNALS
Robert Levine, Agoura, and Kenneth C. H. Stockhoff, Canoga Park, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Aug. 8, 1967, Ser. No. 659,237
Int. Cl. H04l *27/10*
U.S. Cl. 325—320 **9 Claims**



In a demodulator for a frequency shift keying communication system, signals are produced which are representative of positive-going and negative-going zero crossings of the received signal, integrating means combine the outputs of pulse sources over a period equal to one bit time of the digital data, and an amplitude gate samples the

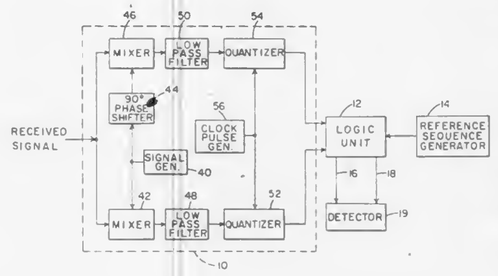
zero crossings of the integrated signal to produce a square wave output having zero crossings commensurate with the sampled zero crossings of the integrated signal.

3,522,540
ENERGY DENSITY MOBILE FM RECEIVER
William C.-Y. Lee, Murray Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed May 1, 1967, Ser. No. 634,998
Int. Cl. H04b *7/08*
U.S. Cl. 325—305 **6 Claims**



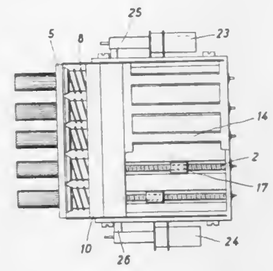
A mobile frequency modulated radio receiver is disclosed that is responsive to the substantially constant energy density of a complex standing wave pattern. An antenna system is provided which detects separate signals respectively associated with separate components of the electromagnetic field. Each of these signals is squared and the squared signals are then summed, producing a signal proportional to the electromagnetic energy density. The resulting summed signal is square-rooted and applied to a linear frequency discriminator.

3,522,541
DIGITAL MATCHED FILTER EMPLOYING QUADRATURE COMPONENT CORRELATION APPARATUS
Dennis J. Gooding, Acton, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Nov. 13, 1967, Ser. No. 682,437
Int. Cl. H04b *1/10*
U.S. Cl. 325—324 **7 Claims**



A digital matched filter wherein a received signal is directed simltaneously to first and second mixers in the first of which it is mixed with an analog carrier signal and in the second of which it is mixed with the analog carrier signal shifted in phase, thus establishing an in-phase and quadrature component of the received signal. The mixer output signals are quantized, sampled and directed to a logic unit where they are compared bit by bit with a digital reference signal to establish correlation.

3,522,542
PUSHBUTTON CHANNEL SELECTING AND VOLTAGE DIVIDER PRESETTING UNIT
Wolfgang Labude, Bad Neustadt (Saale), and Karlheinz Bauer, Muhlbach, Germany, assignors to Preh Elektrofeinmechanische Werke, Jakob Preh Nachf., Bad Neustadt (Saale), Germany, a corporation of Germany
Filed Sept. 30, 1965, Ser. No. 491,708
Claims priority, application Germany, Oct. 17, 1964, P 35,298
Int. Cl. H03j *5/00, 5/12*
U.S. Cl. 325—458 **20 Claims**

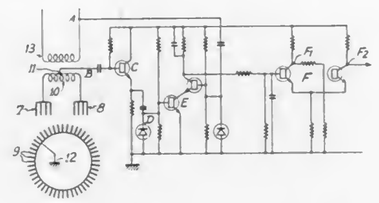


Pushbutton channel selecting an dvoltage divider presetting device in which a plurality of elongated resistors and electrical conductors are electrically insulatedly placed on a plate, the conductors are electrically conductingly connected with the ends of said resistors and adapted to be connected to a source of electric current, spring biased pushbuttons are slidably mounted for back and forth movement in a frame structure supporting said plate, a plurality of screw threaded spindles, one each for each of said resistors, extend close to and parallel with such resistor, a wiper contact on each one of said screw threaded spindles resiliently engages the appertaining one of said resistors, switching means are inserted between each one of said wiper contacts and a common conductor adapted to be connected to a voltage responsive reactance device (such as a variable capacitance diode), means on said pushbuttons are adapted to switch on the switching means of the appertaining wiper contact to the said conductor upon pushing in such pushbutton, means associated with each of said pushbuttons is adapted to rotate said spindles, to thereby move the appertaining one of said wiper contacts along the appertaining one of said resistors and to thereby preset such resistor to a desired voltage division.

3,522,543
DEVICE FOR MEASURING THE MOVEMENT AND TRACING THE POSITION OF A MOVABLE MEMBER IN RELATION TO A STATIONARY MEMBER
Jean G. P. Lombard, Boulogne-sur-Seine, France, assignor to Centre d'Etudes et de Recherches de la Machine-Outil, Neuilly-sur-Seine, Hauts-de-Seine, France
Filed May 3, 1967, Ser. No. 635,853
Claims priority, application France, May 10, 1966, 61,006
Int. Cl. H03b *3/04;* **H01g** *5/01*
U.S. Cl. 328—133 **5 Claims**

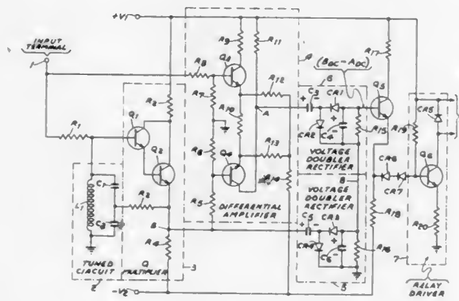
A device for determining the relative movement between members having two capacitive elements, each formed by cooperating strip elements carried by the members. The strips are arranged so that when the capac-

ity of one of the capacitive elements is at a maximum the capacity of the other of the capacitive elements is at a minimum. The capacitive elements are incorporated in



a measuring circuit which utilizes the change in capacitance to ascertain the relative movement between the members.

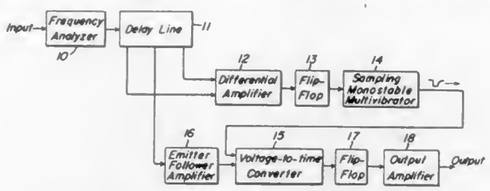
3,522,544
TONE DETECTOR
Andrew Rocco Saldutti, Clark, N.J., and Steven A. Steckler, Brooklyn, N.Y., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Aug. 17, 1967, Ser. No. 661,345
Int. Cl. H03k *9/06*
U.S. Cl. 328—138 **9 Claims**



A Q multiplier increases the Q of a LC circuit tuned to frequency F and provides a peaked output for an input tone having a frequency F. The peaked output and the given input tone are subtracted from each other by a differential amplifier providing a null output. The peaked output and the null output are rectified and combined producing an output. An input tone having a frequency other than F will produce an output from the differential amplifier which will prevent the production of the output.

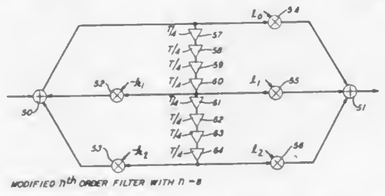
3,522,545
DETECTION OF WEAK SIGNALS FROM AMID NOISE
David E. Wood, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 5, 1967, Ser. No. 636,324
Int. Cl. H03k *9/02*
U.S. Cl. 328—165 **8 Claims**

Extraction of information regarding a small signal obscured by large amounts of random noise is achieved by detecting peaks in the combined noise plus signal spectra. At the instant the zero slope of each peak is detected, a constant amplitude pulse is generated of duration dependent upon the amplitude at which the corresponding zero slope has been detected. Alternatively, the peaks are accentuated by suppressing the entire spectrum signal except the peaks. Three-dimensional mapping of the peaks in terms of frequency, amplitude and time, as



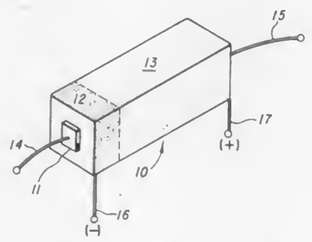
thereby permitted, enhances both the quality and quantity of extracted information.

3,522,546
DIGITAL FILTERS
Leland B. Jackson, North Plainfield, and Henry S. McDonald, Murray Hill, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Feb. 29, 1968, Ser. No. 709,423
Int. Cl. H03k *5/00*
U.S. Cl. 328—167 **6 Claims**



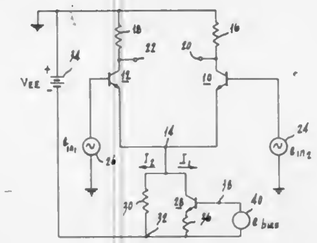
Digital filters are disclosed in which multiplier circuits are repetitively used on each encoded input sample with the multipliers of the circuits being changed with each use. In one filter, each encoded input sample is applied for a complete series of these changes with the various outputs thus produced being summed to produce a filtered output. In another filter, a feedback path is used so that each encoded input sample is recirculated until all of the changes in multipliers have occurred.

3,522,547
TWO-STAGE ULTRASONIC TRAVELING WAVE DEVICE
Lewis T. Claiborne, Jr., Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Continuation-in-part of application Ser. No. 699,005, Dec. 26, 1967. This application Feb. 25, 1969, Ser. No. 802,146
Int. Cl. H03f *3/04*
U.S. Cl. 330—5.5 **17 Claims**



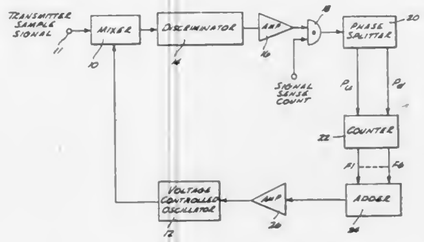
Disclosed is a piezoelectric ultrasonic wave amplifier having two regions, the first region being biased to amplify an input signal and the second being formed to present dynamic electron traps to attenuate signals, noise, harmonics, and subharmonics with little or no amplification of the input signal, thereby effecting a two-stage, bandpass amplifier.

3,522,548
TEMPERATURE TRACKING OF EMITTER COUPLED DIFFERENTIAL AMPLIFIER STAGE
Robert C. Heuner, Bound Brook, and Irwin Ostroff, North Plainfield, N.J., assignors to RCA Corporation, a corporation of Delaware
Filed May 3, 1968, Ser. No. 726,323
Int. Cl. H03f *1/32*
U.S. Cl. 330—23 **7 Claims**



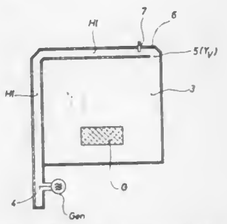
Disclosed herein is an emitter coupled differential amplifier stage wherein a parallel combination of a current generator means and a common emitter resistor is connected in the emitter circuit. The combination provides temperature compensation by maintaining the current in the differential stage constant over the operating range of temperature and also increases the frequency stability of the amplifier stage.

3,522,549
AUTOMATIC FREQUENCY CONTROL LOOP WITH FREQUENCY DISCRIMINATOR AND DIGITAL COUNTER
Charles F. Bancroft, Sherman Oaks, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Apr. 25, 1967, Ser. No. 633,471
Int. Cl. H03b *3/04*
U.S. Cl. 331—17 **6 Claims**



A feedback control loop includes a counter which increments in a first or second direction in relation to the polarity of the output of a signal discriminator and accumulates increments in relation to the number of increments in any given polarity. These increments are then applied to a resistive adder which converts these incremental signals to an analog representation thereof which is then used to control a controllable oscillator used in the feedback control loop.

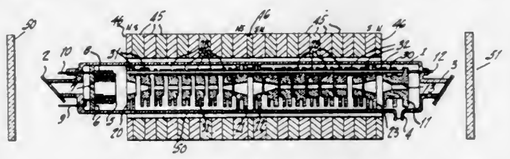
3,522,550
HIGH FREQUENCY HEATING DEVICE INCLUDING A SELF-EXCITED VELOCITY MODULATION TUBE GENERATOR FOR CONTINUOUS OPERATION
Werner Golombek, Quickborn, and Franciscus Timmermans, Harksheide, Germany, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 28, 1967, Ser. No. 671,448
Claims priority, application Germany, Sept. 29, 1966, P 40,464
Int. Cl. H05b *9/06*
U.S. Cl. 331—88 **6 Claims**



A microwave oven for lossy materials in which the system efficiency is increased by coupling the magnetron generator to the load by means of a waveguide of length:

$$L_w \geq \frac{Q_{E\ Gen}\frac{\lambda_0^2}{\lambda_w}}{\pi(S^2_{max}-1)}$$

3,522,551
LASER TUBE CONSTRUCTION
James R. Fendley, Jr., Trenton, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed May 31, 1966, Ser. No. 554,023
Int. Cl. H01s *3/00*
U.S. Cl. 331—94.5 **5 Claims**

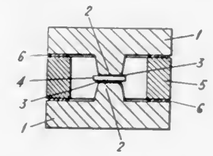


An exceptionally long life laser gas discharge tube utilizes a plurality of longitudinally spaced discs which are in spaced relationship with respect to the envelope of the tube and have aligned relatively small bores therethrough to provide a highly confined hot plasma within the region defined by these bores. These discs are supported by longitudinal dielectric rods which are in turn supported by other discs which do touch the envelope of the tube, but which have relatively large bores therethrough to provide a relatively cool plasma within the region defined by these bores. To prevent sputtering erosion of the discs by the plasma, the discs should preferably be composed of carbon, such as crystalline graphite.

3,522,552
SEMICONDUCTOR LASER UNIT
Kenneth Nash Knight Willmott, Waltham Cross, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 26, 1968, Ser. No. 716,195
Claims priority, application Great Britain, Apr. 18, 1967, 17,767/67
Int. Cl. H01s *3/04*
U.S. Cl. 331—94.5 **6 Claims**

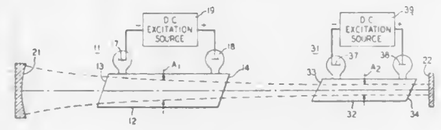
A laser unit including a semiconductor die and a mount, suitable for use where resistance to thermal shock is required, utilizing two circular copper contact members, each

having a central projection extending therefrom towards the other projection. The end face of each projection is coated with indium, and a gallium arsenide laser die is secured between the end faces. A transparent glass tube, coaxial with the projections, is mounted between the con-



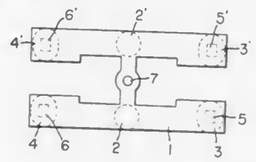
tact members and encloses the die and projections, and is separated from the contact members by coaxial indium washers. The contact members, the indium washers and the glass tube are each pressure welded to each other to thereby enclose the laser die in a sealed chamber.

3,522,553
PULSED LASER EMPLOYING AN ACTIVE ABSORPTION CELL
Arthur G. Fox, Rumson, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Mar. 18, 1968, Ser. No. 713,798
Int. Cl. H01s *3/10*
U.S. Cl. 331—94.5 **8 Claims**



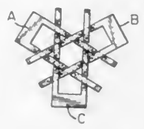
A laser that oscillates in multiple modes is pulsed by a mutual adaptation of an absorption cell having a substantially matching absorption line and the other components of the laser to couple the modes of the laser by saturable absorption with time constants that permit the cell to return its initial absorption condition at least once for every two passages of a pulse through the cell. Two distinct embodiments employ, respectively, single passage of a pulse and double passage of a pulse through the cell during an absorption cycle.

3,522,554
ELECTROMAGNETICALLY DRIVEN OSCILLATOR
Tetsuro Tanaka, Kyoto, and Kiyoshi Bansho, Tokyo, Japan, assignors to Yazaki Corporation, Tokyo, Japan, a joint-stock company of Japan
Filed July 24, 1968, Ser. No. 747,180
Claims priority, application Japan, Aug. 5, 1967, 42/50,046
Int. Cl. H03b *5/30*
U.S. Cl. 331—116 **7 Claims**



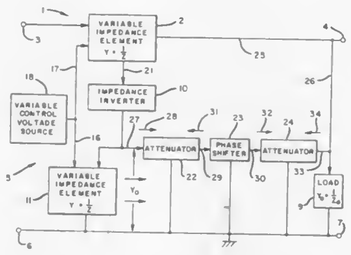
An electromagnetically driven oscillator includes two vibrating magnetic plates each having a center of symmetry. By forming the magnetic plates with respective different sizes so as to provide a difference of frequency, the electrical and mechanical coupling is increased to provide a high driving efficiency.

3,522,555
JUNCTION CIRCULATOR WHEREIN EACH CENTER CONDUCTOR LEG APPEARS ON BOTH SIDES OF THE INSULATION BOARD
Tadashi Hashimoto, Ichikawa, Taro Miura, Tokyo, and Takashi Iwata and Masanori Sasaki, Ichikawa, Japan, assignors to TDK Electronics Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed May 6, 1968, Ser. No. 726,986
Claims priority, application Japan, May 11, 1967, 42/29,461
Int. Cl. H01p *1/32*
U.S. Cl. 333—1.1 **5 Claims**



A circulator wherein at least three conductor elements insulated from one another are radially arranged at an equal angle with one another, the insulation of each element from another element being arranged in such manner that a substantial part of the leg of at least one element is formed on one surface of an insulating plate, the remaining part of the leg where intersecting the leg of the other element being formed on the other surface of said insulating plate, said substantial part and the remaining part of the leg being skip-connected through holes in said plate with a conductive material.

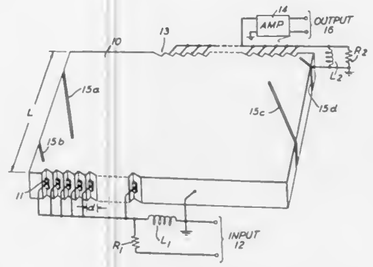
3,522,556
VARIABLE ATTENUATOR
Lawrence H. Ragan, Mountain View, Calif., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 503,522
Int. Cl. H01p *1/22, 5/12*
U.S. Cl. 333—9 **3 Claims**



This network provides for variable attenuation of an input signal having a prescribed frequency while maintaining the input impedance of the network constant. The network includes a first shunt resonant circuit comprising an inductor and a first varactor diode having an impedance Z connected between input and output terminals; a first load having a predetermined impedance Z_0 connected between the output terminal and ground; and a bypass circuit. The bypass circuit includes a $\lambda/4$ transmission line impedance inverter having a characteristic impedance Z_0 connected to the input terminal; a second shunt resonant circuit comprising an inductor and a second varactor

diode having an impedance Z connected between the output of the impedance inverter and ground; and a differential phase shifter network connected between the output of the inverter and the output terminal and having an input impedance Z_0 in parallel with the second diode. The impedances of the diodes are varied to change the attenuation of the network. The differential phase shifter network adjusts the phase of signal currents in the bypass circuit to be 180° out-of-phase with the output current of the first diode to cancel the signal in the load to increase the maximum attenuation of the network.

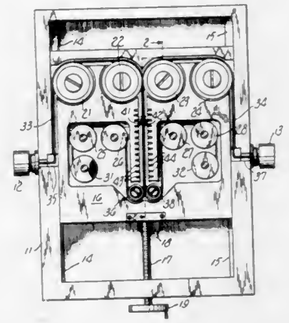
3,522,557
ACOUSTIC DELAY LINE
Robert S. Duncan and Marsena R. Parker, Jr., Winston-Salem, N.C., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 19, 1963, Ser. No. 296,212
Int. Cl. H03h *9/30*
U.S. Cl. 333—30 **32 Claims**



16. A signal dispersion system comprising an ultrasonic propagation medium, means for launching ultrasonic energy including a multiplicity of frequencies upon said medium which together form a broad wave front propagating therein, and ultrasonic transducer means located a given direction away from said launching means and extending across the path of said wave front, said transducer means including periodic means extending across said wave front for forming a grating and for acoustically responding to different frequencies in said energy at different locations along said wave front and at different distances from said launching means, said transducer means having single electrical output means for producing an output representative of the sum of responses at said different locations.

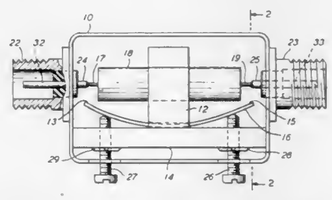
3,522,558
MICROWAVE PHASE SHIFT DEVICE
Osborne C. Stafford and Rudolph W. Voelcker, Greensboro, N.C., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 13, 1969, Ser. No. 790,562
Int. Cl. H03h *7/30;* **H01p** *1/18*
U.S. Cl. 333—31 **6 Claims**

A microwave phase shifter wherein a carriage is movably mounted within an outer housing which has input and output connectors fixed to opposite walls thereof. A first flexible, conductive tape extends from the input connector around a series of guide rollers and onto a takeup spool mounted on the carriage. Similarly, a second flexible, conductive tape extends from the output connector around a second series of guide rollers and onto a second takeup spool. Two of the guide rollers are spring biased toward one another so that the two tapes are held into contact with one another to form a complete transmission line between the input and output connectors. Movement of the carriage in one direction within the housing unrolls portions of the tapes from their respective takeup spools and increase the effective lengths of the transmission line and hence change the phase shift between the input and output connectors. Movement of



the carriage in the opposite direction provides the opposite effect. Additionally, a pair of resilient contact clips are provided to ground the trailing ends of the tapes one quarter wavelength from the contact point between the tapes to isolate the trailing tapes from the line.

3,522,559
COAXIAL BLOCKING CAPACITOR STRUCTURE WITH IMPEDANCE MATCHING ADJUSTMENT
James G. Evans, Englishtown, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Aug. 16, 1967, Ser. No. 661,067
Int. Cl. H03h *7/38*
U.S. Cl. 333—33 **4 Claims**

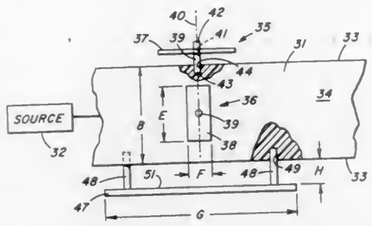


A coaxial blocking capacitor structure utilizing a standard capacitor as the inner conductor includes apparatus to adjust its characteristic impedance to match that of a coaxial transmission facility to which it is connected. A deformable trimmer capacitor plate is used to introduce a capacitance between the soldered lead of the capacitor, connected to the coaxial transmission facility, and the outer conductor of the capacitor structure. This introduced capacitance in combination with the parasitic inductance of the soldered leads establishes a characteristic impedance which may be adjusted to match that of the coaxial transmission facility.

3,522,560
SOLID DIELECTRIC WAVEGUIDE FILTERS
Adnan Toufik Hayany, Kansas City, Mo., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 6, 1967, Ser. No. 673,326
Int. Cl. H03h *7/10;* **H01p** *3/16*
U.S. Cl. 333—73 **14 Claims**

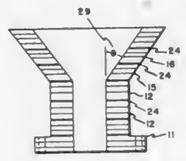
A filter structure devised for use in solid dielectric waveguide includes a plurality of spaced reactive vanes disposed in sets at selected cross sections along the wave-

guide. By coupling a reflecting surface of the proper cross-sectional shape to the waveguide over the region occupied by the vane sets, selected high-pass, low-pass,



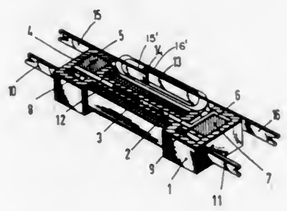
band-pass and band-reject characteristics can be obtained. Design data is provided for representative embodiments of each type of filter disclosed.

3,522,561
PYROLYTIC GRAPHITE WAVEGUIDE UTILIZING THE ANISOTROPIC ELECTRICAL CONDUCTIVITY PROPERTIES OF PYROLYTIC GRAPHITE
David J. Liu, 5 Herold Drive, Glen Rock, N.J. 07452
Filed Jan. 2, 1969, Ser. No. 788,531
Int. Cl. H01p *3/12*
U.S. Cl. 333—95 **6 Claims**



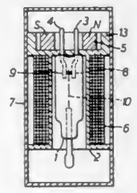
A section of waveguide fabricated from pyrolytic graphite material suppresses all modes except the transverse H_{01} mode thereby permitting large distant transmission of millimeter waves by eliminating the parasitic effects of unwanted modes.

3,522,562
MAGNETIC RELAY STRUCTURE HAVING PLURAL OPERATIVE MAGNETS
Adolf Schön, Grossglocknerstrasse 2C, Socking, near Starnberg, Germany, and Hugo Angermaier, St. Quirinplatz 7, Munich, Germany
Filed Feb. 27, 1967, Ser. No. 618,623
Claims priority, application Germany, Feb. 28, 1966, S 102,282
Int. Cl. H01h *51/22, 51/28*
U.S. Cl. 335—153 **12 Claims**



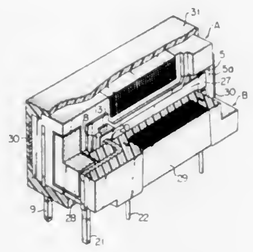
A magnetic relay structure wherein plural magnets are arranged on the same side of the relay contacts. A first permanent magnet, and a second permanent magnet, the latter being repolarizable between bistable states of magnetization, are mounted adjacent each other. Further, the first permanent magnet is magnetically coupled to one contact arm of the relay structure, precluding the necessity for utilization of a magnetic flux conductor connected therebetween. Repolarization means are provided, whereby electrical pulses produced thereby selectively repolarize the second permanent magnet as desired, to produce a magnetic field which is either additive or subtractive to the magnetic field produced by the first permanent magnet. The net magnetic field produced, functions to selectively activate or deactivate the relay contact.

3,522,563
POLARIZED MERCURY-WETTED REED-RELAY
Emanuel Frydman, London, England, assignor to Telephone Manufacturing Company Limited
Filed Jan. 2, 1969, Ser. No. 788,425
Claims priority, application Great Britain, Jan. 8, 1968, 1,108/68
Int. Cl. H01h *51/22*
U.S. Cl. 335—153 **4 Claims**



An improved construction of polarized mercury-wetted reed-relay permitting ready linear and rotational adjustment of the polarizing magnet for adjusting of sensitivity and balance or bias.

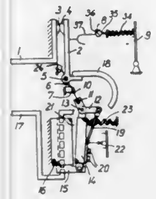
3,522,564
REED RELAY
Tetsuo Mori, Takashi Takada, Keiji Okahashi, and Sueyoshi Matsumura, Kadoma, Osaka, Japan, assignors to Matsushita Denko Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
Filed Feb. 25, 1969, Ser. No. 801,996
Claims priority, application Japan, Feb. 27, 1968, 43/14,718; Apr. 12, 1968, 43/29,638; May 30, 1968, 43/45,196
Int. Cl. H01h *45/04*
U.S. Cl. 335—153 **7 Claims**



A reed relay comprising two separated members in longitudinal direction of the relay body, respective which are molded from a synthetic resin. The molded members are provided therein with a reed acts as a movable con-

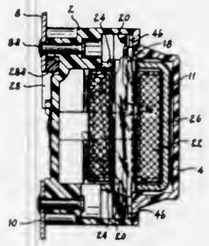
tact, fixed contacts, terminals and a permanent magnet, and are jointed to each other so as to form a single relay body, around which an exciting coil is wound.

3,522,565
QUICK ACTING CIRCUIT BREAKER
Arno Treptow, Holsatenring, and Otto Wulf, Hohenfelde uber Elmshorn, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed Mar. 29, 1968, Ser. No. 717,209
Claims priority, application Germany, Apr. 1, 1967, L 56,147
Int. Cl. H01h *9/20*
U.S. Cl. 335—170 **6 Claims**



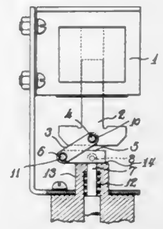
A circuit breaker having an electromagnetic tripping mechanism for automatically opening the circuit breaker in case of an overload current. When the armature of the tripping mechanism is attracted by the core due to the flow of an overload current, the following occurs: first, a latching device between the movable contact arm of the circuit breaker and the positioning means for that arm is released and the contact arms are separated. The movable contact arm is then abruptly struck, after which the tripping means are uncoupled from the movable contact arm. The tripping means are adjustable so that the circuit breaker can be set to open at any desired overload current.

3,522,566
SELF-ENCLOSED SIGNALING REED RELAY FOR MOUNTING IN AN ELECTRICAL OUTLET BOX
Lawrence E. Van Horn, Waukesha, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed July 23, 1968, Ser. No. 746,834
Int. Cl. H01h *45/04*
U.S. Cl. 335—202 **9 Claims**



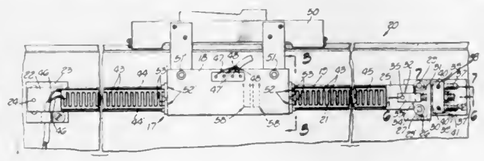
A signaling reed relay comprising sealed reed contacts and an electromagnet for operating the contacts is enclosed in an insulating housing. This housing is provided with brackets adapting it for mounting in a conventional wall-mounted electrical outlet box. Terminals for both the operating coil and the contacts are on the front of the housing so that they are accessible when the outlet box cover is removed. The low D.C. voltage coil terminals are exposed. The higher power reed contact terminals are concealed by a snap-hinged cover for safety.

3,522,567
DRIVING EQUIPMENT BY AN ALTERNATING CURRENT ELECTRO-MAGNET
Kaneko Tabe, 4 Mitsuya-Kitadori-3-chome, Higashiyodogawa-ku, Osaka, Osaka-fu, Japan
Filed Jan. 10, 1968, Ser. No. 696,767
Claims priority, application Japan, Jan. 18, 1967, 42/3,502
Int. Cl. H01f *3/00, 7/10, 7/13*
U.S. Cl. 335—251 **1 Claim**



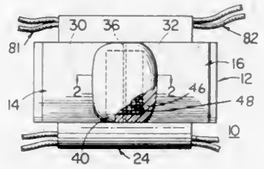
An alternating current electro-magnet that has a suffinating current electro-magnet to a driving shaft. Two links forming a hook shape are connected together and to the plunger and the driving shaft, respectively. The center lines of the plunger and the driving shaft are aligned. The bottom edge of one of the links acts as a fulcrum to transmit the impulse from the links to the driving shaft.

3,522,568
TAPE SCALE FOR POSITION MEASURING TRANSFORMER
Harold J. Hasbrouck, Teaneck, N.J., assignor to Inductosyn Corporation, Carson City, Nev., a corporation of Nevada
Filed Mar. 13, 1969, Ser. No. 806,820
Int. Cl. H01f *21/04*
U.S. Cl. 336—20 **17 Claims**



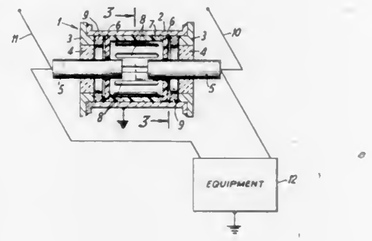
A position measuring transformer for a machine tool comprising a scale member secured to the machine tool and a slider member secured to the movable carriage of the machine tool in which the scale member comprises a planar continuous winding disposed on an elongated base of elastic material, one end of the base being rigidly mounted to the machine tool and the other end thereof being attached to the machine tool by a pre-loaded tensioning mount, the remainder of the base being separated from the surface of the machine tool. The continuous winding has a plurality of conductor portions extending transversely to the longitudinal axis of the base and the tensioning mount is adapted to stretch the base to adjust the spacing between adjacent conductor portions so as to accurately calibrate the transformer. According to a preferred embodiment, the base is spring steel and the winding is insulated from the base by an elastic insulating material. The slider member, which also has a planar winding disposed thereon, includes guide means which simultaneously supports the base to prevent sagging thereof and maintains a uniform air gap between the windings on both members so as to insure uniform inductive coupling between the slider member and scale member throughout the length of travel of the slider member.

3,522,569
MAGNETIC CORE AND COIL ASSEMBLY HAVING A GAP WHICH IS FIXED BY A REINFORCED ADHESIVE LAYER SPANNING THE GAP
Albert R. Oechsle, Hoagland, Ind., assignor to General Electric Company, a corporation of New York
Filed July 20, 1967, Ser. No. 654,822
Int. Cl. H01f *21/08, 41/02*
U.S. Cl. 336—165 **11 Claims**



Two core sections of an inductive device are held apart by a holding means to maintain gaps of preselected dimensions therebetween during handling and use of the device. The holding means is a layer of adhesive resin material having a perforate screen embedded therein spanning the gaps between the core sections.

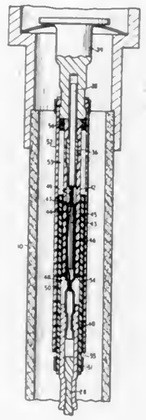
3,522,570
FAIL-SAFE OVER-VOLTAGE PROTECTOR
Oley Wanaselja, Levittown, N.Y., assignor to AJR Electronics Corp., Levittown, N.Y., a corporation of New York
Filed Apr. 8, 1968, Ser. No. 719,429
Int. Cl. H01h *61/00, 61/017*
U.S. Cl. 337—28 **8 Claims**



A gas-filled hermetically sealed excess voltage protector is disclosed which has an integral fail-safe feature consisting of an annular ring of fusible material positioned in such a fashion that, in the event of a sustained overvoltage condition, the heat generated by this sustained condition will melt the fusible ring and provide a permanent electrical connection between the electrode and the electrically grounded casing of the protector.

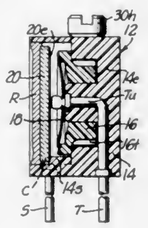
3,522,571
ELECTRIC FUSE-LINK, PARTICULARLY FOR OUTDOOR USE
Francis Cyril Eaton Taplin, 58 Pymble Ave., Pymble, Sydney, New South Wales, Australia, and John Richard Axford, 13 Grace Ave., Beecroft, Sydney, New South Wales, Australia
Filed Jan. 30, 1969, Ser. No. 795,198
Claims priority, application Australia, Jan. 30, 1968, 32,765/68
Int. Cl. H01h *39/00, 71/10*
U.S. Cl. 337—203 **10 Claims**

A fuse-link in an insulative fuse body, said link being secured between two terminals enclosed in a first insulative tube, said first insulative tube being secured to a first terminal, a second insulative tube is secured to a second terminal, said second tube being fitted slidably



over said first tube, whereby said second tube slips off said first tube when said fuse-link melts.

3,522,572
GEAR-ADJUSTED POTENTIOMETER
Robert D. Michik, Wilbur T. Hardison, and Robert N. Sporrong, Riverside, Calif., assignors to Bourns, Inc., a corporation of California
Filed Jan. 10, 1969, Ser. No. 790,335
Int. Cl. H01c *9/02*
U.S. Cl. 338—171 **4 Claims**

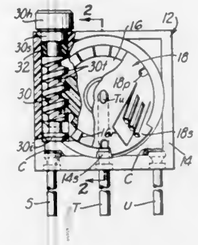


Gear-adjusted potentiometer or variable resistor having a box-like molded body with upstanding gudgeon for journaling a screw-adjusted wiper-driving gear with a clutch surface at its top, and having molded-in terminal pins one of which protrudes through the gudgeon and forms a conductive gudgeon rotatably supporting the wiper disc and the swaged end of which retains the wiper disc in driven engagement with the gear and the gear in engagement with an adjusting screw, the element formed on the cover and having terminals coming into direct contact with molded-in pins, thus simplifying manufacture and reducing number of parts.

3,522,573
POTENTIOMETER SHAFT RETENTION
Robert D. Michik, Riverside, Calif., assignor to Bourns, Inc., Riverside, Calif.
Filed Jan. 10, 1969, Ser. No. 790,344
Int. Cl. H01c *9/02*
U.S. Cl. 338—171 **2 Claims**

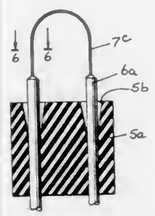
Improvement in shaft-adjusted potentiometers or variable resistors of the type wherein a wormshaft or screw or a leadscrew is rotated to accomplish traverse of a movable contact over an extent of a resistance element to

change the electrical resistance exhibited by the instrument, the improvement resting in a unique form of screw member and cooperating components permitting the screw to be simply axially moved or pressed into and through an aperture in the housing whereby a head on the inner



end of the shaft cams itself around and behind an abutment where it is held and which abutment prevents reverse axial movement, whereby necessity for a retaining pin, clip or like member is obviated and tedious and costly assembly steps are eliminated.

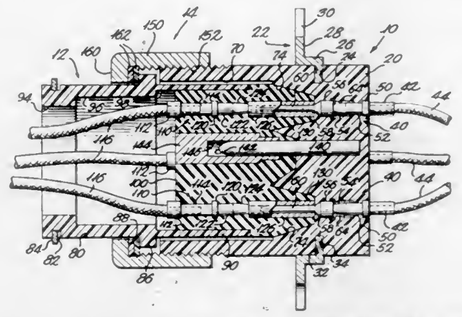
3,522,574
HIGH TEMPERATURE ELECTRIC RESISTANCE DEVICE
Roger R. Giler, Wilton, Conn., assignor to The Kanthal Corporation, Bethel, Conn., a corporation of Connecticut
Filed Jan. 11, 1968, Ser. No. 697,080
Int. Cl. H01c *1/02, 1/08*
U.S. Cl. 338—316 **4 Claims**



A refractory metal silicide electric resistance element is connected by fused metal to metal terminals massive enough to function as heat sinks keeping the fused metal and the resistor portions adjacent to the terminals cooler than the balance of the resistor when the latter is operated at elevated temperatures and the terminals are arranged to dissipate the heat. This protects the fused metal connections when the balance of the element operates at the elevated temperatures for which an element of the refractory metal silicide type is adapted to operate.

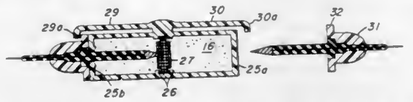
3,522,575
HERMETICALLY SEALED ELECTRICAL CONNECTOR
John Edward Watson, York, and Erlon Fitch Johnson, Elizabethtown, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Continuation-in-part of application Ser. No. 646,400, June 15, 1967. This application Dec. 11, 1967, Ser. No. 689,650
Int. Cl. H01r *23/58, 23/52, 13/64*
U.S. Cl. 339—89 **1 Claim**

A hermetic sealing technique is disclosed featuring one or more conductive metallic members molded within an insulating thermosetting plastic body. A sealing interface between metal and plastic materials is provided through a coating applied to a portion of the surface of the conductive member which has characteristics of adhesion to metal and to plastic and a degree of resiliency sufficient to prevent part separation due to dimen-



sional changes caused by different coefficients of expansion and contraction for the dissimilar materials. A multiple electrical connector featuring the improved sealing technique is taught.

3,522,576
UNDERWATER ELECTRICAL CONNECTOR
James L. Cairns, 2327 Cowley Way, San Diego, Calif. 92110
Filed Apr. 26, 1968, Ser. No. 724,352
Int. Cl. H01r *13/54, 11/20*
U.S. Cl. 339—91 **2 Claims**

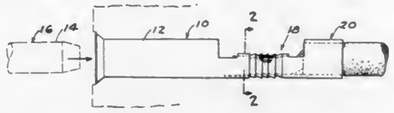


The present invention relates to an underwater electrical connector that is nonresponsive to changes in the surrounding pressure. A body element in the form of a tubular shell is filled with a dielectric viscous substance such as gel or grease. A conductive plate having female recesses or honeycomb surfaces is mounted inside the body element and is completely encased in the dielectric substance. Grommets or penetrable walls are disposed at opposite ends of the housing element substantially isolating the gel-filled chamber from the exterior to permit the insertion of bayonet type probes therethrough and into the conductive plate to effect an electrical connection between the probes. The wiping action of the grommet or penetrable wall and the dielectric gel prevents impurities from being introduced into the connection and the conductive plate having female shaped recesses or honeycomb surfaces ensures a positive electrical interconnection between the probes. Having the interior of the connector filled with the dielectric gel renders the connector insensitive to changes in the surrounding pressure.

3,522,577
ELECTRICAL CONNECTOR AND METHOD AND APPARATUS FOR MAKING SAME
Alfred M. Zak, 6110 Casmere Ave., Detroit, Mich. 48212
Continuation-in-part of application Ser. No. 713,041, Mar. 14, 1968. This application May 31, 1968, Ser. No. 733,597
Int. Cl. H01r *11/20*
U.S. Cl. 339—95 **14 Claims**

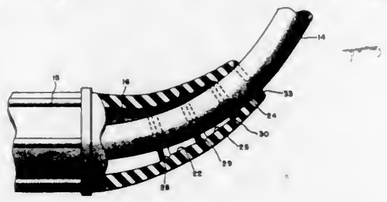
A method and apparatus for forming wire grip serrations on an electrical connector wherein a series of saw tooth-shaped ribs or serrations are formed on the inside

or wire gripping face of the connector and a series of saw tooth-shaped grooves are formed on the outer side of the connector. The saw tooth-shaped teeth and grooves are formed by a punch and die wherein the punch is



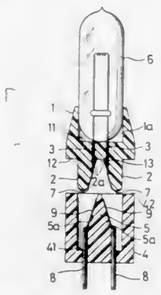
formed with a series of saw tooth-shaped grooves and the die is formed with a series of saw tooth-shaped projections in opposed relation to the grooves for displacing metal into the grooves and thereby form the ribs.

3,522,578
CABLE CONFORMING CONNECTOR SLEEVE
Albert P. Newman, Springfield Township, Hamilton County, Ohio, assignor, by mesne assignments, to KDI Sealtron Corporation, a corporation of Ohio
Filed Feb. 27, 1968, Ser. No. 708,703
Int. Cl. H01r *13/56*
U.S. Cl. 339—101 **2 Claims**



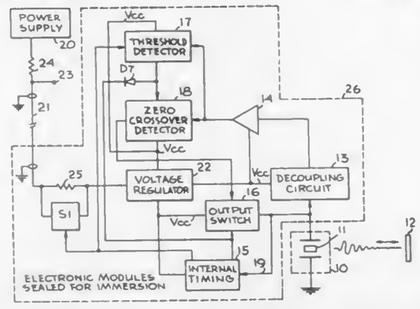
An insulating sleeve for use to protect an electrical connector and its juncture where it is assembled to an electric cable is provided, such sleeves having a plurality of internal bore portions of progressively decreasing diameter, and groove means between each pair of bore portions. The groove means provides protection against the development of a gap between cable and sleeve when the connector and sleeve are bent relative to the cable.

3,522,579
SOCKET FOR DECORATING LIGHT BULB AND DEVICE FOR CONNECTING THE BULB TO CORDS IN THE SOCKET
Ryosuke Matsuya, 10–7 2-chome, Daita Setagaya-ku, Tokyo, Japan
Filed Nov. 26, 1968, Ser. No. 784,522
Int. Cl. H01r *17/00*
U.S. Cl. 339—145 **6 Claims**



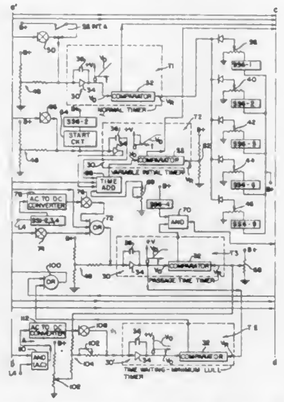
A base for a miniature lamp is capable of having the lamp inserted therein and the base inserted in a socket with the lead wires of the lamp in electrical contact with leads of the socket.

3,522,580
APPARATUS AND METHOD FOR MEASURING SPEED OF SOUND IN LIQUID
Thomas H. Lynch, Canoga Park, and Hudson T. Patten III, Santa Susana, Calif., assignors to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Delaware
Filed Nov. 19, 1968, Ser. No. 776,998
Int. Cl. G01s *9/66*
U.S. Cl. 340—3 **16 Claims**



Apparatus and method are disclosed for measuring the speed of sound in water and other liquids with an accuracy in the order of ±1/50,000 by using a single transducer and a reflecting target in an arrangement that detects the zero-crossover at the end of the first cycle of the second reflected signal, and actuates the transducer at that time for retransmission of the acoustic signal. A standing wave produced by this method allows the input dynamic range to be in excess of 12 db. Operation of the apparatus is monitored through the power supply cable by momentarily shunting one of two resistors connected in series therewith in response to each retransmission. This monitoring technique allows the monitoring instruments to remain on the surface of the liquid with the power supply and one of the two resistors. A tunnel-diode threshold detector improves stability of operation over a wide range of temperatures.

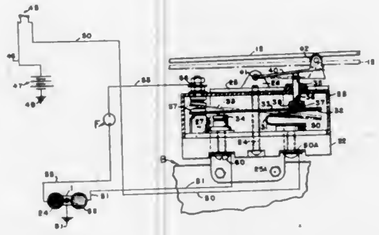
3,522,581
TIMED DECISION LOAD CONTROL SYSTEM
Larry Keith Clark, Davenport, and Frank Willis Hill, Moline, Iowa, assignors, by mesne assignments, to Gulf & Western Industries, New York, N.Y., a corporation of Delaware
Filed Oct. 12, 1966, Ser. No. 586,232
Int. Cl. G08g *1/08*
U.S. Cl. 340—37 **15 Claims**



A load control system is disclosed herein which is particularly applicable to traffic controllers. Specifically, a

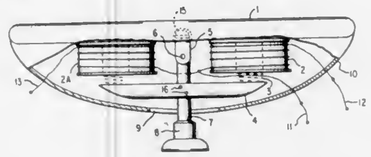
traffic controller is disclosed which incorporates a minimum initial timer, a variable initial timer, and a unit extension timer. Circuitry is provided for concurrently energizing the three timers so that they all commence their timing functions at substantially the same point in time. In this manner, and especially during light traffic conditions, the unit extension timer may have at least partially completed its timing function prior to the point in time that the minimum initial and variable initial timers have completed their timing functions.

3,522,582
THROTTLE-ACTUATED FLASHING SIGNAL LIGHTS
Harry F. Tuttle, 4806 SE. 16th Ave., Portland, Oreg. 97202
Filed Apr. 10, 1969, Ser. No. 815,022
Int. Cl. B60q *1/00, 3/00*
U.S. Cl. 340—72 **1 Claim**



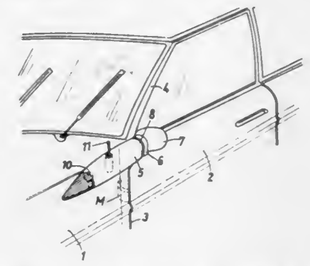
Throttle-actuated signal lights of contrasting colors mounted on an automotive vehicle and automatically operated by the foot throttle to indicate to a following vehicle any change from speed of travel to idling speed. The lights are of contrasting colors such, for example, as amber and blue, with the amber light in circuit through a flasher with the vehicle's ignition switch and thereby energized at any time and during closure of the switch, The blue light is automatically and steadily energized only during acceleration of the vehicle by throttle movement.

3,522,583
MIRROR CONTROLLER FOR VEHICLES ACTUATED IN RESPONSE TO THE POSITIONING OF THE TURN SIGNAL LEVER
Carl D. Russell, 1209 Walnut St., Muskogee, Okla. 74401
Filed Oct. 26, 1966, Ser. No. 589,608
Int. Cl. B60q *1/40*
U.S. Cl. 340—98 **1 Claim**



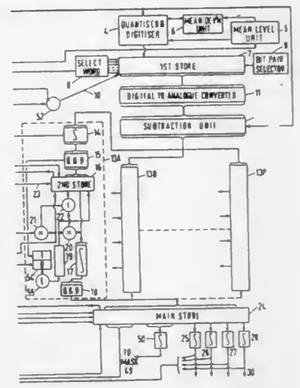
The invention comprises a vehicular mirror assembly to angle the mirror in opposite directions under control of the turn indicator switch from the vehicle battery. A pair of electromagnets is affixed in spaced apart relation to the rear side of the mirror. A stub protrudes from the rear side of the mirror and a supporting shaft is partially connected to the stub and is attached to the vehicle. A magnetizable bar is disposed in spaced apart relation to the electromagnets and carried by the shaft. A switching circuit is responsive to operation of the turn indicator switch for energizing a selected electromagnet to angle the mirror in a selected direction by attraction to the bar.

3,522,584
REARVIEW MIRROR ASSEMBLY FOR MOTOR VEHICLES
Yorck Joachim Talbot, 7 Ballenstedterstrasse, 1000 Berlin 31, Germany
Filed Mar. 17, 1967, Ser. No. 623,862
Claims priority, application Germany, Mar. 18, 1966, T 30,715
Int. Cl. B60q *1/00*
U.S. Cl. 340—98 **9 Claims**



A rearview mirror adapted for exterior use in motor vehicles. The device has a streamlines shape so as to offer minimum air resistance when the motor vehicle is in motion. The rearview mirror is directly mountable and accessible within the region of the front doors of the motor vehicle.

3,522,585
PATTERN RECOGNITION DEVICES
Christopher Archibald Gordon Lemay, Isleworth, England, assignor to Electric & Musical Industries Limited, Hayes, Middlesex, England, a company of Great Britain
Filed Jan. 27, 1966, Ser. No. 523,394
Claims priority, application Great Britain, Jan. 30, 1965, 4,199/65
Int. Cl. G06k *7/00, 9/00;* **G08b** *23/00*
U.S. Cl. 340—146.3 **8 Claims**



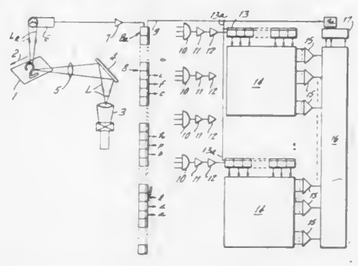
There is provided a pattern recognition device comprising sensing means for producing an input signal related to a pattern to be recognised and storage means for data signals related to previously classified patterns. Associated with data signals from previously classified patterns are identity signals and, in some cases at least, displacement signals. Means are provided for comparing the

input signal with the data signals to select a data signal according to a particular selection criterion and, if there is an associated displacement signal, to effect a corresponding displacement, or the effect of displacement, of the pattern to be recognised relative to the sensing means, so as to cause a further input signal to be applied to the comparison means for a further comparison with the data signals; and so on until a data signal is selected which best fits the selection criterion, which data signal produces an output signal in response to its associated identity signal. Preferably the storage means comprises a plurality of storage means, corresponding respectively to each of a plurality of portions of the previously classified patterns, and the comparison means effects comparisons between the corresponding portions of previously classified patterns and portions of the patterns to be recognised.

3,522,586
AUTOMATIC CHARACTER RECOGNITION APPARATUS

Kazuo Kiji and Yukio Hoshino, Tokyo-to, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan

Filed Aug. 23, 1966, Ser. No. 574,354
Claims priority, application Japan, Aug. 25, 1965, 40/51,785
Int. Cl. G06k *9/12*
U.S. Cl. 340—146.3 **3 Claims**



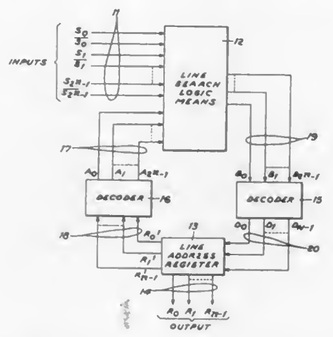
A character recognition system for recognizing characters of various types of fonts. The region occupied by a character is divided up into a 15 x 15 matrix of equal sized elemental areas. Each of the elemental areas is scanned to determine "blackness" or "whiteness." Immediately adjacent 3 x 3 elemental area groups are examined to determine the presence of predetermined spot-features. The 15 x 15 matrix of elemental areas is divided in 9 subregions each containing a 5 x 5 matrix group of elemental areas in which the total number of spot-features present are determined. The number of spot-features present in each 5 x 5 elemental area matrix are counted to ascertain whether a predetermined threshold number of predetermined spot-features are present. The number of spot-features per 5 x 5 submatrix are determined as to whether the threshold level for each submatrix is or is not exceeded. The submatrices which achieve the threshold level are compared against stored information for those characters in which the threshold levels are achieved to display or print-out that character which has been scanned.

3,522,587
LINE SWITCHING APPARATUS

Thomas G. Brown, Jr., Ridgewood, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware

Filed Oct. 25, 1966, Ser. No. 589,409
Int. Cl. H01l *5/00;* **H04q** *1/00*
U.S. Cl. 340—147 **11 Claims**

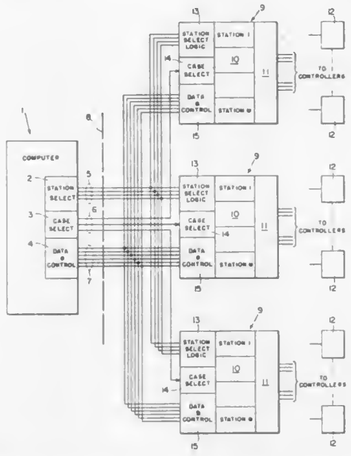
A high speed line searching apparatus is provided which automatically searches and selects along the lines the next lines requesting service without a cyclic search. The line searching apparatus includes line search logic means having multiplicity of input service lines, and a line address register means for addressing one of a multiplicity of data lines according to a request condition existing on one of the service request lines. Interconnecting the register and logic are two decoders, one decoder corresponding to the next line requiring service and the other decoder indicating to the line search logic the particular line being serviced at the present. The service of the service request line in the request condition is automatically accomplished according to the logic arrangement of the search logic means.



3,522,588
DIRECT DIGITAL CONTROL INTERFACING CIRCUITRY

Charles J. Clarke, Jr., Hopkinton, Mass., Earl C. Channell, Maple Glen, and Joseph Gormley, Southampton, Pa., and George W. McKnight, Medfield, and Leroy N. Templeton, Jr., Sherborn, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed July 6, 1967, Ser. No. 651,586
Int. Cl. H04q *9/00*
U.S. Cl. 340—147 **10 Claims**

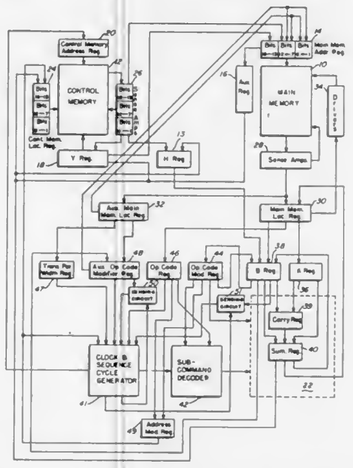


A system is disclosed wherein a single control unit controls a plurality of individual controlled elements by means of a simple and uncomplicated interconnection scheme. In accordance with that scheme data is supplied simultaneously, in parallel, to a plurality of controlled elements, however, through logical control circuitry, only a selected one of the controlled elements is enabled to respond to the supplied data. Logical circuitry for accomplishing such selection is also disclosed.

3,522,589
DATA PROCESSING APPARATUS

John E. Thron, Cambridge, Michael H. Blume, Arlington, David L. Reed, Brockton, Howard Stein, Waban, and John O. Wiley, Hopkinton, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Continuation of application Ser. No. 521,865, Jan. 20, 1966. This application Oct. 31, 1968, Ser. No. 796,252
Int. Cl. G06f *9/20*
U.S. Cl. 340—172.5 **16 Claims**

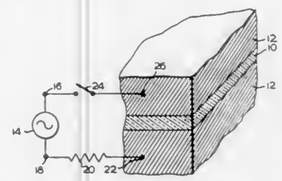


An apparatus for enabling a variable width to variable width translation including a look-up table capable of being variably positioned within the limit of a conventional memory. To accommodate this operation, means are provided to superimpose the contents of a register defining the base location of the look-up table in memory with the contents of a register defining the identity of the translated equivalent.

3,522,590
NEGATIVE RESISTANCE SANDWICH STRUCTURE MEMORY DEVICE

Nicolas M. Bashara, Lincoln, Nebr., and Paul H. Nielsen, Oxon Hill, Md., assignors to Research Corporation, New York, N.Y., a non-profit corporation of New York

Filed Nov. 3, 1964, Ser. No. 408,549
Int. Cl. G11c *11/24;* **H01g** *7/00*
U.S. Cl. 340—173 **2 Claims**

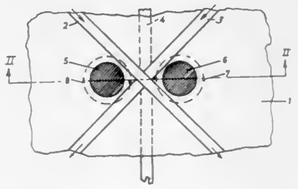


A thin film sandwich displays a hysteresis-like current-voltage curve when subjected to a cycle of increasing-decreasing potential across the sandwich. The initial resistance of the sandwich changes with that voltage at which all voltage is removed. This varying of the initial resistance persists, and is therefore termed a memory effect. The sandwich may be used as a data storage memory device.

3,522,591
CONTINUOUS PLANE SUPERCONDUCTIVE MEMORY WITH REGIONS OF LOWERED CRITICAL FIELD

Claudio Dalmasso, Ivrea, Turin, Italy, assignor to Olivetti-General Electric S.p.A., Caluso, Turin, Italy, a corporation of Italy

Filed Nov. 30, 1966, Ser. No. 598,005
Claims priority, application Italy, Dec. 1, 1965, 11,781/65
Int. Cl. H03k *3/38;* **G11c** *11/44*
U.S. Cl. 340—173.1 **4 Claims**

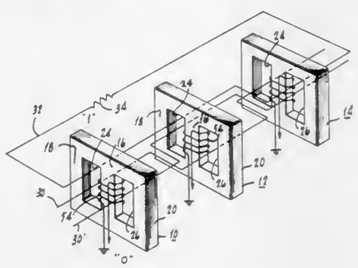


A cryogenic memory element whose operation is characterized by the selective induction of superconductive currents around twin regions of reduced critical field in a plane of homogeneous superconductive material. The regions of lowered critical field are located below and defined by two discrete regions of nonsuperconductive material deposited on one surface of the plane. The superconductive currents circulating around the regions of reduced critical field support a magnetic field which links the two regions and has a flux attitude indicative of stored binary information.

3,522,592
READ-ONLY MAGNETIC MEMORY

Marvin E. Steiner, Cinnaminson, and George J. Waas, Cherry Hill, N.J., assignors to RCA Corporation, a corporation of Delaware

Filed July 5, 1968, Ser. No. 742,930
Int. Cl. G11c *5/02, 11/08, 17/00*
U.S. Cl. 340—174 **5 Claims**



A read-only memory construction for the storage of *m* words each having *n* bits, and including *n* magnetic cores each having a "0" aperture and a "1" aperture with a central magnetic leg therebetween. There are *m* primary windings each extending through the "0" apertures of some cores to determine the storage of "0's" therein, and extending through the "1" apertures of other cores to de-

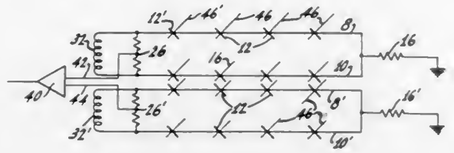
termine the storage of "1's" therein. A secondary output signal winding is wound around the central leg of each of the magnetic cores. The undesired magnetic and capacitive coupling between the primary windings causes imbalance in output signals induced in at least some of the secondary windings. The imbalance is corrected by the addition of a multi-turn endless compensating winding extending through the "0" apertures of magnetic cores needing reinforcement of the "1" sense signals therefrom, and extending through the "1" apertures of magnetic cores needing reinforcement of the "0" sense signals therefrom. An additional driven compensating winding may also be employed.

3,522,593

TWO-ELEMENT-PER-BIT RANDOM ACCESS MEMORY WITH QUIET DIGIT-SENSE SYSTEM

Peter K. Hsieh, Camden County, and James L. Freeman, Jr., Burlington, N.J., assignors to RCA Corporation, a corporation of Delaware

Filed Sept. 6, 1968, Ser. No. 758,003
Int. Cl. G11c *7/02*
U.S. Cl. 340—174 **14 Claims**



A random-access magnetic memory of a type in which the conductors used during read-out for sensing stored information are also used during write-in for digit or inhibit pulses. Digit-sense conductors are arranged in pairs. The two conductors of a pair have a common terminated end and separate drive-sense ends. A first impedance having a value equal to one-half the characteristic impedance of one conductor is connected from the common terminated end of each pair to a point of reference potential. A second impedance, having a centertap and having a total value equal to twice the characteristic impedance of one conductor, is connected between the separate drive-sense ends of each pair. Digit drive means is connected for supplying balanced push-pull digit drive current pulses to the drive-sense ends of the two conductors of digit-sense conductor pairs. Each of a plurality of differential sense amplifiers has two inputs connected to centertaps of second impedances of two respective digit-sense conductor pairs. The described digit-sense system is shown in 2D, 2½D 2-wire, 3D 3-wire and 2D two-element-per-bit memory organizations.

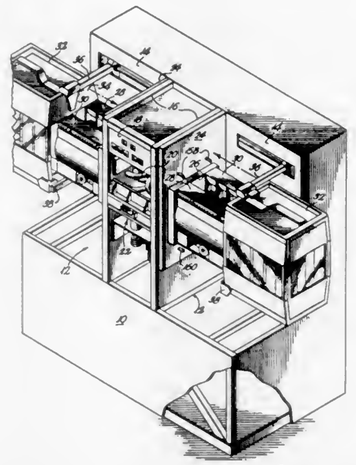
3,522,594

MAGNETIC STORAGE SYSTEM WITH AUTOMATIC LATERAL LOADING OF A CARTRIDGE CONTAINING AN ENDLESS TAPE

Andrew Gabor, Lincoln, Mass., Eleuthere Poumakis, Danville, Calif., and John A. Altonji, Syosset, N.Y., assignors to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York

Filed Sept. 29, 1966, Ser. No. 582,908
Int. Cl. G11b *15/66, 23/06*
U.S. Cl. 340—174.1 **8 Claims**

In a magnetic storage system information is stored on endless belts of magnetic tape which are supported in interchangeable cartridges. The cartridges are automatically loaded for transducing operations over drive blocks by means of a feed screw. The speed of rotation of the feed screw is automatically changed to a low speed as the cartridge nears the position at which the transducing operations are to be carried out. Then while the cartridges are still moving into position, low suction is applied to the capstan which drives the endless belts in order to pick up slack in the endless belts. When the air pressure applied to the air bearings over which the belts are to be driven



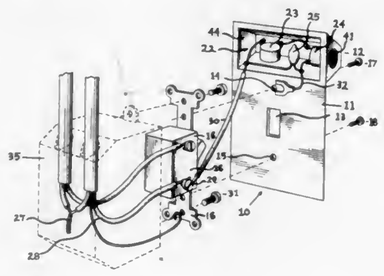
reaches a selected value, the motor driving the capstan is automatically energized. Then after a delay vacuum pumps are energized to operate at full speed to apply a full vacuum to the capstan.

3,522,595

SELF-CONTAINED FIRE DETECTING AND WARNING APPARATUS

Donald A. White, 4701 E. Kessler View, Indianapolis, Ind. 46226

Filed Mar. 27, 1967, Ser. No. 626,005
Int. Cl. G08b *17/06;* **H01h** *37/52;* **G12f** *9/04*
U.S. Cl. 340—227.1 **11 Claims**



A warning apparatus responsive to the presence of an excessive temperature condition occurring in the interior of a building or within the structure thereof and adapted to be permanently mounted over a conventional electric outlet box of the type used to house a wall switch or receptacle. The apparatus also functions as the cover plate of the outlet box and its circuitry is adapted to be energized by the electrical wiring conventionally found therein. Furthermore, the present invention operates independently of, and does not interfere with the normal use or operation of a wall switch or receptacle housed in the outlet box.

3,522,596

POSITION TRANSMITTER

John H. Fowler and David P. Herd, Houston, Tex., assignors to Rockwell Manufacturing Company, Houston, Tex., a corporation of Pennsylvania

Filed Oct. 19, 1966, Ser. No. 587,841
Int. Cl. G08b *21/00*
U.S. Cl. 340—238 **10 Claims**

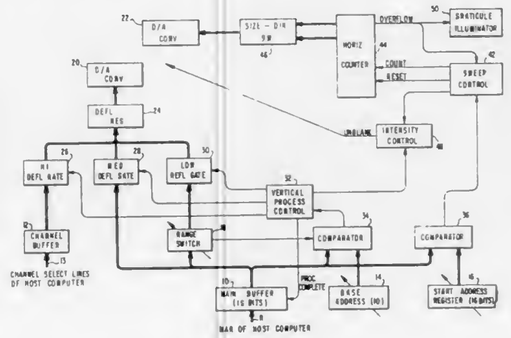
A remote position indicator for indicating the position of a movable device comprising an electrical circuit which may contain one or more reed contact devices which are closed by magnetic forces from one or more permanent magnets. The magnets may be mounted for movement, with movable component, into proximity with the reed contact devices. One embodiment of the invention comprising diode circuits may be used to indicate at least two positions without requiring more than one electrical conductor from transmitting means at the movable component to remote indicating means.

3,522,597

EXECUTION PLOTTER

Robert W. Murphy, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Nov. 19, 1965, Ser. No. 510,447
Int. Cl. G06g *7/48*
U.S. Cl. 340—324 **36 Claims**



An Execution Plotter coupled to a computer generates, on a cathode ray tube, a trace composed of points which represent, by their vertical positions, the different items of information of the program actually executed and, by their horizontal positions, the times of execution of these items. A selected portion of a program can be shown in detail on one part of the screen, while other portions are shown more generally in another part. The activity of different channels can be displayed on still another part of the screen. It is possible, for example, to detect failure of execution of a program segment, to recognize inefficiencies of a program, or to compare a block diagram inferred from the program actually executed with the planned block diagram.

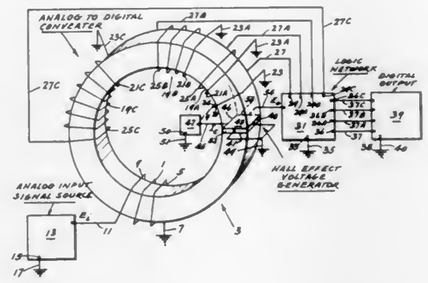
3,522,598

SEMICONDUCTOR VOLTAGE GENERATOR ANALOG TO DIGITAL AND DIGITAL TO ANALOG CONVERSION DEVICE

James M. Sokolich, Cliffside Park, N.J., assignor to The Bendix Corporation, a corporation of Delaware

Filed Nov. 21, 1966, Ser. No. 595,765
Int. Cl. H03k *13/02*
U.S. Cl. 340—347 **12 Claims**

This invention relates to an analog to digital and digital to analog converter utilizing an electromagnetic core with signals provided through attendant core windings, a Hall effect voltage generator in spatial relation to said core in combination with attendant feedback circuitry used to



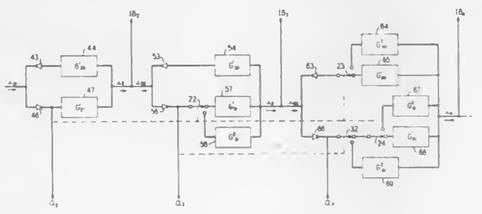
null the magnetic field which had been created in said core by the aforesaid input signal.

3,522,599

NONLINEAR GRAY ENCODER USING PIECEWISE LINEAR COMPRESSION

John H. Davis, Fair Haven, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed July 3, 1967, Ser. No. 650,675
Int. Cl. H03k *13/02*
U.S. Cl. 340—347 **7 Claims**



Non-linear encoding of analog signals into a Gray binary code to approximate any desired companding curve of monotonically increasing or decreasing slope with linear segments is accomplished with a stage-by-stage encoder. The stage gain of selected stages is switched to produce the proper segment slopes in accordance with the combination of digit outputs from the previous stages. Particular values are given for optimum companding of signals with Gaussian amplitude distribution.

3,522,600

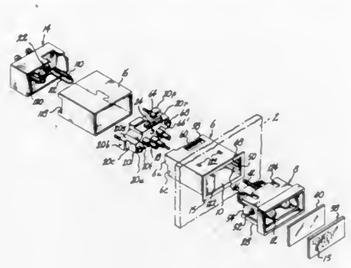
ASSEMBLY-TO-CLAMP VISUAL INDICATOR UNIT WITH PRESS-TO-TEST PUSHBUTTON CAP

James W. Amis, Jr., Bellevue, and Maurice D. Fuller and Gary E. Anderson, Seattle, Wash., assignors to Korry Manufacturing Co., Seattle, Wash., a corporation of Washington

Filed Apr. 19, 1967, Ser. No. 631,986
Int. Cl. G08b *5/00*
U.S. Cl. 340—381 **9 Claims**

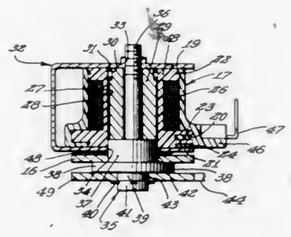
A panel-mounted press-to-test pushbutton electrical indicator assembly is disclosed in which a flanged socket housing for the assembly is secured on the panel by employing the contact base for the pushbutton cap as a take-up and retainer means for cooperating with the flange in clamping the housing to the edge of the panel opening.

Double acting electrical contact means yieldably interposed between the cap and the base make it possible to pass current into and out of the indicator device, yet in-



dividually displace each of the base and the cap toward the position of the other during the respective steps of mounting the housing and testing the cap.

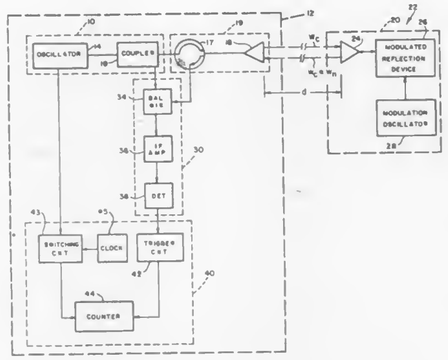
3,522,601
PLUNGER-TYPE SOUND LEVEL ADJUSTABLE BUZZER
Paul A. Dolter, Roselle, Ill., assignor to Eaton Yale & Towne Inc., Morton Grove, Ill., a corporation of Ohio
Filed Dec. 26, 1968, Ser. No. 786,898
Int. Cl. G10k *9/12*
U.S. Cl. 340—392 **11 Claims**



A plunger-type adjustable buzzer employs a centrally disposed rotatable screw which cooperably engages a C-shaped plunger retaining element. The rotatable screw provides for calibration of the plunger and adjustment of the output noise level while at the same time securing the plunger within the housing of the buzzer.

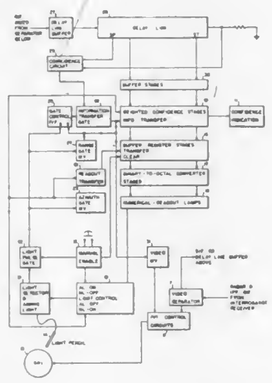
3,522,602
SYSTEM FOR MEASURING RANGE AND RELATIVE VELOCITY
Peter Ver Planck, Arlington, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Oct. 30, 1968, Ser. No. 771,774
Int. Cl. G01s *9/04, 9/44, 9/51*
U.S. Cl. 343—6.5 **12 Claims**

A system employing a transponder on one object having an antenna terminated in a reflection amplifier, the gain of which modulated at an angular frequency ω_m. When the transponder is illuminated from a second object by a continuous wave carrier signal at an angular frequency, ω_c, a portion of the incident energy is converted into two sidebands at $\omega_c \pm \omega_m$ and reradiated back toward a receiver at the second object. The upper and lower sidebands are both accepted by the receiver, heterodyned with a sample of the transmitted carrier, and the resulting intermediate frequency signal at ω_m is directed to an amplifier and a detector. To determine the distance between the two objects, the continuous wave carrier signal is swept in frequency, and the frequency separation between the successive nulls in the detector output signal is noted.



To determine the relative velocity between the two objects, the frequency ω_c of the continuous wave carrier signal is held constant, and the number of nulls in the detector output signal are counted over a fixed time interval.

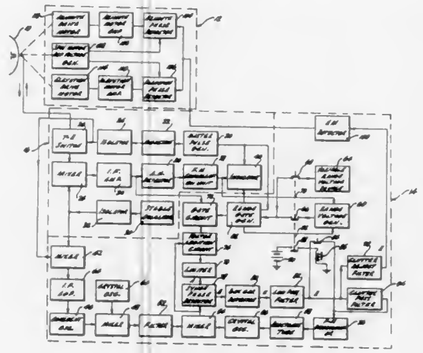
3,522,603
IFF CONFIDENCE EVALUATION CIRCUIT
Frederick R. Fluhr and Donald J. McLaughlin, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 14, 1969, Ser. No. 815,730
Int. Cl. G01s *9/56*
U.S. Cl. 343—6.5 **5 Claims**



The invention consists of circuitry which utilizes the redundant returns of an IFF system to obtain an indication of the probability of a correct code readout. A first section weighs and integrates the values at each bit position while a second section estimates the confidence of the overall readout by analyzing the individual integrated values at each bit position.

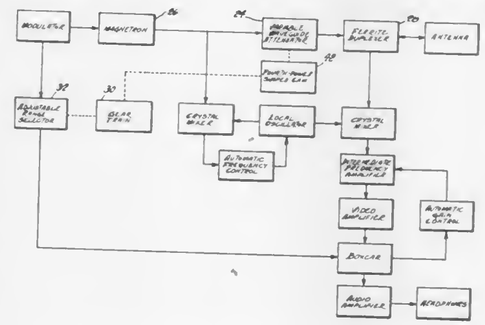
3,522,604
COHERENT-ANGLE TRACKING SYSTEM
Arnold H. Gillmer and Harold V. Hance, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Dec. 9, 1955, Ser. No. 552,232
Int. Cl. G01s *9/14, 9/42*
U.S. Cl. 343—7.3 **8 Claims**

6. In a moving target indicating system of the character described wherein it is desired to track a target with an antenna under conditions where target echo and clutter return signals are simultaneously received in response to exploratory pulses periodically radiated from the antenna at a predetermined pulse-repetition frequency, said system having a stable oscillator for providing local oscillations, a mixer responsive to the received signals and said local oscillations for producing an intermediate-frequency signal, and means coupled to said mixer for selecting a range element including the target echo signal from each sweep of said intermediate-frequency signal; apparatus comprising: means responsive to the exploratory pulses and said local oscillations and including a reactance tube for producing a reference signal of a frequency having a predetermined relationship with respect to the frequency of said clutter return signal, means coupled to the gating means and responsive to said reference signal for vectorially adding said intermediate-frequency signal during the range element intervals to said reference signal to produce a resultant signal having a phase deviation from said reference signal proportional to the component of said intermediate-frequency signal in quadrature with said reference signal, means responsive to said resultant and reference signals and including a phase detector for producing a video signal constituted



of a series of pulses concurrent in time with said range elements and of amplitudes corresponding to successive phase deviations between said resultant and reference signals, a filter coupled to said phase detector having a pass band disposed between two successive integral multiples of one-half the pulse-repetition frequency for isolating individual spectral distributions of components of said clutter return and target echo signals, frequency discriminator means responsive to only the spectral distribution of components of said clutter return signal for producing a null output at the center frequency of said pass band, said null output being impressed on said reactance tube to maintain said individual spectral distribution of components of said clutter return signal centered about said center frequency, band-elimination means coupled to said filter for rejecting the band of frequencies disposed about said center frequency coextensive with the individual spectral distribution of components of said clutter return signal, thereby to isolate the components of said target echo signal, and means coupled to said band-elimination means for demodulating said target echo signal to produce an error signal representative of the angular deviation of said antenna from said target.

3,522,605
MTI RADAR LOW-POWER HARDENING
George E. Mader and Gerald W. Musgrove, Syracuse, and Bowen E. Simmons, Fayetteville, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Sept. 20, 1962, Ser. No. 225,960
Int. Cl. G01s *9/42*
U.S. Cl. 343—18 **2 Claims**



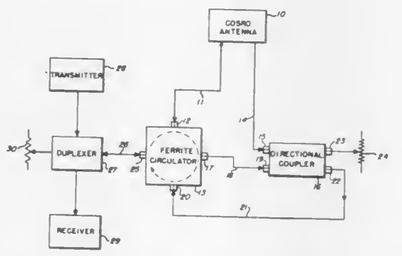
1. A method for preventing detection of a given sentry radar by a given listener receiver while allowing the bearer of said given listening receiver to be detected by said sentry radar comprising the steps of:

adjusting the sentry radar to transmit the minimal power required to detect a slowly moving person at a predetermined range;

adjusting the transmitted power of the sentry radar to vary as the fourth power of the range; and

maintaining the transmitted power of the sentry radar below the value required for detection of the slowly moving target at the crossover range.

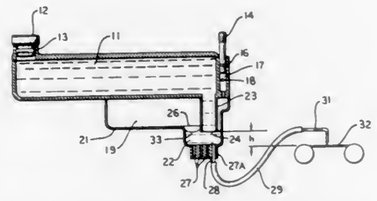
3,522,606
COUPLING CIRCUITS FOR SCANNING ANTENNAS AND THE LIKE
Max Michelson, Framingham, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed June 15, 1960, Ser. No. 36,211
Int. Cl. H01q *3/26;* **G01s** *3/56*
U.S. Cl. 343—100 **12 Claims**



A coupling circuit for COSRO antennas is provided wherein electromagnetic energy is transmitted in a conventional manner and a conical scan is obtained on receive only. Energy to be transmitted passes through a ferrite circulator and the reference arm of the antenna.

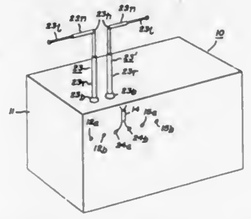
Received energy passes through the circulator from the reference arm and is combined in a directional coupler with received energy from the difference arms of the antenna. The output of the directional coupler is coupled back to the circulator and passes to the receiver through a duplexer.

3,522,607
CONSTANT LEVEL INKING SYSTEM
Mickey L. Felton, Noblesville, Ind., assignor to Esterline Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 9, 1968, Ser. No. 751,527
Int. Cl. G01d *15/16*
U.S. Cl. 346—140 **9 Claims**



In a chart recorder, an ink reservoir of constant volume and large capacity is sealed from atmosphere, is connected to a small volume sump below it by a connecting tube, ink feed to the pen being taken from the sump, occasional unsealing of the connecting tube at the ink surface in the sump permitting an air bubble to enter the reservoir and allow re-establishment of the ink level in the sump by ink from the reservoir.

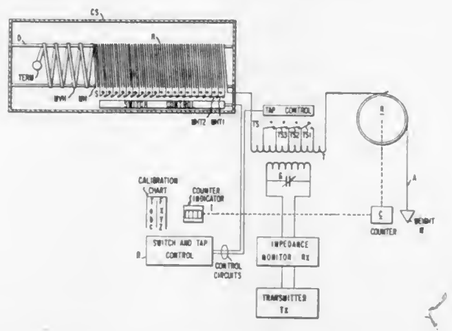
3,522,608
TELESCOPING VHF–UHF ANTENNA FOR A TELEVISION RECEIVER
Eugene K. Von Fange, Chesapeake, Va., assignor to General Electric Company, a corporation of New York
Filed Feb. 19, 1969, Ser. No. 800,658
Int. Cl. H01q *1/24*
U.S. Cl. 343—702 **8 Claims**



Improved indoor antenna means for a television receiver having a VHF tuner and a UHF tuner. The antenna means includes at least one telescopic VHF antenna pole having a lower section swivelled on the receiver top and an upper section movable along the pole long axis between a storage position adjacent to and extended positions spaced at various distances from the receiver. The loop-type UHF antenna that has been conventionally mounted on the receiver back is eliminated and replaced by at least one UHF antenna pole mountable on the VHF antenna pole for movement therewith and transverse extension therefrom. Thus, the swivelled, telescopic VHF antenna pole can also serve as adjustable support means for positioning the UHF antenna pole in a far greater variety of locations relative to the receiver than previously available with conventional UHF loop antenna, and, hence, the need to reposition the receiver to locate the indoor UHF antenna means in the region of maximum strength of the UHF signal sought to be tuned can be eliminated or greatly reduced.

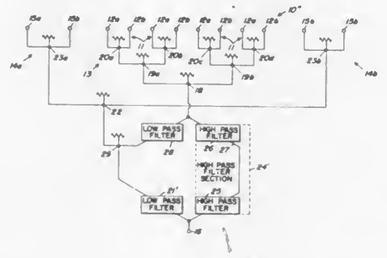
3,522,609
AIRBORNE ANTENNA COUPLED TO ADJUSTABLE HELICAL COUNTERPOISE
Robert Ellis, 102—30 66th Road, Forest Hills, N.Y. 11375
Filed July 23, 1968, Ser. No. 746,908
Int. Cl. H01q *1/30*
U.S. Cl. 343—703 **7 Claims**

In place of the usual half-wave-length trailing antenna in very low frequency radio operation from airborne vehicles, it is proposed to use a shorter, ¼ wave-length antenna and an adjustable tuning helix. Time required for playing out and rewinding the antenna is reduced, antenna weight and drag are lessened, and the weight of



take-up machinery is decreased. Electrical insulation requirements are also lessened by the use of a tuned helix for the counterpoise.

3,522,610
ANTENNA ARRAY APERTURE MULTIPLEXING TRANSMISSION FEED AND RECEIVE SYSTEMS
Klaus G. Schroeder, Dallas, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Aug. 23, 1967, Ser. No. 662,764
Int. Cl. H01q *3/26, 21/00*
U.S. Cl. 343—854 **5 Claims**

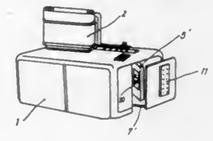


Antenna array automatic, as a function of frequency, variable aperture multiplexing transmission feed and receive systems. This is accomplished in various embodiments with selective filtering circuitry establishing, or blocking, to varying degrees as a function of frequency,

signal paths through a feed network between a single feed network terminal and various selected elements of an antenna array.

3,522,611
PHOTOGRAPHIC TRAFFIC MONITORING DEVICE
Herbert Maronde, Dusseldorf, Germany, assignor of one-half to Robot Foto und Electronic G.m.b.H. & Co. K.G., Dusseldorf-Benrath, Germany
Filed July 10, 1968, Ser. No. 743,817
Claims priority, application Germany, July 18, 1967, R 46,511
Int. Cl. G01d *9/42;* **G01s** *9/44;* **G03b** *17/24*
U.S. Cl. 346—107 **9 Claims**

A traffic camera is mounted on a housing and has a lens outside the housing to photograph a street scene and a lens in the housing to photograph time, date and speed indicating instruments. The housing has interchangeable inserts for the speed indicating instrument, one of which



carries a speedometer and the other of which carries a radar-controlled speed indicator. A light in the housing is obscured from the latter when it is in place.

GENERAL AND MECHANICAL

ERRATUM

For Class 346—140 see:
Patent No. 3,522,607

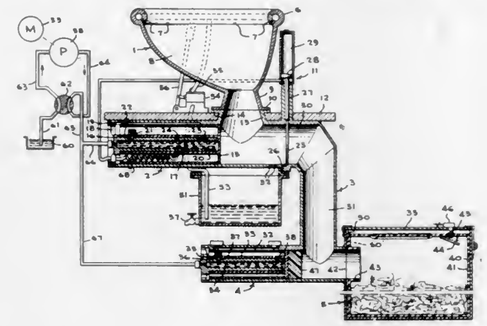
3,522,612
MULTI-PURPOSE GARMENT
Nathan H. Palmer, 619 Glendale, Glenview, Ill. 60025
Filed May 10, 1968, Ser. No. 728,120
Int. Cl. A41d *3/08*
U.S. Cl. 2—88 **2 Claims**



A multi-purpose garment made of, in combination, a flat member and a pouch member. The flat member is made of a fibrous layer and a water-impermeable layer bound together to form a flat sheet with a slitted opening near the center of the flat sheet at a size suitable for the passage of a human head. The pouch member is also constructed from a sheet made of a fibrous layer and a water-impermeable layer bound together, and in the shape of a rectangular container with two adjacent edges sealed and two remaining adjacent edges selectively open. There are means on the pouch for closing the two open edges when the flat member has been folded and inserted into the pouch. Attachment means on both the flat and the pouch members cooperating to hold the pouch to the flat member so that the garment may be used as a hooded cape.

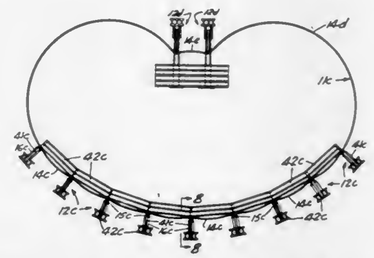
3,522,613
WASTE DISPOSAL SYSTEM
Samuel Botsford, Washington, D.C. (P.O. Box 203, Branchport, N.Y. 14418)
Filed Oct. 21, 1968, Ser. No. 769,333
Int. Cl. A47k *11/02*
U.S. Cl. 4—131 **15 Claims**

Human waste disposal system including toilet bowl mounted on a cylinder so that waste falls through bowl into cylinder. A piston moves waste forward and closes inlet from bowl. Gate valve lifts and piston pushes waste into tank. In another form, piston pushes waste past the gate valve into vertical pipe leading to second cylinder having piston to push waste into tank. Liquids drain from cylinder into purifying tank and are used to clean bowl and cylinder. Piston and valve operation may be



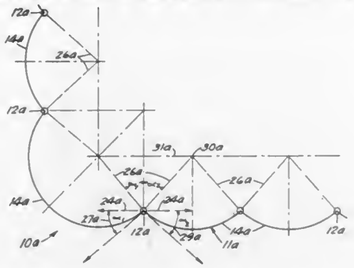
hydraulic and automatic. Waste tank may have removable container or waste may be consumed in container by heat, bacterial action, or chemicals, or any combination of these.

3,522,614
SWIMMING POOL STRUCTURE
Edward C. Gould, Wayzatha, Minn., assignor to Doughboy Industries, Inc., New Richmond, Wis., a corporation of Wisconsin
Continuation of application Ser. No. 548,958, May 10, 1966. This application Oct. 14, 1968, Ser. No. 778,356
Int. Cl. E04h *3/18*
U.S. Cl. 4—172.19 **1 Claim**



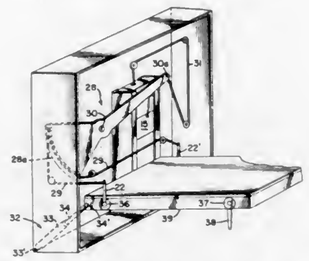
A swimming pool structure for use with a flexible plastic liner comprising a generally vertically oriented substantially continuous tensile membrane shaped into a plurality of outwardly convex partially cylindrical sectors, adjacent

sectors intersecting each other at an apex. A plurality of reinforcing posts each engaging the exterior surface of the membrane at one of the apices. The relative position-



ing of the sectors and radii thereof being so arranged that a line passing through the vertical cross-sectional plane of each post approximately bisects a line joining the respective centers of adjacent sectors.

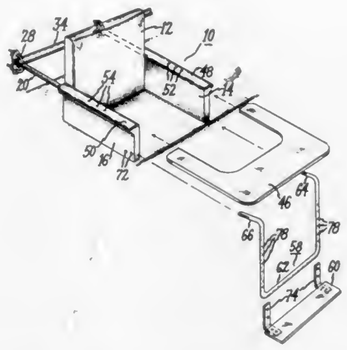
3,522,615
TURNOVER WALL-A-BED WITH COUNTER-BALANCE WEIGHT AND END-STROKE SHOCK ABSORBER BRAKE
Giuseppe Tudisco, Asmara, Rome 58, Italy
Filed Feb. 2, 1967, Ser. No. 623,791
Claims priority, application Italy, Feb. 11, 1966, 2,988/66; June 10, 1966, 12,893/66
Int. Cl. A47c *17/40*
U.S. Cl. 5—10 **6 Claims**



This invention pertains to a turnover double or single wall-a-bed, which can be stored during its upright position in a container made up of a wooden wardrobe.

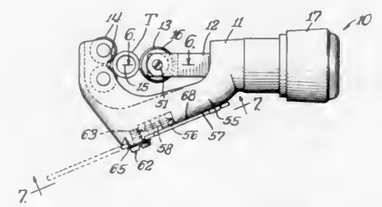
3,522,616
INVALID BED CHAIR
Dorothy R. Saldo, 21 Forest Place, and Marguerite I. Keefner, 29 Forest Place, both of Pittsfield, Mass. 01201
Filed May 6, 1968, Ser. No. 726,660
Int. Cl. A47c *21/00*
U.S. Cl. 5—327 **4 Claims**

A bed chair for use of invalids to enable them to sit up in bed and to provide access to a patient to allow therapy to be performed on a patient. The bed chair is bottomless and is provided with a back member and a pair of arm members, firmly attached to the back. Ledges are provided on the arm members for removably receiving an adjustable tray or table to help hold the patient or invalid in the chair and enable the practice of some forms of therapy. Supports are provided, secured to the back or arm members, for firmly mounting and securing the bed chair to a side or rail of the bed. A footrest is provided, extending downwardly from the base of the arm members, along the edge of the bed and has an adjustable foot member secured thereto. The patient may sit on the side of the bed, with his feet firmly positioned in the footrest, allowing therapy to be provided on the leg members. The footrest and tray member prevent the patient or invalid from slipping or falling out of the chair, while allowing the comfort of the sitting position. The removable tray and



footrest allows the chair to be placed around a helpless invalid without requiring excess movement of the invalid, or the necessity of a large number of attendants.

3,522,617
TUBE CUTTER
Leonard J. Kowal, Prospect Heights, Ill., assignor, by mesne assignments, to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Feb. 14, 1968, Ser. No. 705,541
Int. Cl. B23d *77/14;* **B26b** *25/00*
U.S. Cl. 7—14.1 **8 Claims**

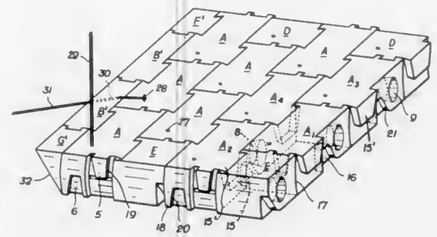


A tube cutter for manually cutting tubing by means of a cutting wheel forced against the outer wall of the tubing and moved circumferentially thereabout. The cutting wheel is mounted on a holder which is selectively movable forwardly and rearwardly by a manually operable handle to advance and retract the cutting wheel relative to the tube wall. The tube cutter includes a body portion carrying a deburring blade. The blade is pivotally mounted on the body for selective disposition in a retracted position juxtaposed to the body and a deburring position projecting outwardly of the body.

3,522,618
STRUCTURAL ELEMENT AND ASSEMBLY
Hermann Stranzinger, 1 Morzger Strasse, Salzburg, Austria
Filed Jan. 26, 1968, Ser. No. 700,797
Claims priority, application Austria, Jan. 30, 1967, A 830/67; Sept. 27, 1967, A 8,794/67
Int. Cl. E01d *15/08*
U.S. Cl. 14—27 **8 Claims**

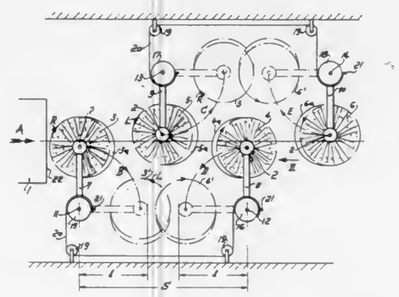
A module for assembly with other, like modules into a bridge or other load-supporting structure has a convex and a concave end provided with complementary tenons and mortises for the interlinking of endwise adjoining modules. A dowel on one side of the module, centered on the axis of curvature of its convex end face, and a

complementary bore closer to the concave face serve for pivotal attachment to a laterally juxtaposed module interlocking with two endwise adjoining modules via com-



plementary formations including a lug and a recess having walls respectively curved about the axes of the dowel and the bore of the corresponding modules.

3,522,619
AUTOMATIC WASHING DEVICE FOR CLEANING THE VERTICAL SIDES OF A MOTOR VEHICLE
Gebhard Weigele, Bussardweg 2, and Johann Sulzberger, Mozartstrasse 17, both of Augsburg, Germany
Continuation-in-part of application Ser. No. 655,237, July 21, 1967. This application Mar. 11, 1968, Ser. No. 712,134
Claims priority, application Germany, Nov. 23, 1967, W 45,210
Int. Cl. B60s *3/06*
U.S. Cl. 15—21 **11 Claims**

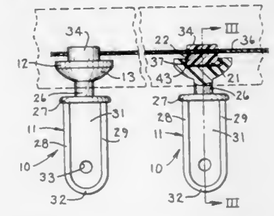


An automatic washing machine for automobiles in which an automobile advancing through the machine meets a first vertical brush carried on a swinging arm which cleans at least half the front of the automobile and then one side as it is swung aside by contact with the automobile, second brush mounted on a separate swinging arm being swung aside in response to the advance of the automobile so that it cooperates in the cleaning of the side and then swings in to clean at least half of the back of the automobile. The second brush can be mounted after the first brush and swung aside by movement of the first brush or can be moved by a separate drive in response to actuation of a switch by the automobile or by a mechanical linkage to a pressure plate moved by the automobile and in these cases may be mounted before the first brush.

3,522,620
WINDSHIELD WIPER BLADE
Akira Nozawa, Tetsuichi Saho, Hideo Marumo, and Minoru Saito, Tokyo, Japan, assignors to Lion Yushi Kabushiki Kaisha (Trade name: Lion Fat & Oil Co., Ltd.), Tokyo, Japan
No Drawing. Continuation-in-part of application Ser. No. 404,932, Oct. 19, 1964. This application June 7, 1968, Ser. No. 735,170
Claims priority, application Japan, Feb. 13, 1964, 39/32,394
Int. Cl. A47l *1/02;* **C08c** *11/44;* **C08f** *45/44*
U.S. Cl. 15—250.36 **15 Claims**

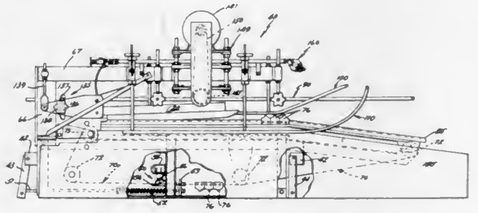
An improved windshield wiper blade having a reduced frictional coefficient, which essentially consists of an elastic substance such as natural rubber or synthetic rubber and at least one of certain nitrogen-containing organic compounds.

3,522,621
SPACED CARRIER SYSTEM
James A. Ford, David E. Bell, and Paul P. Clark, Sturgis, Mich., assignors to Kirsch Company, Sturgis, Mich., a corporation of Michigan
Filed Oct. 18, 1967, Ser. No. 676,104
Int. Cl. A47h *13/14*
U.S. Cl. 16—87.4 **13 Claims**



A panel carrier for use in supporting door or drapery material to which is releasably secured at least one of a plurality of members spacedly secured to and along an elongated element, whereby an unpleated panel may be quickly and easily given the appearance of a pleated panel.

3,522,622
HOCK CUTTER
Edward J. Crane, Ottumwa, Iowa, assignor to International Agri Systems, Inc., Ottumwa, Iowa, a corporation of Iowa
Continuation-in-part of application Ser. No. 587,035, Oct. 17, 1966. This application Sept. 22, 1967, Ser. No. 669,921
Int. Cl. A22c *21/00*
U.S. Cl. 17—11 **40 Claims**

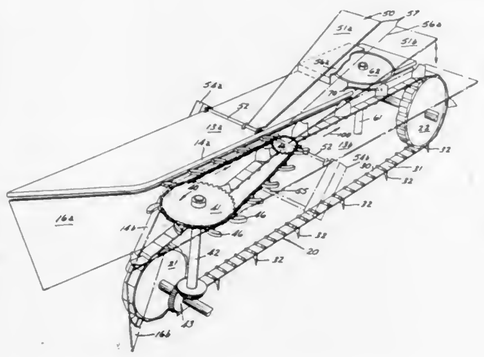


An apparatus particularly adapted for severing the hocks of a bird from the edible portions thereof in assembly line fashion. The birds are suspended by the legs from an overhead conveyor and the depending shackles are lifted and then drawn by means of wheels as the particular bird approaches the severing apparatus. The lifting process causes the bird to clear the forward extremity of

a working rail assembly and subsequent to the drawing operation, the bird slides down on the rail in such a manner that the hock joint passes into registry therewith. The bird is moved along the working rail by a drag conveyor integrally incorporated therewith operating in conjunction with the overhead conveyor assembly.

The positioned joint is subjected initially to a blunt hammering force which is operative to separate the bone portions. As the bird proceeds along the rail subsequent to separation of the bone portions, it is contacted by an oscillating knife which, in the preferred embodiment of this invention, forms an integral portion of the blunt separating instrument. The knife section of the oscillating instrument completes severing of the joint.

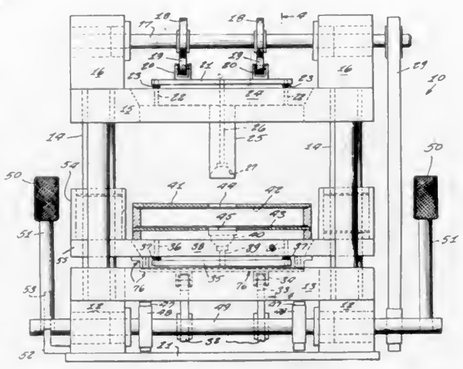
3,522,623
POULTRY KILLING MACHINE
Harold M. Pyron, Macon, Ga., assignor to International Agri Systems, Inc., Ottumwa, Iowa, a corporation of Iowa
Filed Feb. 6, 1968, Ser. No. 703,392
Int. Cl. A22b *3/08*
U.S. Cl. 17—11 **21 Claims**



A poultry killing machine for killing poultry suspended from a traveling overhead conveyor having an elongated conveyor positioned below the overhead conveyor with spaced head-receiving members. As the bird is fed into the machine, its head is engaged by one of the receiving members such that it is propelled therefrom by both the main and overhead conveyors. The head-receiving member is shaped such as to position the head in a predetermined manner and the bird is carried into cutting relationship with respect to a spinning circular cutting blade which functions to sever a portion of the bird's neck. Prior to coming into engagement with the cutting member, the body section of the bird travels up a resiliently inclined ramp which, in conjunction with a pair of spaced beads adapted to vertically position the bird's head, compensates for different sized birds automatically within the apparatus. It is understood that this abstract is not to be utilized to limit the scope of this invention.

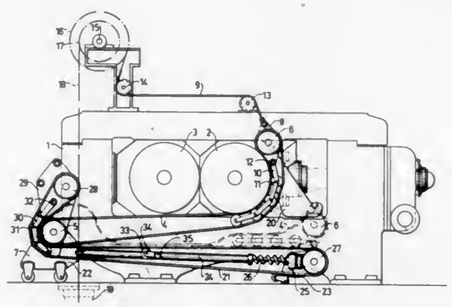
3,522,624
MEATBALL MACHINE
Gary K. Tahmesian and Richard H. Tahmesian, both of 448 Windsor Road, Wood-Ridge, N.J. 07075
Filed July 31, 1967, Ser. No. 657,401
Int. Cl. A22c *7/00*
U.S. Cl. 17—32 **4 Claims**

A machine for forming meatballs employing upper and lower hemispherical chambers which are brought together to form a spherical meatball, the machine incorporating mechanism for an operator to operate the machine by manipulating a pair of handles, and the



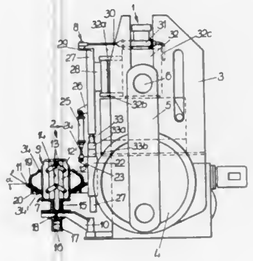
machine dispensing the formed meatball from the hemispherical chambers.

3,522,625
DEVICE IN MIXING MILLS
Runo H. Skarman, Raa, and Stig G. H. Nilsson, Halsingborg, Sweden, assignors to Helsingborgs Gummifabriks Aktiebolag Tretorn, Halsingborg, Sweden, a corporation of Sweden
Filed Dec. 8, 1967, Ser. No. 689,084
Claims priority, application Sweden, Feb. 21, 1967, 2,358/67
Int. Cl. B29b *1/08*
U.S. Cl. 18—2 **10 Claims**



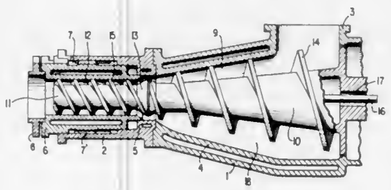
A mixing mill for admixing chemicals into rubber including a pair of horizontal rotatably driven processing rolls mounted beside each other, an endless mixing web positioned beneath the processing rolls and extending upwards about part of the periphery of one processing roll for collecting material falling between the processing rolls and returning it to the rolls to pass between the rolls again and a second endless web extending below the mixing web and extending upwards about part of one end of the mixing web for collecting material falling from the mixing web and returning it to the mixing web. The mixing web is held against the processing roll by adjustable counterbalance means. The second web is supported on a carriage for movement into and out of a position beneath the mixing web. The mixing roll by adjustable counterbalance means. The secmeans where they pass around the processing roll and mixing web and the carriage is resiliently constructed longitudinally to permit movement of the second web away from the mixing web.

3,522,626
DEVICE FOR FEEDING TYRES INTO A TYRE VULCANIZING PRESS
Walter Balle, Dornigheim, Kreis, Hanau, Germany, assignor to Leonhard Maschinenfabrik Herbert, Bergen-Enkheim, Germany, a corporation of Germany
Filed Oct. 24, 1967, Ser. No. 677,568
Claims priority, application Germany, Oct. 27, 1966, H 60,878
Int. Cl. B29h *5/02*
U.S. Cl. 18—2 **15 Claims**



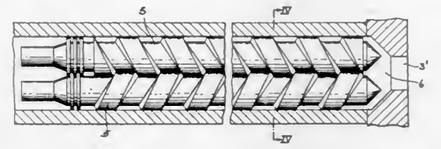
While a tyre is being vulcanised in a press another tyre is located on a support external of the press and is centered on the support by an expandable centering device surrounded by the tyre and support. The support with centered tyre is lifted from the centering device and as the press mould opens is rotated with the support between the two halves of the mould where it is gripped by rim rings co-operating with the mould prior to the support being restored to the position thereof external of the mould.

3,522,627
APPARATUS FOR THE CONTINUOUS TREATMENT OF PLASTIC MATERIAL
Marcello A. Vanzo, Milan, Italy, assignor to S.p.A. Pirelli, Milan, Italy
Filed Apr. 1, 1968, Ser. No. 717,785
Claims priority, application Italy, Mar. 23, 1968, 14,306/68
Int. Cl. B29f *3/02*
U.S. Cl. 18—12 **11 Claims**



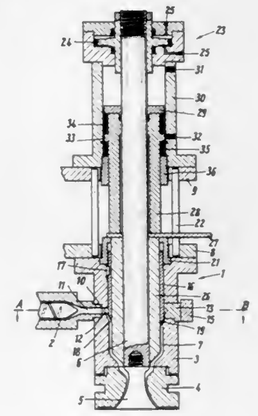
An apparatus for the continuous treatment of plastic material by means of a screw rotatably assembled inside a hollow body provided at one end with an inlet for the supply of the material and at the opposite end with an outlet for the discharge of the same, and in particular by means of a screw consisting of a first portion, preferably frusto-conical, having the purpose of treating the material in such a way as to obtain its desired degree of plasticity and homogeneousness, and of a subsequent cylindrical portion which, according to its length, may serve only as a support for the downstream end of the screw portion preceding it, or also for creating in the already treated material a pressure sufficient to extrude the latter through a nozzle. An annular gap, defined by the inner surface of the cavity containing the screw and by the outer surface of an annular thickening of the screw core is foreseen at the passage from the first portion of the screw to the second. The area of said gap can be varied at will by means of an adjusting element axially slidable inside the hollow body.

3,522,628
APPARATUS FOR THE PRODUCTION OF CELLULAR THERMOPLASTIC MATERIALS
Hans Eberle, Ludwigshafen (Rhine), and Gerhard Wuttke, Neuhofen, Pfalz, Germany, assignors to Grunzweig & Hartmann A.G., Ludwigshafen, Germany, a company of Germany
Original application July 8, 1965, Ser. No. 470,432. Divided and this application Apr. 29, 1968, Ser. No. 739,980
Claims priority, application Germany, July 8, 1964, G 41,027, G 41,028; July 31, 1964, G 41,236; Aug. 4, 1964, G 41,257; Nov. 27, 1964, G 42,120
Int. Cl. B29f *3/02*
U.S. Cl. 18—12 **3 Claims**



An extrusion press for expandable foaming synthetic resin in which the screw is of substantially constant cross-section from the inlet over a major portion of its length. The compression stretch of the screw occupies a minor portion of its length in the region of the outlet while the screw has a helical thread of substantially constant pitch over substantially its entire length and a cylindrical stretch free from threads ahead of the compression stretch.

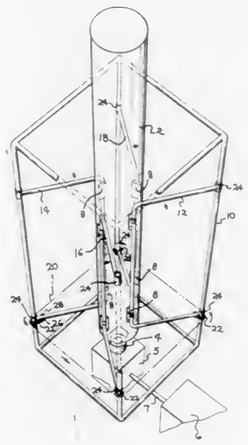
3,522,629
EXTRUSION PRESS FOR THE MANUFACTURE OF HOSES OR TUBES MADE OF THERMOPLASTIC MATERIAL
Erhard Langecker, Hohbuschener Weg 5, Meinerzhagen, Westphalia, Germany
Filed June 18, 1968, Ser. No. 737,936
Claims priority, application Germany, June 21, 1967, L 56,803
Int. Cl. B29d *23/04*
U.S. Cl. 18—14 **14 Claims**



An extruding press for making pipes of hoses. Plasticized material is carried through a channel into a groove

in a tube head. The groove is eccentrically disposed in the tube head so that the cross section decreases from the portion closest to the channel to the portion opposite the channel. A sleeve having a tapered end is disposed on an annular piston and is adjustable in order to regulate a throttle gap which in turn regulates the flow to the die. The device also includes a control mechanism for automatically regulating the flow of plasticized material.

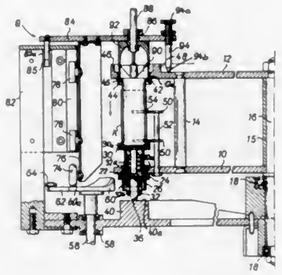
3,522,630
GUIDE APPARATUS FOR THERMOPLASTIC TUBES
James L. Swickard, Jr., Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Aug. 2, 1968, Ser. No. 749,742
Int. Cl. B29d *23/00*
U.S. Cl. 18—14 **7 Claims**



This disclosure relates to a guiding mechanism for a continuously drawn and blown thermoplastic tube. The guide mechanism comprises a plurality of juxtaposed U-shaped members, the bottom of the U-shaped member being positioned parallel to the axis of the blown thermoplastic tube. The U-shaped members are pivotally mounted in spaced relation in such a fashion that they can move in a plane which is at right angles to the axis of the blown thermoplastic tube. All guide members are inter-connected in such a fashion that the movement of one moves the others an equal distance to maintain the guide elements in coaxial alignment with the drawn tube.

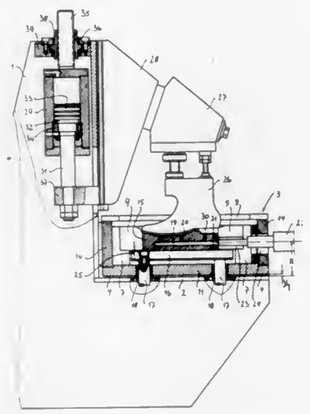
3,522,631
APPARATUS FOR THE AUTOMATIC DOSING AND FILLING OF FLUENT MEDIA INTO CONTAINERS OR THE LIKE
Giulio Giuseppe Niclas, Milan, Italy, assignor to Nico S.R.L., Milan, Italy, an Italian firm
Filed Sept. 16, 1966, Ser. No. 579,910
Claims priority, application Italy, Sept. 18, 1965, 20,882/65
Int. Cl. B29c *6/02*; **B65b** *63/08*
U.S. Cl. 18—20 **15 Claims**

Automatically dosing and filling of fluent materials capable of solidifying at ambient temperatures is disclosed. The novel apparatus comprises a rotatable table means provided with recesses for the reception of containers which are to be filled. Means defining an overflow recess are provided above each container-receiving recess of the table means. Disposed along the periphery of the rotatable table means in the direction of table rotation are infeed station means for loading the container-receiving recesses of the rotatable table means with empty containers, dosing means for introducing a dosed quantity of fluent material into the mouth of the containers, the dosed quantity exceeding the capacity of the containers, cooling means for cooling and solidifying the fluent material in the containers, stripper means for removing the excess quantity of material from the mouth of the con-



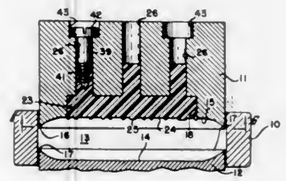
tainers, and removing means for removing the containers from the rotatable table means. By virtue of the novel apparatus, an improved filling of the containers is provided and specifically, by virtue of the dosing means delivering an amount of material to each container exceeding the capacity of the container itself, the formation of air bubbles in the filled container is effectively eliminated.

3,522,632
SHOE SOLE MOLDING UNIT
Karl-Heinz Wessel, Vlotho, Germany, assignor to Friedrich Stubbe, Vlotho, Germany
Filed Apr. 28, 1967, Ser. No. 634,711
Claims priority, application Germany, May 2, 1966, St 25,325
Int. Cl. B29c *1/00*
U.S. Cl. 18—42 **3 Claims**



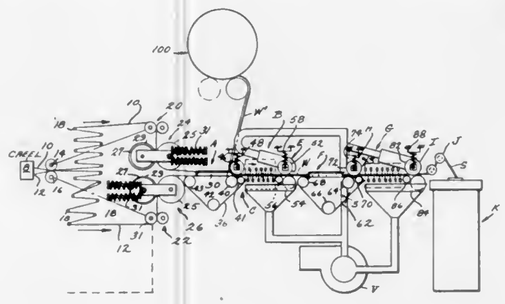
An improved shoe sole injection molding unit which may be easily adjusted to provide for fabrication of various sole thicknesses. A shoe sole mold cavity is defined by a sole plate, lateral jaws and a last which carries the shoe upper. The mold parts are mounted on a molding unit. The lateral jaws are mounted in a mold box. The mold box, the last, and the sole plate are independently and vertically adjustable to provide varying shoe sole thicknesses without time consuming replacement of mold parts as was necessary in prior art devices.

3,522,633
COMPOSITE DIE MEMBER
Robert Bruce Cubitt, Jersey City, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Original application Mar. 26, 1963, Ser. No. 268,031, now Patent No. 3,408,436. Divided and this application Jan. 15, 1968, Ser. No. 711,820
Int. Cl. B29c *1/02*
U.S. Cl. 18—47 **4 Claims**



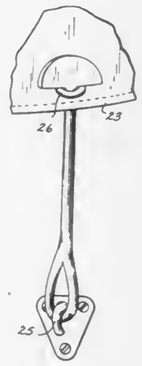
A composite die member comprises a rigid metal body having a forming surface provided with a panel receiving recess wherein a plastic design bearing panel is molded in place, the panel having a surface that is substantially continuous with the die forming surface except for interruption by the design to be imparted to the article formed by said die, and the panel being removable and replaceable by a different molded-in-place panel bearing a different design.

3,522,634
SYSTEM FOR CONVERTING CONTINUOUS FILAMENT TOW INTO STAPLE SLIVER
Elbert F. Morrison, Clarksville, and Raymond D. Joy, Halifax, Va., assignors to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Filed Nov. 28, 1967, Ser. No. 686,141
Int. Cl. D01g *1/00*
U.S. Cl. 19—.6 **14 Claims**



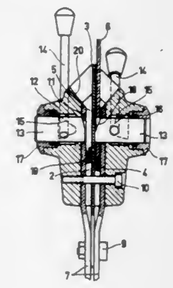
A textile system and process of converting continuous filament or length tow into staple lengths by cutting or fracturing the filaments to a predetermined length and continuously debonding the cut or fractured tow, straightening the turn back fibers, randomizing the staple fibers and removing waste such as mashed sections (fish food or the like) from the sliver. The system and process further contemplates drafting the randomized fibers to a homogeneous sliver of predetermined size.

3,522,635
RUBBER STRAP
Stig Ake Nilsson, Sunne, Sweden, assignor to Sunne Gummifabrik AB, Sunne, Sweden, a company of Sweden
Filed Oct. 23, 1967, Ser. No. 677,230
Claims priority, application Sweden, Oct. 24, 1966, 14,560/66
Int. Cl. A44b *21/00*
U.S. Cl. 24—73 **1 Claim**



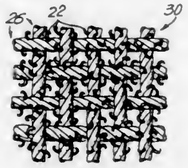
The invention concerns a rubber strap, by means of which a tarpaulin etc. may be fastened. The strap consists of a long straight resilient portion with a head at one end and a loop at the other end. The loop can be pulled through an eyelet in the tarpaulin, but only with difficulty, and the head cannot be pulled through at all. Therefore the strap is anchored to the tarpaulin when the loop is let loose.

3,522,636
LOCK OR BUCKLE FOR VEHICLE SAFETY BELTS
Wolf-Dieter Klink, Staufenstr. 8, Lindach, near Schwabisch Gmund, Germany
Filed Jan. 19, 1968, Ser. No. 700,674
Claims priority, application Germany, Jan. 23, 1967, 1,580,125
Int. Cl. A44b *11/25, 21/00*
U.S. Cl. 24—73 **23 Claims**



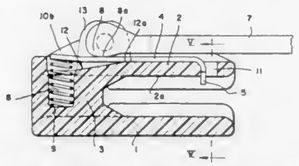
Buckle for vehicle safety belts rigidly connectible to the floor of a vehicle, comprising a single housing, and a pair of similar mutually independent locking systems located within said single housing for lockingly retaining respective sliders of a pair of safety belts therewithin.

3,522,637
SELF-GRIPPING FASTENING FILAMENT
George C. Brumlik, 154 Upper Mountain Ave., Montclair, N.J. 07042
Filed Mar. 6, 1968, Ser. No. 710,972
Int. Cl. A44b *11/25, 17/00*
U.S. Cl. 24—204 6 Claims



A self-gripping fastener device is integrally made as part of a thread or filament which is then employed either in filament form or in yarn form to form a fabric, felted surface or the like, the latter being releasably self-adhering by the application of pressure therein. The fastening filament comprises an elongated body having a series of sharp-edged hooks extending therefrom spatially staggered along the length of the filament body. The filament hooks may include pairs of sharp-edged curved barbs extending in opposite directions from the stem portion of each hook.

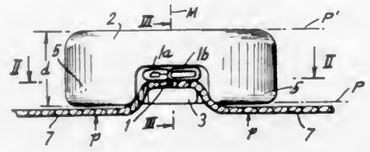
3,522,638
SLIDE-FASTENER SLIDER WITH LOCKING PAWL
Richard Ambros, Nuremberg, and Hermann Ettinger, Erlangen, Germany, assignors to Zipp Werk G.m.b.H., Nuremberg, Germany, a corporation of Germany
Filed Sept. 20, 1968, Ser. No. 761,092
Claims priority, application Germany, Sept. 20, 1967, 1,610,472
Int. Cl. A44b *19/30*
U.S. Cl. 24—205.14 9 Claims



A slider for a slide-fastener stringer in which the upper shield member, which is joined to the lower shield member by a wedge-shaped core, is provided with a recess in which a rectangular locking pawl is disposed. A well in the core receives a spring which bears against the locking pawl to urge the latter against a camming eccentric of the handle flap to force a tooth at the other end of the locking pawl into engagement with the coupling elements through a window in the upper shield member. The flap, when swung about its pivot, cams the locking pawl against the spring force and about a fulcrum on the upper shield member to withdraw the tooth in the deadcenter position of the eccentric cam. Off the deadcenter position, the spring retains the flap and the locking pawl in their locking positions.

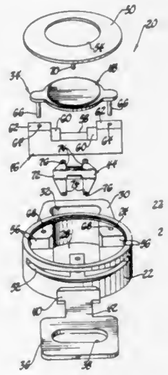
3,522,639
CIRCULAR SLIDER FOR SLIDE FASTENER
Alfons Frohlich, Essen, Germany, assignor to Opti-Holding AG, Glarus, Switzerland, a corporation of Switzerland
Filed Jan. 16, 1968, Ser. No. 698,226
Claims priority, application Germany, Jan. 21, 1967, O 12,244
Int. Cl. A44c *19/26, 19/32*
U.S. Cl. 24—205.15 3 Claims

A slide-fastener slider molded from synthetic resin or die-cast from metal in which a pair of formations are constituted by aprons extending downwardly from the upper slider shield to flank a Y-shaped tongue forming a lower shield member and define therewith slots running along the channels for the coupling elements whereby the



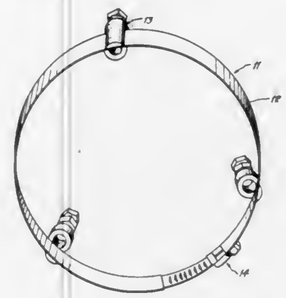
stringer tape has an S-shaped configuration in the region of each slot upon passage through the slider. The slider is especially suitable for use in slide-fastener closures for bed linen and the like.

3,522,640
MINI BUCKLE
Thomas E. Lohr, Warren, Mich., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Nov. 21, 1969, Ser. No. 878,649
Int. Cl. A44b *11/25*
U.S. Cl. 24—230 25 Claims



A buckle assembly of the type utilized with seat belts including a housing having an opening thereinto, a cavity extending into the housing from the opening to a wall opposite the opening, and a slot extending into the housing from the exterior thereof to the cavity for receiving a tongue. An elongated latch bar is slidably disposed in the cavity by surfaces in the cavity extending from the wall toward the opening for receiving the latch bar and for limiting movement of the latch bar to movement substantially perpendicular to the wall. A push button is positioned in the cavity for moving the latch bar between a latched position for engaging and retaining a tongue in the cavity and a release position for allowing the tongue to be removed from the cavity. A biasing member urges the latch bar to move to the latched position. The biasing member is positioned on one side of the latch bar and the push button is positioned on the other side of the latch bar. A cap is connected to the housing and disposed over the opening for retaining the push button, the latch bar and the biasing member in the cavity. There are three different modifications but in all of the modifications either the cap or the wall of the housing will have an aperture therein overlying the push button for access to the push button and the biasing member will react against the opposite of the cap and the wall. A primary feature of the assembly is the ease in which it may be assembled.

3,522,641
JOINT ALIGNMENT DEVICE
Leo L. Rizzo, State Road, York, Maine 03909
Filed Oct. 9, 1968, Ser. No. 766,072
Int. Cl. B65d *63/00*
U.S. Cl. 24—281 9 Claims

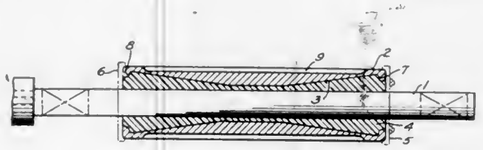


The disclosure relates to an alignment device which effectively locks the joint of standard flexible connections in the neutral position during storage, handling and installation thereby precluding misalignment during installation.

3,522,642
PROCESS FOR IMPROVING THE ELASTICITY OF WOVEN TEXTILES
Motohiro Tsuruta, Kyoto-shi, Hiroshiro Kimura, Akio Koshimo, and Hirohisa Nara, Kyoto-fu, Tokuju Goto, Nara-shi, and Kunio Amemiya, Kyoto-fu, Japan, assignors to Nippon Rayon Co., Ltd., Kyoto-fu, Japan, a Japanese body corporate
No Drawing. Filed Oct. 24, 1967, Ser. No. 677,769
Claims priority, application Japan, Oct. 28, 1966, 41/71,115
Int. Cl. D06c *3/00*
U.S. Cl. 28—76 8 Claims

The present invention relates to a method of improving the elasticity of woven textiles by a combination of (1) weaving to obtain a fixed yarn density, (2) scouring and heat setting to secure a fixed degree of shrinkage while the fabric is under a pre-determined tension of 20 to 80 kg./m., and then (3) shrinking the fabric in its warp direction by a controlled amount.

3,522,643
RESILIENT TABLE ROLLER
Robert L. Winkler, Bethlehem, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed Sept. 15, 1967, Ser. No. 667,889
Int. Cl. B21b *31/08*
U.S. Cl. 29—130 3 Claims



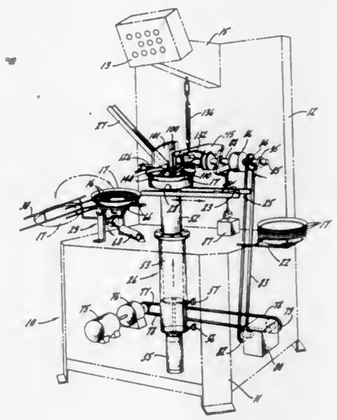
Mill approach table resilient roller which consists of three separate parts, namely, an external steel shell, an elastomer core and a central steel shaft, bonded together to form a unit assembly having favorable stress distribution.

3,522,644
WELDING METHOD FOR BEARING RACES AND OTHER ARTICLES
Erman V. Cavagnero, Torrington, Conn., assignor to Torin Corporation, a corporation of Connecticut
Continuation-in-part of abandoned application Ser. No. 473,948, July 22, 1965. This application Feb. 12, 1968, Ser. No. 706,217
Int. Cl. B21h *1/12;* B23k *31/02, 1/20*
U.S. Cl. 29—148.4 33 Claims



A fusion welding method for steel exceeding 0.4% carbon content where all such steel in the article which is integral with the weld surfaces is heated above the upper transformation temperature resulting in a superior weld and a sound article absent localized areas of martensite and other detrimental characteristics. Preheating, simultaneous heating, and/or post heating is employed and when an article is preheated, surfaces to be welded are maintained relatively cold to minimize oxidation. Surfaces to be welded are freshly exposed immediately prior to welding and in an extremely rapid sequence of operations and when preheating is employed; surface exposure, preheating and welding steps are carried out in rapid sequence to minimize oxidation. Surfaces are provided with V-shaped configurations novel to resistance upset butt welding.

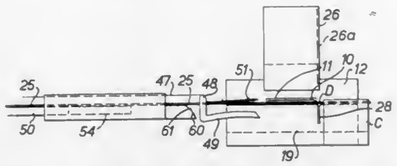
3,522,645
AUTOMATIC INSERT ASSEMBLING MACHINE
Thomas C. Kennicott, Janesville, Wis., assignor to Giddings & Lewis, Inc., Fond du Lac, Wis., a corporation of Wisconsin
Filed Mar. 8, 1968, Ser. No. 711,643
Int. Cl. B23p *19/04;* B23q *7/10*
U.S. Cl. 29—208 9 Claims



An assembly machine is described for automatically locating and fixing inserted parts in corresponding openings in a workpiece receptacle. The assembly mechanism includes individual means for stripping an insert from a feeding device and positioning it within the receptacle, for seating the insert in position, for inserting an index

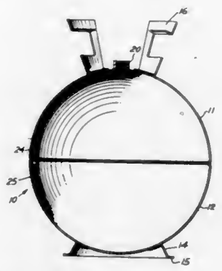
key into the next receptacle opening, for indexing the receptacle to bring the next opening into position, and for withdrawing the index key preparatory to positioning the next insert.

3,522,646
METHOD OF PRODUCING CLIPS FOR SPRINGS
James Sibthorp, Hill Farm Ave., Watford, Hertfordshire, England
Original application Nov. 14, 1966, Ser. No. 593,798. Divided and this application Oct. 25, 1967, Ser. No. 701,793
Claims priority, application Great Britain, Nov. 12, 1965, 48,174/65; Apr. 8, 1966, 16,951/66; Aug. 17, 1966, 36,839/66
Int. Cl. B23p *17/00*
U.S. Cl. 29—417 **8 Claims**



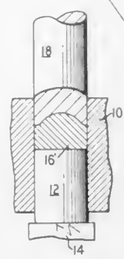
A metallic clip adapted to be closed round a journal-forming portion of a spring, particularly a sinuous spring such as is used in the making of furniture, the clip being of the type bent to a V-formation with a rounded bend, and with the characteristic that a separate formed channel-shaped liner of plastics material is nested in the bend of the clip after or during the formation of the clip, the liner being preferably mechanically gripped by the metal clip in the forming process. A method of making such a clip by feeding separate strips of metal and plastics material preferably at right angles to one another to a forming station, severing lengths of the metal strip and forming this to the shape of the clip with its rounded bend while simultaneously forming a portion of the plastics strip to provide the liner in the said bend of the clip and preferably while the formed length of plastics remains as an integral part of the plastics strip. The feed of the strip to the forming station takes place while the previously formed clip remains connected to the plastics strip, severing of that clip from the strip preferably taking place in the forming operation. A machine is described for so producing the said clips.

3,522,647
METHOD OF MAKING A SPHERICAL CONTAINER
Marvin L. Holcomb and John B. Winegardner, Columbus, Ohio, assignors to Lennox Industries Inc., a corporation of Iowa
Filed Feb. 19, 1968, Ser. No. 706,412
Int. Cl. B21d *39/02*
U.S. Cl. 29—463 **3 Claims**



A method of forming a spherical container comprising two like hemispherical sections, each having inwardly turned annular flanges at the open end lying in the plane of the open end. The hemispherical sections are maintained in precise aligned manner with the annular flanges in abutting relation and the hemispherical sections are rotated to apply a weld seam line of joinder between the two hemispherical sections.

3,522,648
SEALED HOLE AND METHOD OF PRODUCING
William B. Weber, Hayward, Calif., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Nov. 29, 1968, Ser. No. 779,742
Int. Cl. B21d *39/00;* **B23p** *11/02*
U.S. Cl. 29—522 **1 Claim**



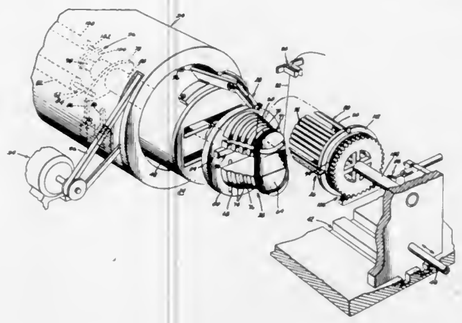
A sealed hole which has been formed in a part of a mechanical device as a necessary implement to construction, and must be tightly closed when the device is in operation, which is formed by the method of placing a slug or ball of ductile metal in the hole and upsetting or deforming the ball to create a close metal-to-metal bond between the metal of the ball and the sidewall of the hole.

Often in the manufacture of parts for assembly into a mechanical device, it is necessary to provide holes which must later be sealed. For example, locating pins in one part often extend into another part to insure precise positioning in assembly. Often the holes for these pins are drilled all of the way through one part and into the other part so that pins fitted in the one part will project into the hole in the other part for precise positioning. Though the pins are pressed into place, the fit is not such as to withstand fluid pressures of great magnitude and it is necessary to provide a seal in the hole behind the pin. One method of doing this has been by the use of an epoxy resin, but this has been unsatisfactory because the resin is often dissolved by solvents required in cleaning of the assembled parts. Other holes are sometimes drilled through castings to provide internal connecting fluid passages. It is convenient and expedient in some cases, to drill the hole from the exterior of the casting but the external portion of the hole must later be sealed.

3,522,649
METHOD OF PRODUCING ISOLATED FIELD EFFECT TRANSISTORS EMPLOYING PYROLYTIC GRAPHITE
Hans-Joachim Teuschler, Berlin, Germany, assignor to VEB Werk fur Bauelemente der Nachrichtentechnik, Carl von Ossietzky, Ernst-Thalmann, Teltow, Germany
No Drawing. Filed Apr. 25, 1969, Ser. No. 819,419
Int. Cl. H01l *11/14*
U.S. Cl. 29—571 **4 Claims**

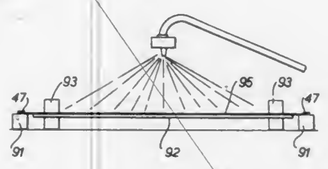
An isolated field effect transistor the semiconductor layer of which is constituted of lustrous carbon doped with an oxide or carbide of an element of Group IV of the Periodic System. This layer may be prepared by pyrolyzing in the presence of an alkali-free substrate for the layer a compound the pyrolysis of which yields both the carbon and the oxide or carbide.

3,522,650
PROCESS FOR DEVELOPING WOUND COILS FOR ELECTROMAGNETIC DEVICES
Arthur S. Cutler, De Kalb, Ill., and Dallas F. Smith, Fort Wayne, Ind., assignors to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 594,463, Nov. 15, 1966. This application Apr. 2, 1969, Ser. No. 812,590
Int. Cl. H02k *15/00*
U.S. Cl. 29—596 **9 Claims**



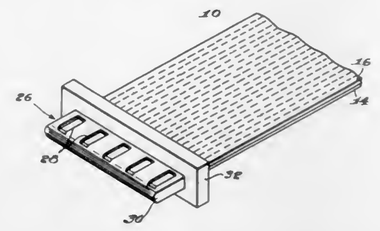
Method for developing electrical coil groups formed of a number of coils in a coil group-accommodating member for ultimate transfer into selected slots of a magnetic core. The coil group-accommodating member is supported adjacent a noncollapsible, longitudinally movable coil form in position to receive the coil group. The coils in each coil group are developed by winding turns of a given coil on the noncollapsible form and concurrently moving some of the turns from the form into the accommodating member where the individual coil groups are finally developed. The noncollapsible coil form is periodically moved longitudinally to produce coils of differing spans during the development of each coil group.

3,522,651
METHOD OF MANUFACTURING LAMINATED TRANSPARENT PANELS INCORPORATING AN ARRAY OF CRIMPED HEATING WIRES
John Ernest Powell, Birmingham, and Malcolm Walter Lacey, Tipton, England, assignors to Triplex Safety Glass Company Limited, London, England, a British company
Original application May 5, 1965, Ser. No. 453,433. Divided and this application Mar. 18, 1969, Ser. No. 825,477.
Claims priority, application Great Britain, May 5, 1964, 18,599/64; Jan. 28, 1965, 3,728/65
Int. Cl. H05b *3/00*
U.S. Cl. 29—611 **2 Claims**



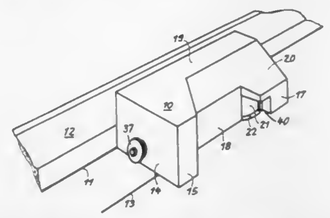
A method of crimping arrays of heating wires prior to their incorporation in transparent panels, such as the backlights of automobiles, so that light diffraction is reduced. The method comprising the steps of passing the array between a pair of rotating ribbed rollers which mesh with each other, so that each wire is formed with undulations, and then pressing the ends of the wires against a sheet of transparent material which is to form part of a laminated panel, so that they rotate in random manner and the undulations lie in the same plane as the sheet, then securing the wires to the sheet.

3,522,652
METHOD OF MAKING AN ELECTRICAL CIRCUIT ASSEMBLY
Herman Gordon, Maricopa, Ariz., assignor to Rogers Corporation, Rogers, Conn., a corporation of Massachusetts
Filed Sept. 15, 1967, Ser. No. 667,939
Int. Cl. H02g *15/00*
U.S. Cl. 29—629 **6 Claims**



Flat flexible insulated electrical cable having a plurality of parallel conductors is provided with a terminating device molded thereto wherein the insulation of the flexible cable is mechanically removed from one side of the flat cable prior to assembly with the terminating device. After assembly, portions of the conductors from which the insulation has been previously removed on one side are exposed through openings in the terminating device for connection to a corresponding receptacle.

3,522,653
APPARATUS FOR ERASING
Marco Geissmann, Kilchberg, Switzerland, assignor to Wilhelm Dahle, Metallwarenfabrik, Coburg, Germany, a company of Germany
Filed Apr. 5, 1967, Ser. No. 628,728
Claims priority, application Switzerland, Apr. 5, 1966, 4,969/66
Int. Cl. B43l *19/02*
U.S. Cl. 30—169 **9 Claims**



An apparatus for erasing, especially for the erasure of inked lines or other markings made on transparent drafting paper or the like. The apparatus incorporates a holder for a blade having a cutting edge which exerts a scraping-type action on the paper so as to carry out the erasure. Additionally, there is provided at least one support element which cooperates with the cutting edge of the blade for untiltably supporting the blade, and further, at least one element for guiding the blade along the line which is to be erased. The blade itself is supported at the holder means in such a manner that the cutting angle of the blade with respect to a plane defined

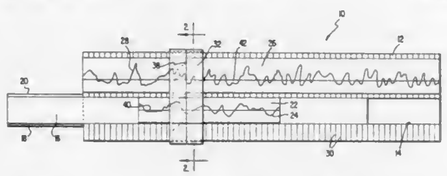
by the support element and the cutting edge is greater than 90.°

3,522,654
WAXING TOOL
Willy A. E. Schoelz, 12716 SW. Edgecliff Road, Portland, Oreg. 97219
Continuation-in-part of application Ser. No. 495,100, Oct. 12, 1965. This application Apr. 24, 1968, Ser. No. 730,971
Int. Cl. A61c *9/00*
U.S. Cl. 32—70 **8 Claims**



The tool includes a handle portion and a nozzle portion. The handle portion includes an innermost metallic tube which receives sticks of wax, and the nozzle portion has a passageway through which molten wax is discharged. A heating element in the handle portion melts the wax, and the handle portion has insulating means. The nozzle portion has an on-off valve therein as well as a volume control. Electric-control means vary the temperature of the tool.

3,522,655
APPARATUS AND METHOD FOR DETERMINING THE CORRELATION COEFFICIENT OF TWO GRAPHICAL TRACES
Ellen F. Kilpatrick, Tulsa, Okla., and John Bemrose, deceased, late of Tulsa, Okla., by Elsie Hildegard Bemrose, administratrix, Tulsa, Okla., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 2, 1967, Ser. No. 672,397
Int. Cl. G06g *3/00*
U.S. Cl. 33—1 **7 Claims**

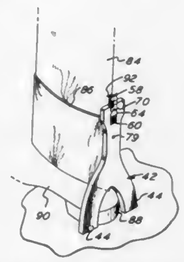


An apparatus for and a method of determining the correlation coefficient $\rho\ (x, y)$ of two graphical traces, x and y. A horizontal reference line is located through each trace, for example at its mean value. One trace is mounted horizontally upon a slider movazle within the body of the correlation apparatus, and the other trace is mounted horizontally directly on the body of the instrument, above the slider. The slider is moved to vertically align the traces at what appears to be good correlation. A plurality of equispaced reference points are located along the traces. At each reference point the two traces are deemed to correlate if they both lie on the same side of their reference line. If they lie on opposite sides, they are deemed not to correlate. The correlation coefficient $\rho\ (x, y)$, is then given by

$$\rho(x, y) = \sin \frac{(N_1 - N_2)]\pi}{[2(N_1 - N_2)]}$$

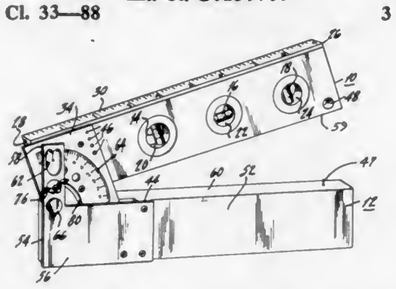
where N_1 is the number of reference points at which the traces correlate and N_2 is the number of reference points at which the traces do not correlate.

3,522,656
METHOD AND APPARATUS FOR MEASURING AND MARKING TROUSER LEGS FOR DETERMINING THE LENGTH THEREOF
Joseph A. Paranzino, Cherry Hill, N.J., assignor to H. Daroff & Sons, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 12, 1967, Ser. No. 674,841
Int. Cl. A41h *9/02*
U.S. Cl. 33—2 **3 Claims**



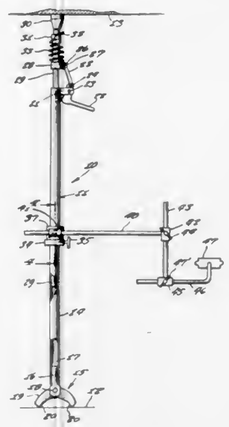
A method and apparatus for measuring and marking men's trousers. The apparatus includes an elongated member for enabling marking of each leg of the trousers a predetermined height above the floor and a layout member. A layout member is provided which includes a longitudinally extending line and a plurality of spaced lines which extend transversely to the longitudinal line. A first one of the lines corresponds to the mark on the legs and a second one of the lines corresponds to the final length of the trousers. The trouser legs are then finished by placing the inseam of each of the legs over the longitudinal line and aligning the marks on the legs with the first line and finishing the trousers at the second line.

3,522,657
COMBINATION LEVEL, RULE AND PROTRACTOR DEVICE
Raymond R. Metrulis, 5 Franklin Place, Massapequa, N.Y. 11758
Filed Feb. 19, 1969, Ser. No. 800,507
Int. Cl. G01c *9/00*
U.S. Cl. 33—88 **3 Claims**



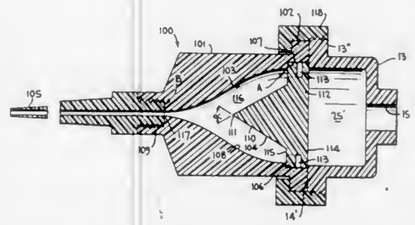
A compact device is provided which includes within two longitudinally extending arm members a level, rule, protractor and drill bit size gauge.

3,522,658
ELECTRICAL OUTLET BOX LOCATER
John F. Howell, Box 314, Robbinsville, N.C. 28771
Filed May 22, 1968, Ser. No. 731,129
Int. Cl. G01b *3/30*
U.S. Cl. 33—180 **4 Claims**



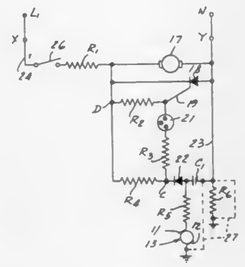
A device for marking the exact place to cut openings in wall panels during wall construction, after the electrical outlet boxes have already been installed, a stationary stand which carries a template that is adjustable to the location of the electrical outlet box, the template being positioned adjacent the front side of the wall panel after the same has been installed over the electrical outlet box, thereby indicating the exact position of the outlet box behind the wall panel, the device including the stand which is securable between a floor and a ceiling of a room, the stand carrying a pivotable arm to which the template unit is secured.

3,522,659
METHOD AND APPARATUS FOR TREATING SOLID MATERIAL IN PARTICULATE OR FIBROUS FORM
Ralph A. Welch, 2470 Lane Road, Columbus, Ohio 43221
Filed May 14, 1968, Ser. No. 729,051
Int. Cl. F26b *3/00*
U.S. Cl. 34—22 **15 Claims**



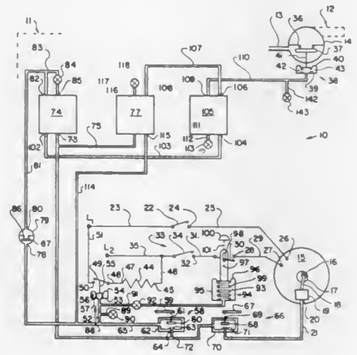
A method and apparatus for treating solid material in either particulate or fibrous form with a gas under pressure within a chamber defined by outer and inner boundary surfaces of revolution disposed in axial alignment, wherein the outer boundary surface has a relatively small diameter end portion thereof forming an outlet for the chamber and the inner boundary surface is of conically shaped configuration having the reduced diameter end portion thereof disposed in a spaced, facing relationship with respect to the chamber outlet. Pressurized gas is introduced into the chamber, as one or more defined streams or jets, and directed into initial surface engagement with one of the boundary surfaces at a point spaced from the chamber outlet along a line disposed obliquely of the axes of the boundary surfaces for the purpose of creating a gas flow pattern within the chamber suitable for various material treating processes.

3,522,660
ELECTRONIC DRYNESS CONTROL
Alvin J. Elders, Stevensville, Mich., assignor to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware
Filed May 28, 1968, Ser. No. 732,767
Int. Cl. F26b *19/00*
U.S. Cl. 34—45 **6 Claims**



A dryness control for a laundry machine which results in safe and consistent performance regardless of grounding of the machine, the way the plug of the service cord is inserted in an electrical outlet or the existence of exposed metal parts in the dryer drum. An electrical resistance is connected between one of the power input leads and a moisture sensing electrode which senses dryness of the fabric within the dryer.

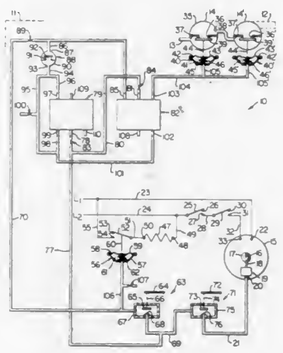
3,522,661
PNEUMATIC CONTROL SYSTEM AND METHOD
Douglas R. Scott, Elkhart, Ind., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Apr. 1, 1968, Ser. No. 717,586
Int. Cl. F26b *21/06*
U.S. Cl. 34—46 **35 Claims**



This disclosure relates to a pneumatic control system for a clothes dryer wherein the flow of fuel to the main

burner means is pneumatically controlled in such a manner that the ignition means for the main burner means must be first pneumatically actuated before the pneumatic control system will pneumatically open the fuel supply means to the main burner means, the control system including pneumatically operated logic units to assure that the ignition means is always pneumatically operated before the main burner means can be pneumatically operated to its on condition each time there is a requirement to turn on the main burner means.

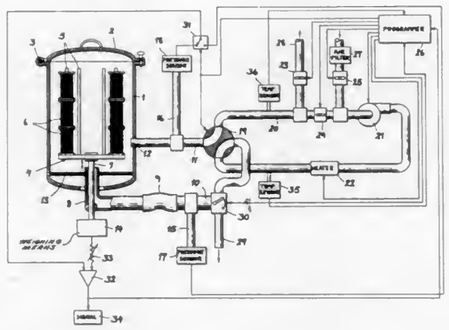
3,522,662
PNEUMATIC CONTROL SYSTEM FOR A FUEL BURNING APPARATUS OR THE LIKE
Klaus P. Mueller, Goshen, Douglas R. Scott, Elkhart, and Kenneth G. Kreuter, Goshen, Ind., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed May 28, 1968, Ser. No. 732,784
Int. Cl. F26b *21/06*
U.S. Cl. 34—46 **22 Claims**



This disclosure relates to a pneumatic control system for a clothes dryer wherein the flow of fuel to the main burner means is pneumatically controlled in such a manner that the ignition means for the main burner means must be first pneumatically actuated before the pneumatic control system will pneumatically open the fuel supply means to the main burner means, the control system including a pneumatically operated logic memory unit to assure that the ignition means is always pneumatically operated before the main burner means can be pneumatically operated to its on condition by a pneumatically operated nand unit each time there is a requirement to turn on the main burner means.

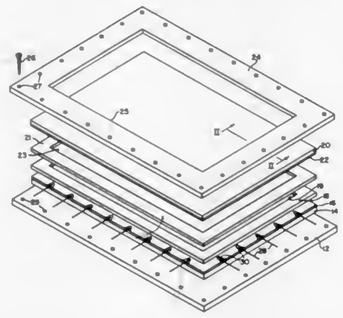
3,522,663
APPARATUS FOR DRYING WET-TREATED GOODS
Alfons Grimmelt, Coesfeld, and Josef Heim, Bensberg-Refrath, Germany, assignors to Jagri G.m.b.H., Maschinen und Apparatebau, Gescher, Westphalia, Germany, a corporation of Germany
Filed Apr. 23, 1968, Ser. No. 723,413
Int. Cl. F26b *21/00*
U.S. Cl. 34—54 **7 Claims**

Wet-treated goods, such as spools of yarn subjected to a dyeing process, are mounted in a drying chamber on a support bearing upon a sensitive weighing device, such as a strain gauge, while being subjected to a circulating fluid such as hot air. The output of the weighing device, indicative of the amount of moisture present, is fed to a differential amplifier together with the output of a pressure sensor which, by measuring the pressure of the admitted fluid whose presence inside the chamber affects the apparent weight of the goods, introduces a corrective factor; when the amplifier output reaches a value indicative



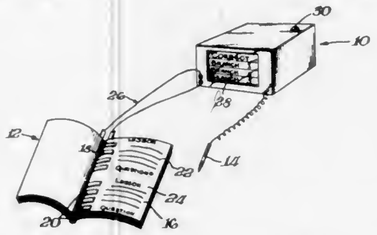
of a predetermined degree of dryness, a signal is actuated and/or a programmer responds to modify or terminate the drying operation.

3,522,664
INTERFACE DEVICE AND DISPLAY SYSTEM
John E. Lambright, Monroeville, Bruce R. Dow, Murrysville, and Clyde A. Booker, Jr., Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 20, 1967, Ser. No. 684,293
Int. Cl. G09b *7/00*
U.S. Cl. 35—8 **3 Claims**



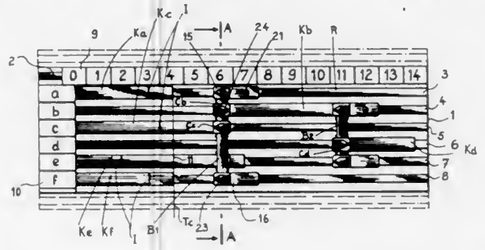
This invention relates to an interface device including a transparent, flexible member which is coated with a suitable transparent, electrically conductive layer, and a transparent base member which has been coated with a layer of a resistive material. The flexible and base members are supported in a spaced relationship so that when pressure is applied to the flexible member it will be placed into contact with a particular portion of the layer of resistive material. Sets of diodes may be connected to the layer of resistive material and a source of alternating potential may be connected to the sets of diodes to successively direct currents along the X, Y coordinates of the layer of resistive material. When the flexible layer is brought into contact with the layer of resistive material, a signal is derived from the conductive layer which is indicative of the X, Y position of the point of contact. Such an interface device may be incorporated into a display system in which signals indicative of the X, Y coordinates of the point of contact may be used to control the image which is seen through the interface device.

3,522,665
TEACHING SYSTEM
Charles G. Kalt, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Dec. 12, 1967, Ser. No. 689,980
Int. Cl. G09b *7/08*
U.S. Cl. 35—9 **21 Claims**



Encoded information coordinated with information bearing indicia of a sheet is selectable by a person for coupling to a control unit for communication of selected information thereto in accordance with the person's comprehension of said indicia.

3,522,666
CHRONOLOGICAL BARS PROGRAMMING BOARD
Charles Jean Roger Sarthou, 52 Avenue Egle, 78 Maisons-Laffitte, France
Filed Oct. 30, 1967, Ser. No. 678,925
Claims priority, application France, Nov. 8, 1966, 82,918; July 3, 1967, 112,867; Sept. 26, 1967, 122,367
Int. Cl. G09b *19/18*
U.S. Cl. 35—24 **5 Claims**



The invention relates to programming methods, such as the PERT method, which make use of arrow networks.

The instant invention more particularly provides a planning board of universal use which is topologically equivalent with an arrow network and includes "chronological bars" provided with selector means.

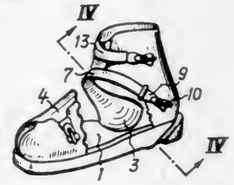
3,522,667
FIRING TRAINING SIMULATORS FOR REMOTELY - CONTROLLED GUIDED MISSILES
Pierre de Guillenchmidt, Neuilly-sur-Seine, and Paul Gabriet, Boulogne, France, assignors to Giravions Dorand, Suresnes, Hauts-de-Seine, France, a company of France
Filed Dec. 21, 1967, Ser. No. 692,354
Claims priority, application France, Feb. 20, 1967, 95,567
Int. Cl. F41g *3/26*
U.S. Cl. 35—25 **3 Claims**

The combination with a simulator reproducing optically the apparent displacements of a guided missile through a landscape from a firing point towards a target. The simulator comprises a sight and a semi-transparent mirror through which a firer may observe the landscape and the target. A projecting system includes a source of light and is capable of superimposing on the landscape by reflection on said semi-transparent mirror a luminous virtual image representing the guided missile. Manually operable control means are connected to a movable member of the projecting system to impart to the virtual image, from an initial position corresponding to the firing point, azimuth and elevational displacements relative to a line of sight defined by an optical axis of said sight, of a system for simulating automatic guidance control comprising a radiation detector linked to the sight, and radia-



tion emitting means linked to the projecting system so that said detector detects the position of the radiation emitting means and thereby the position of the virtual image relative to the line of sight. The detector means for measuring the deviations of the radiation emitting means due to deviations of the virtual image relative to the line of sight. Means are provided for convertintg the measured deviations to correction signals, and means for transmitting the correction signals to the virtual image in line of sight.

3,522,668
SPORTS BOOT, ESPECIALLY SKI BOOT
Franz Fesl, Dachauerstrasse 11, Furstenfeldbruck, Germany
Filed Apr. 1, 1968, Ser. No. 717,860
Claims priority, application Germany, Apr. 8, 1967, F 52,078
Int. Cl. A43b
U.S. Cl. 36—2.5 **11 Claims**



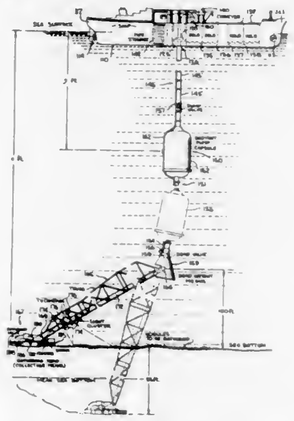
A sports boot, in particular a ski boot, incorporating an inner sole and a support member for the arch of the foot depending from such inner sole and spaced from the heel. This support member includes an extended portion which provides a tension strap which can be guided to the opposite outer side of the boot.

3,522,669
ATHLETIC SHOE
Morris Simons, Arvada, Colo., assignor to Coors Porcelain Company, Golden, Colo., a corporation of Colorado
Continuation of application Ser. No. 635,482, May 2, 1967. This application Feb. 28, 1969, Ser. No. 805,107
Int. Cl. A43c *15/00*
U.S. Cl. 36—67 **5 Claims**



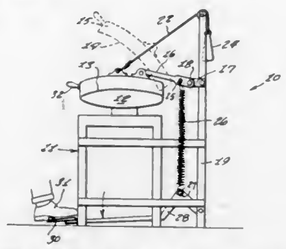
An athletic shoe having alumina-base ceramic spikes with upper end portions embedded in and bonded to the shoe sole.

3,522,670
APPARATUS FOR UNDERWATER MINING
John E. Flipse, Gloucester, Robert M. Donaldson, Hampton, and John L. Stevens, Jr., John L. Mero, Joseph D. Deal, Jr., Norman D. Birrell, Nicholas E. Oresko, Luther E. Spencer, and Alfred E. Graham, Newport News, Archer L. Jones, Hampton, Ira L. Hirshman, Newport News, Frederick S. Todd, Yorktown, and William A. Himes, Newport News, Va., assignors to Newport News Shipbuilding and Dry Dock Company, Newport News, Va., a corporation of Virginia
Continuation of application Ser. No. 332,999, Dec. 24, 1963. This application July 11, 1967, Ser. No. 652,622
Int. Cl. E02f *3/92;* **B63b** *35/02;* **G01s** *9/68*
U.S. Cl. 37—58 **11 Claims**



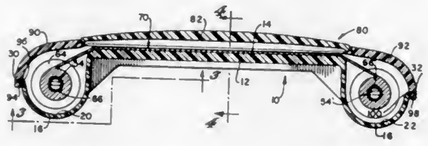
A unique seagoing vessel especially constructed and having stored thereon unconnected unique components of an underwater mining apparatus for mining valuable solid materials from the bottom of the sea assembled components of the apparatus are used for actual underwater mining at varying depth in excess of about 400 feet beneath the surface of the sea to adjacent the sea bottom. The ship is provided with equipment for handling and operatively assembling individual components of the apparatus one-by-one and for lowering the same from the ship to a mining operation adjacent the sea bottom. When the ship with its properly assembled and uniquely depended and attached apparatus, is moved relative to the sea surface a successful mining operation of solids is effected. When necessary assembled components may be disassembled and recovered.

3,522,671
GARMENT PRESS
Etta A. Vincent, Rte. 1, Box 119, Loma, Colo. 81524
Filed Aug. 9, 1968, Ser. No. 751,487
Int. Cl. D06f *71/08*
U.S. Cl. 38—36 **5 Claims**



An improved pressing machine for the pressing of garments, the device including a frame supporting a lower press or buck over which a heating unit or head is pivotable between a pressing and a non-pressing position, the head having one end of a cord secured thereto, the opposite end of the cord extending over a pulley and having a counter-weight secured to the terminal end thereof so as to counter-balance the weight of the head.

3,522,672
MAP HOLDER AND VIEWER
Fred W. Hinds, P.O. Box 2565, San Bernardino, Calif. 92406
Filed May 24, 1968, Ser. No. 731,999
Int. Cl. G09f *11/24*
U.S. Cl. 40—86 **10 Claims**



A base portion includes a transparent intermediate map support portion and reel support means at opposite ends thereof including recesses for receiving and supporting a reel therein. A movable drive shaft is associated with each recess for turning a reel disposed therewithin. A cover means includes a central transparent lens portion for reading a map, and opposite ends of the cover portion close off the recesses in the base portion and are adapted to snap over projections provided at opposite ends of the base portion for holding the cover portion in operative position.

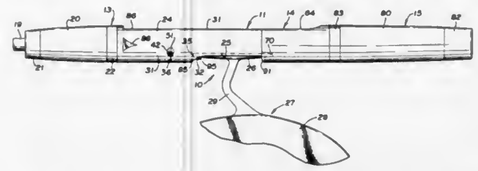
3,522,673
RETRIEVABLE ENCAPSULATED ARTICLE AND METHOD OF MAKING AND RETRIEVING SAME
Roger W. Dudley, Falls Church, Va., assignor to Top-A-Telix Corporation, Washington, D.C.
Filed Sept. 20, 1967, Ser. No. 669,042
Int. Cl. G09f *1/10*
U.S. Cl. 40—158 **9 Claims**



An article to be retrieved is enclosed within a protective envelope means which in turn is embedded within the central portion of a body of material. The envelope means and the body of material are formed of transparent material so that the article may be displayed. The article may be retrieved by penetrating and gaining access by any suitable means to the embedded article through the surrounding body of material and the envelope means so that the article is not damaged.

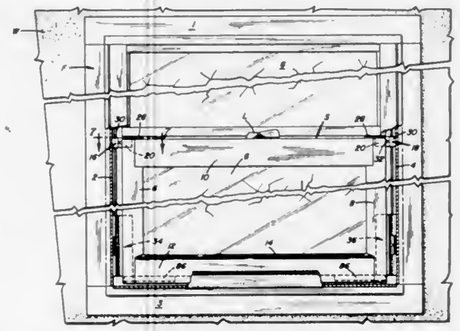
3,522,674
REEL MOUNT FOR SPINNING RODS
Benjamin T. Hardesty, Akron, Ohio, assignor, by mesne assignments, to Columbia Products Company, Columbia, S.C., a corporation of South Carolina
Filed June 20, 1968, Ser. No. 738,607
Int. Cl. A01k *87/06*
U.S. Cl. 43—22 **7 Claims**

A reel mount for the handle on a fishing rod of the spinning type. An axially oriented reel seat in the handle of the spinning rod terminates in opposed slideways, one at each end of the reel seat, that are undercut into the slender handle. A first hood means is slidably received in one of said slideways and is selectively positionable therein, axially of the handle, by a lock means. An opposed, second hood means is slidably received in the other of said slideways. A spring means biases the second hood



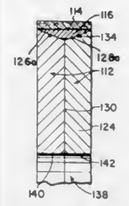
means toward said first hood means to clamp the mounting foot of a spinning reel therebetween and against the reel seat.

3,522,675
WINDOW CONTROL
Thomas J. Metzger, 1720 2nd St. SE., Moultrie, Ga. 31768
Filed Oct. 11, 1968, Ser. No. 766,737
Int. Cl. E05d *13/08*
U.S. Cl. 49—451 **12 Claims**



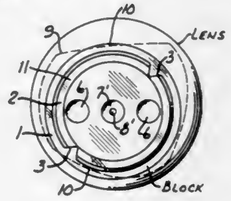
A slidable sash that is removable from a window frame for cleaning or repair and is provided with a brake to hold the sash in a set position in the frame. The corners of the sash are provided with guides that bear on the window frame. The guides at the upper corners are screwed to the sash. Each of the guide structures at the lower corners is retained by a locking mechanism that can be operated by the fingers to withdraw the guide from the sash. The lower guides are provided with a braking mechanism to lock the sash in the set position. Removal of the guides permits the sash to be withdrawn from the frame.

3,522,676
PERIPHERAL GRINDING WHEEL
Harold C. Miller, Chicago, Ill., assignor to Super-Cut, Inc., Chicago, Ill., a corporation of Illinois
Filed Dec. 13, 1967, Ser. No. 690,201
Int. Cl. B24d *7/02*
U.S. Cl. 51—206 **4 Claims**



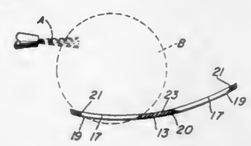
A peripheral abrasive grinding wheel in which the annular grinding member is formed from powdered materials by the application of radial pressure in the presence of heat. Radial pressure is applied to the grinding member by establishing an annular mold cavity, the inner wall of which is in the form of a backing ring, which, when heated, becomes sufficiently ductile that it may be stretched to enlarge its radial dimension, thus compressing the materials in the cavity radially, and also bonding such inner wall to the compressed grinding member so that it becomes a permanent backing ring therefor when the other mold walls are removed.

3,522,677
METHOD FOR GENERATING A LENS
Richard J. McCall, Summer Hill, and Robert C. Irwin, Stony Creek Township, Pa., assignors, by mesne assignments, to Shuron/Continental Division of Textron Inc., Rochester, N.Y. and Providence, R.I., a corporation of Rhode Island
Filed May 1, 1967, Ser. No. 635,232
Int. Cl. B24b *1/00*
U.S. Cl. 51—284 **1 Claim**



A lens block is molded around a removable, resilient shield plug, which registers with the ocular vertex surface area of the blank, so that the block will have reference surfaces which locate the lens horizontal layout line and permit the blocked lens to be properly chucked first in a lens edge grinding machine and then in a surfacing machine for generating the lens to prescription. The plug is removable to permit checking the lens through the exposed ocular vertex area, to monitor the progress of the generating operation.

3,522,678
GRINDING METHODS
Harold W. Scholin, Park Ridge, Ill., assignor to Unirazor, Ltd., Northbrook, Ill., a corporation of Delaware
Original application May 3, 1965, Ser. No. 452,787. Divided and this application July 12, 1967, Ser. No. 652,743
Int. Cl. B24b *1/00*
U.S. Cl. 51—285 **2 Claims**

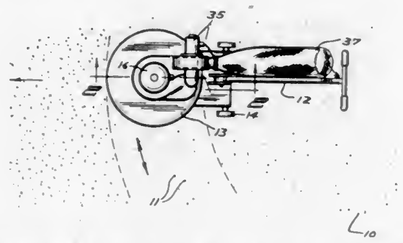


Method of forming a cutting edge at the margin of a circular hole in a sheet metal plate by applying a stream of fluid to the surface of a spherical grinding ball, thereby spinning the grinding ball about a plurality of axes in situ on the plate at the opening.

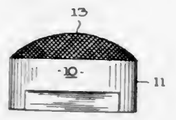
3,522,679
CONCRETE ABRADING WITH FREE ABRASIVE MACHINE AND METHOD
Bertil J. Sundberg, Minneapolis, Minn., assignor to Tennant Company, Minneapolis, Minn., a corporation of Minnesota
Filed Aug. 14, 1967, Ser. No. 660,267
Int. Cl. B24b *1/00, 23/00*
U.S. Cl. 51—317 **6 Claims**

This disclosure presents a method of abrading surfaces, and in particular, concrete, terrazzo, or similar surfaces.

The abrading, as disclosed, comprises the use of a loose abrasive (discrete particles) spread onto the surface, and then worked against the surface with suitable abrading pads to remove films, paint, or bonded material from the surface. In addition, machines utilizing a disc with a plurality of steel pads rotating in a plane parallel to the surface being abraded for working the abrasive across the surface are disclosed. The method teaches the depositing of the free abrasive on the surface to be abraded, then moving a powered rubbing pad over the surface to work the abrasive upon the surface and remove the coatings from the surface. In one form the abrasive can be spread as uniformly as possible over the surface and a single abrading member machine is used. When a self-propelled machine having counter rotating abrading members is used, the abrasive is deposited in a small windrow between the abrading members.

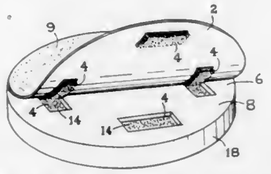


3,522,680
EXPANDED METAL FACING FOR A LENS ABRADING TOOL
George M. J. Sarofeen, P.O. Box 188, Colonial Heights, Va. 23834
Filed Mar. 23, 1967, Ser. No. 625,366
Int. Cl. B24d *17/00*
U.S. Cl. 51—358 **1 Claim**



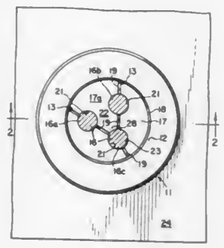
A replaceable facing for a lens abrading tool fabricated from expanded metal sheeting and having a pressure sensitive adhesive on one side thereof with a removable non-adhesive layer on the adhesive material.

3,522,681
RUBBING APPARATUS
Gerald Lampert, 21 Prince Charles Drive, Toronto 19, Ontario, Canada
Filed Dec. 18, 1968, Ser. No. 784,608
Int. Cl. B24d *17/00*
U.S. Cl. 51—358 **4 Claims**



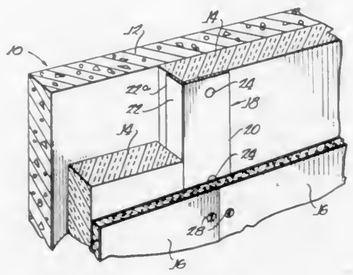
A sheet of sandpaper supported on a platen; the sandpaper being releasably attached to the platen by recessed grippers formed of a piled fabric of the type known commercially as Velcro (trademark).

3,522,682
MULTIPLE TENDON ANCHORAGE
James W. Howlett, Richmond Annex, and George H. Howlett, Oakland, Calif., assignors to Howlett Machine Works, a corporation of California
Filed Mar. 8, 1968, Ser. No. 711,608
Int. Cl. E04c *3/10, 3/26*
U.S. Cl. 52—223 **10 Claims**



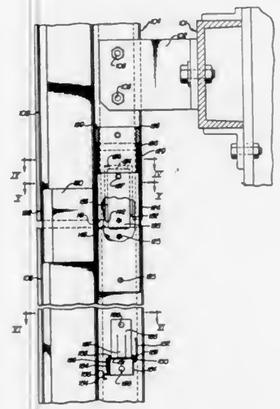
A tendon anchorage for use in connection with pretensioning and post-tensioning concrete is disclosed wherein the anchorage includes an axially convergent bore in which a plurality of wedges are mounted for simultaneous convergent movement and are formed to receive and clamp tendons between opposed faces thereof. The wedges are supported between the center-most or apex portion of the wedge and the peripheral bore engaging wall to avoid fatiguing and failure of the wedges under forces generated by clamping of the tendons while not substantially lessening the clamping forces. A variety of structures suitable for providing this support are disclosed.

3,522,683
WALL ASSEMBLY
John K. Wise, Glenview, Ill., assignor to United States Gypsum Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 11, 1968, Ser. No. 766,703
Int. Cl. E04b *2/28, 1/88*
U.S. Cl. 52—378 **3 Claims**



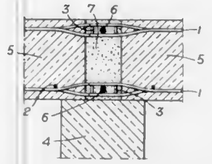
The wall assembly described includes a masonry exterior wall, overlying panels of insulation material, a furring support arrangement including an elongated metal angle member along one edge of each insulating panel with one flange overlying the adjacent edge portion of the panel and a second flange over the adjacent edge surface of the panel but terminating short of the support wall, support fasteners extending through the overlying flange and the underlying insulating panel and penetrating the support wall, and gypsum wallboard panels secured to the overlying flange.

3,522,684
WATER BARRIER COUPLING MEANS FOR VERTICAL MULLIONS
Abraham Grossman, 9339 Rhea, Northridge, Calif. 91325
Original application Oct. 18, 1967, Ser. No. 676,240. Divided and this application Jan. 3, 1969, Ser. No. 788,793
Int. Cl. E04b *2/88;* **E04c** *3/32;* **E04h** *1/04*
U.S. Cl. 52—393 **10 Claims**



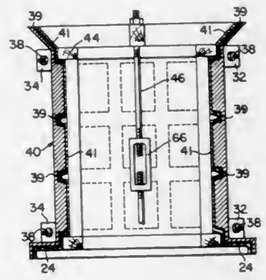
A curtain wall construction including vertical mullions anchored to a building structure and horizontal members supported from the mullions and readily assembled therewith in interlocking fashion and for permitting expansion and contraction of the horizontal members. Vertical mullions are coupled or spliced together by telescopic sleeve means to provide a weatherproof and water barrier construction. Curtain wall panels are held in assembly by separable molding clip means associated with the vertical mullions and horizontal members and by external retainer means carried by the horizontal members under resilient pressure.

3,522,685
MESH REINFORCEMENT FOR REINFORCED CONCRETE STRUCTURES
Georgi Oroschakoff, Simon-Denk-Gasse 7, Vienna 9, Austria
Continuation of application Ser. No. 679,854, Nov. 1, 1967. This application Aug. 11, 1969, Ser. No. 850,334
Claims priority, application Austria, Apr. 6, 1967, A 3,290/67
Int. Cl. E04b *2/20;* **E04c** *2/42*
U.S. Cl. 52—432 **6 Claims**



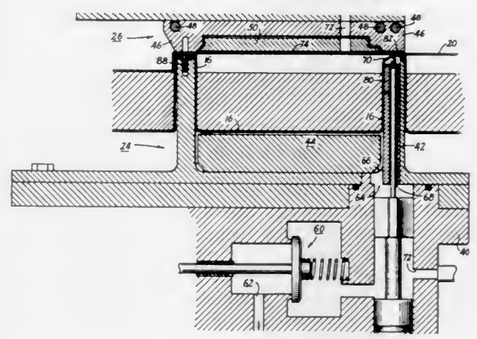
A plurality of laterally spaced, transverse distributors are provided, which extend at least in part in a common plane. A plurality of laterally spaced, double longitudinal bars are provided, each of which consists of two individual longitudinal bars, which are laterally spaced and individually connected to said transverse distributors, and additional connecting means interconnecting the two individual longitudinal bars of each double longitudinal bar.

3,522,686
METHOD OF FABRICATING PLASTIC STRUCTURES
Donald W. Gordon and Edwin Axel, Jenkintown, Pa., assignors to E Don Corporation, Jenkintown, Pa., a corporation of Pennsylvania
Filed May 19, 1969, Ser. No. 825,785
Int. Cl. B29c *5/02*
U.S. Cl. 52—745 **3 Claims**



The method of fabricating a structure of plastic materials including the steps of preparing a multi-sided mold of desired configuration, assembling the mold sides in edge to edge juxtaposition to enclose the entire configuration of the finished structure, spraying selected, unmasked portions of the surfaces of the mold with a gel-coat material conforming to the color desired in the finished structure, drying the said gel-coat material for the required period, spraying the entire inside surface of the said mold with fiber glass or other plastic material to build up a thickness of plastic material, adding vertical and horizontal structural support members within the mold and embedded within the plastic material to supply rigidity and strength to the completed unit.

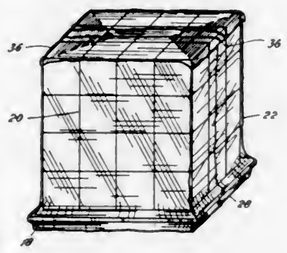
3,522,687
SINGLE-CHAMBER PACKAGING MACHINE FOR SEMI-RIGID PACKAGES
Reid A. Mahaffy, Montclair, N.J., assignor to Mahaffy & Harder Engineering Company, Totowa, N.J.
Filed Jan. 14, 1969, Ser. No. 790,915
Int. Cl. B65b *31/02*
U.S. Cl. 53—22 **10 Claims**



Packaging apparatus of the type comprising a die adapted to receive a plastic cup-shaped container having

sealing surfaces extending around the mouth thereof, a clamp cooperable with the die to form a single closed chamber within which a package may be completed by heat sealing a top to the container while simultaneously evacuating the package; and heater means supported on the clamp to apply heat to the marginal portions of the plastic top immediately inboard of the seal line to soften the plastic in those marginal portions and render it readily stretchable, whereby, upon venting, atmospheric pressure forces the central portion of the plastic sheet inwardly against the product and the marginal portions are stretched substantially.

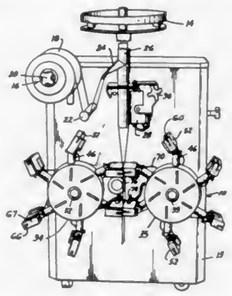
3,522,688
METHOD OF ENVELOPING A LOADED PALLET IN A CONFORMING PLASTIC FILM
Karl Kallwoda, Munich, Walter Schuran, Graefelfing, and Heinrich Everhartz, Munich, Germany, assignors to Alkor-Oberlikon Plastic G.m.b.H., Munich, Germany
Filed Oct. 18, 1967, Ser. No. 676,216
Claims priority, application Germany, Oct. 19, 1966, A 53,827
Int. Cl. B67b *43/02*
U.S. Cl. 53—30 **10 Claims**



A method of shrink-wrapping a loaded pallet in a plastic film, in which a bag of shrinkable plastic film is pulled over the load and the pallet until the rim about the open bottom end of the bag projects beyond a downwardly directed exposed face on the pallet. When the bag is thereafter exposed to adequate heat while upward movement of its rim is restrained, the shrinking bag conformingly envelops the loaded pallet and is anchored by engagement with the downwardly directed face of the pallet.

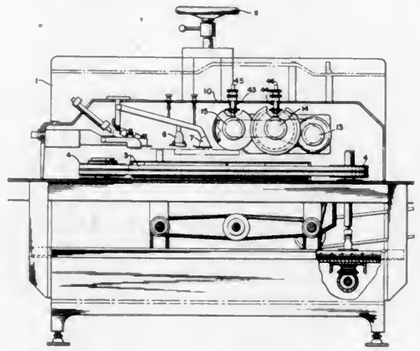
3,522,689
SEAL FORMING MACHINE FOR FORMING SUCCESSIVE TRANSVERSE-SPACED SEALS BETWEEN THE PLIES OF A PLURAL-PLY STRIP IN A PACKAGING OR OTHER APPARATUS
James C. Wylie and Robert L. Gussman, Houston, Tex., assignors, by direct and mesne assignments, to Econ-O-Line Manufacturing Company, Houston, Tex., a corporation of Texas
Filed Aug. 21, 1967, Ser. No. 661,851
Int. Cl. B65b *51/30*
U.S. Cl. 53—182 **17 Claims**

A packaging machine for forming a continuous web of heat-sealable material into a tubular form and then providing transverse seals between opposed sides of the tube to divide the tube into individual packages at the time the individual packages are filled. Tubular-forming means forms a web of material into tubular form and provides a longitudinal seal. Filling means are aligned with the formed tube. A pair of oppositely-rotating wheels are located under the tubular-forming means. The wheels are provided with a plurality of spaced bores in each of which is positioned a reciprocating plunger. Pivotally mounted on the outer portion of each plunger is a sealing element. Mating sealing elements contact the tubular-formed material and press the opposite sides together as plies of a plural-ply strip while transporting



it through the machine. The sealing elements have means to cut the seal in half to provide the top seal for one package and bottom seal for the succeeding package.

3,522,690
MACHINE FOR TIGHTENING THREADED CLOSURES ON CONTAINERS
Einar Zetterberg, Malmo, Sweden, assignor to Aktiebolaget Skane-Emballage, Staffanstorp, Sweden, a corporation of Sweden
Filed Mar. 24, 1967, Ser. No. 625,780
Claims priority, application Sweden, Apr. 7, 1966, 4,801/66
Int. Cl. B65b *7/28;* **B67b** *3/20*
U.S. Cl. 53—331.5 **5 Claims**

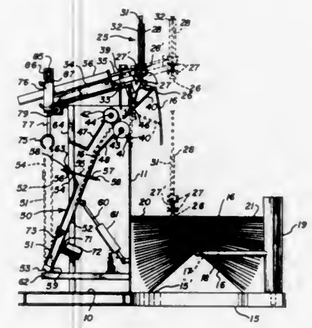


A machine with a conveyor to transport containers past a device for tightening threaded closures on the containers. The tightening device has one or more pairs of wheels with axes at right angles to the direction of movement of the containers through the machine, at right angles to the vertical axis of said containers, and above the conveyor. The two wheels are driven with different periphery velocities, adjusted relative to the speed of movement of the containers so their co-operation with a threaded closure imparts a rotating movement to the threaded closures.

3,522,691
MACHINE FOR APPLYING VALVE SACK ON FILLING MACHINE SPOUT
L. D. Adcox, Monte Vista, Colo., assignor of one-half to John B. Milne, Monte Vista, Colo.
Filed Nov. 12, 1968, Ser. No. 774,926
Int. Cl. B65b *43/26*
U.S. Cl. 53—384 **15 Claims**

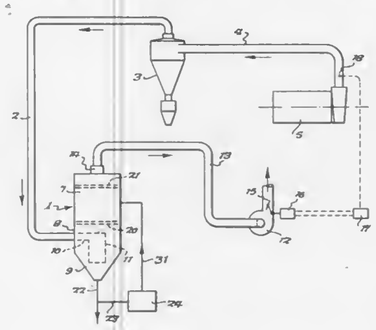
A machine for applying valved sacks on a filling machine spout comprising compact mechanism for moving

sacks from stacks on a rotatable supply platform positioned at one longitudinal side of the machine into an envelope movable to the opposite side in a short path transversely of the machine to align the valved sack in



the envelope with the spout. A valve opener and sack carrier unit engages the sack in the envelope, opens the valve and carries the sack out of the envelope to the spout in a short path at right angle to the first path without bodily turning of the sack.

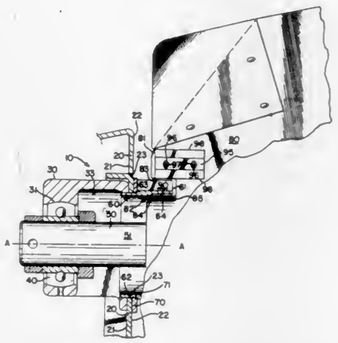
3,522,692
GAS SCRUBBER
Roger S. Brookman, East Aurora, and Gerald H. Beach, Williamsville, N.Y., assignors to Dustex Corp., Buffalo, N.Y., a corporation of New York
Filed Jan. 23, 1968, Ser. No. 699,914
Int. Cl. B01d *47/00*
U.S. Cl. 55—233 **6 Claims**



A contaminated gas stream is directed through a scrubber and then through spaced apart primary and secondary filters composed of a reticulated polyurethane foam. The primary filter is wetted, and a fine spray wets the gas stream passing from the primary filter to the secondary filter.

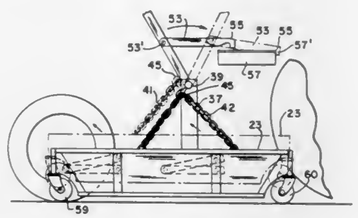
3,522,693
BEARING GUARD WITH STATIONARY AND ROTATABLE KNIFE MEMBERS
William H. Knapp, Davenport, Iowa, assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 12, 1968, Ser. No. 751,807
Int. Cl. A01d *73/00*
U.S. Cl. 56—1 **11 Claims**

An apparatus for guarding a harvesting machine bearing against contamination by straw and other vegetation. The bearing is spaced from its supporting wall to permit any material that negotiates the labyrinth seal to be



expelled to the atmosphere before encountering the bearing.

3,522,694
FLEXIBLE RECTANGULAR PANEL MOUNTINGS FOR TRACTOR-SUPPORTED ROTARY MOWER
Anders Horn, Williston, N. Dak., assignor to State Highway Department of the State of North Dakota, Bismarck, N. Dak.
Filed May 28, 1968, Ser. No. 732,727
Int. Cl. A01d *35/26*
U.S. Cl. 56—25.4 **4 Claims**

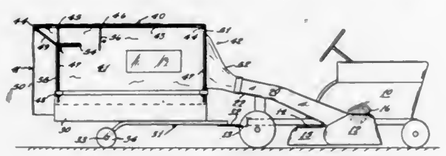


The invention comprises a mower guard for attachment to a rotary mower tractor having a pair of rectangular panels mounted to opposite sides of a tractor, said panels each having flexible material along their inner faces, rods extending laterally outward from opposite sides of the tractor, chains extending downward from the upper outer ends of the rods and attached to the panels, said rods being rotatable whereby the rotation of the rods will wind the chains and raise the panels.

3,522,695
DEBRIS CATCHER
Orly Musgrave, Springfield, Ohio, assignor to Mast-Foos Mfg. Co., Inc., Springfield, Ohio, a corporation of Ohio
Filed Oct. 22, 1965, Ser. No. 501,291
Int. Cl. A01d *35/26*
U.S. Cl. 56—25.4 **12 Claims**

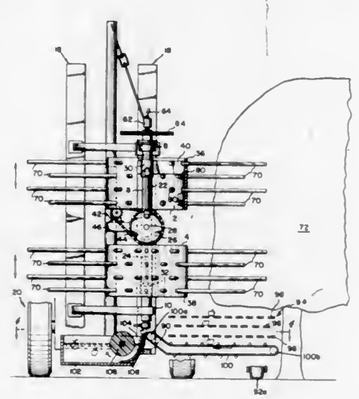
1. Apparatus for catching and storing debris comprising a receptacle, means defining therewith a housing and forming a flow chamber over said receptacle, means defining an inlet to one end of said chamber and an outlet from the

opposite end of said chamber, said outlet being defined by a wall extending upward from said receptacle and terminating short of the top of said chamber, said inlet and outlet defining the extremities of an in-line flow path through said chamber in the upper part thereof, means for directing a flow of air entrained debris to and through said inlet to move through said chamber toward said outlet, baffle means disposed transversely of said housing at the



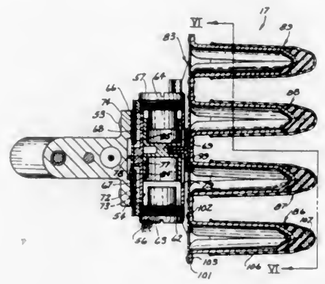
opposite end of said chamber and spaced therefrom in line with said outlet, said baffle means being disposed to lie in the path of and to interrupt selective portions of the flow of air entrained debris prior to said outlet, debris which impacts thereon being induced thereby to drop to said receptacle, said baffle means being arranged to limit the direct access to said outlet and to define a circuitous path for the debris free air to seek and escape through said outlet.

3,522,696
HARVESTING APPARATUS
William F. Millier, Riverside, Calif., and Gerald E. Rehkugler, Dryden, Kenneth E. Ryan, Cortland, and James A. Throop, Ithaca, N.Y., assignors to Cornell Research Foundation, Inc., Ithaca, N.Y., a corporation of New York
Filed Jan. 25, 1968, Ser. No. 700,560
Int. Cl. A01g *19/08*
U.S. Cl. 56—328 **11 Claims**



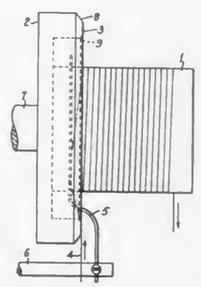
Apparatus for continuously harvesting objects from trees including carriage means transportable adjacent a tree at a given linear velocity 40 insert oscillatory tine means therein. The invention is characterized by the provision of means connecting the tine means for movement relative to the carriage means in a direction opposite to the transport thereof and at such a speed that the resultant movement of the tines relative to the tree is zero, so that damage to the tree branches is avoided.

3,522,697
DEVICE FOR PICKING FRUIT
Ernest H. Shaff, deceased, late of Lake Worth, Fla., by Thelma Marguerite Shaff, executrix, 820 S. A St., Lake Worth, Fla. 34460
Filed Mar. 25, 1968, Ser. No. 715,943
Int. Cl. A01g *19/00*
U.S. Cl. 56—330 **10 Claims**



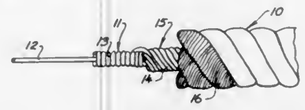
A berry-picking device having a handgrip supporting a motor which provides reciprocable driving power to a finger assembly which includes a pluarlity of elongated resilient fingers engagable with the branches and foliage of a berry bush.

3,522,698
APPARATUS FOR THE TREATMENT OF FRESHLY SPUN SPANDEX THREAD
Harry Keith Barker, Kenilworth, England, assignor to Courtaulds Limited, London, England, a British company
Filed June 4, 1968, Ser. No. 734,438
Claims priority, application Great Britain, June 15, 1967, 27,678/67
Int. Cl. D01h *7/92*
U.S. Cl. 57—77.4 **7 Claims**



Apparatus for the treatment of a freshly-spun spandex multifilament thread comprising a rotatable thread-advancing device, for example a thread-advancing reel, a cowl mounted at the end of the device from which the thread is advanced and rotatable with the device, the cowl encircling the device at that end and presenting an annular smooth surface for contacting a thread which is passing onto the device when the device and cowl are rotating, so as to twist the thread, and a thread guide located between the cowl and the device for maintaining the thread in running contact with the smooth surface of the cowl. The thread guide may be a curved rod which extends into the space between the cowl and the thread advancing device.

3,522,699
CABLE CONSTRUCTION
Leslie Popradi, Box 221, Port McNeil, British Columbia, Canada
Filed Dec. 2, 1968, Ser. No. 780,352
Claims priority, application Great Britain, Dec. 27, 1967, 58,745/67
Int. Cl. D07b *1/08;* **F16c** *1/10, 1/26*
U.S. Cl. 57—145 **5 Claims**



A cable adaptable for use as a choker line having a load carrying cable formed about the hollow armored core. The core acts as a protective sheath for slidable operation of an operating line for operating, remotely, a choker hook at one end of the choker line.

3,522,700
METHOD AND APPARATUS FOR PROCESSING YARN
Daniel J. Fisher, Jr., North Kingstown, R.I., assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Continuation of application Ser. No. 552,480, Apr. 22, 1966. This application Oct. 23, 1968, Ser. No. 770,901
Int. Cl. D02g *3/22, 3/34;* **B65h** *75/00*
U.S. Cl. 57—157 **3 Claims**



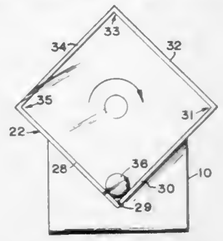
The disclosure concerns a method of processing false twist yarn into a "set" yarn wherein the false twist yarn is wound into a soft package on a package support which comprises a hard core around which is snugly fit a sleeve of resilient foam material as, for example, polyurethane which is chosen to have a compressibility factor which is equal to the compressive force exerted by the yarn on the package support when the packaged yarn is autoclaved in the course of making the "set" yarn.

ERRATUM

For Class 57—58.91 see:
Patent No. 3,523,300

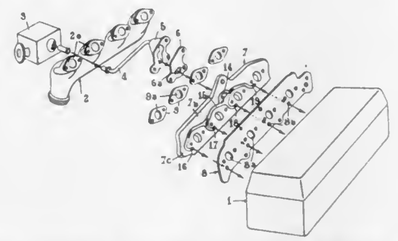
3,522,701
AUDIBLE TIMING DEVICE
Wesley G. Perry, Wayland, Mass., assignor to Damon Engineering, Inc., Needham Heights, Mass., a corporation of Delaware
Filed May 22, 1969, Ser. No. 826,835
Int. Cl. G04b *21/00;* **G04f** *11/00*
U.S. Cl. 58—130 **13 Claims**

An audible timer including a relatively flat, enclosed box-like cam having a plurality of internal corners and mounted for rotation in a substantially vertical plane. A ball is contained and is movable freely within the cam so that it will gravitate to the lowermost internal corner. As the box is rotated continually the corners are rotated in succession to the lowermost position, the ball gravitates progressively to the succeeding corners as they are rotated to the lowermost position. An audible click is produced when the ball engages a corner so that continued rotation of the cam results in the generation of a series of



audible clicks in a pattern determined by the distance between successive corners and the rotational speed of the cam.

3,522,702
POST-COMBUSTION PURIFIER FOR THERMAL ENGINES
Albert Grosseau, Chaville, France, assignor to Societe Anonyme Automobiles Citroen, Paris, France
Filed Nov. 14, 1968, Ser. No. 775,604
Claims priority, application France, Nov. 17, 1967, 128,652
Int. Cl. F01n *3/10*
U.S. Cl. 60—30 **11 Claims**

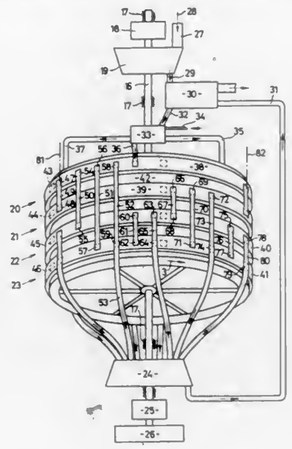


Post-combustion purifier for thermal engines, which comprises a secondary air pump connected through a supply pipeline to an air distributor communicating in turn with air injection pipes opening into the pockets of the engine exhaust valves respectively, characterized in that said air distributor consists of a flat plate secured with the interposition of sealing gaskets between the exhaust manifold and the cylinder-head, said air distributing plate having holes formed therethrough for the passage of exhaust gas, and secondary air-distributing ducts also formed in said plate, each secondary air-distributing duct communicating on the one hand with an air injection pipe housed completely in said cylinder-head and on the other hand with an air inlet orifice connected to said secondary air supply pipeline.

3,522,703
MULTISTAGE TANGENTIAL TURBINE
Ferenc Toth, Bonifatiusplatz 16, Hannover, Germany
Filed Jan. 2, 1968, Ser. No. 695,061
Int. Cl. F02c *3/04, 7/02;* **F01d** *1/16*
U.S. Cl. 60—39.18 **5 Claims**

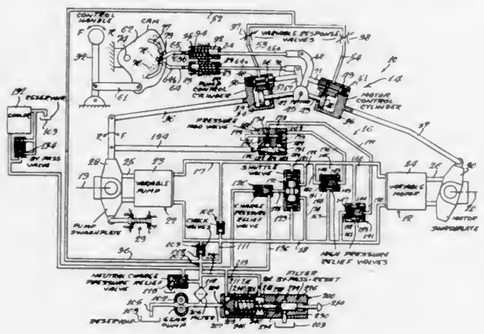
A small-sized multistage gas turbine having a relatively low peripheral speed and high efficiency, in which the rotor is surrounded by a stator having a series of tangential conduits therethrough. A tangentially-disposed combustion chamber is provided in the surface of the rotor, which chamber communicates with the stator conduits in succession as the rotor turns. The first conduit in the series supplies fuel gas to the combustion chamber and the additional conduits serve as exhaust ports through which

gases escape step-wise from the chamber as the chamber travels past the outlets. The inflowing gas expands upon combustion and imparts a thrust to the rotor. As the chamber moves into communication with the exhaust conduits, the gas again flows partly out of the chamber, to produce a recoil in the chamber, effective in the direction



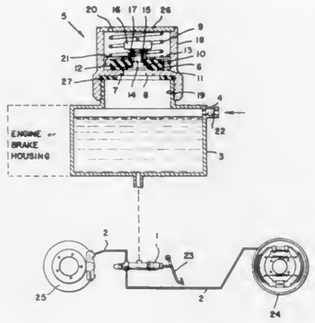
of rotation. The exhaust conduits connect to the next following turbine stage where the same effect is exerted as in the initial turbine stage. The expansion in defined stages, resulting from intermittent gas flow to the rotor, produces much slower peripheral velocities than where all the kinetic energy is supplied at once.

3,522,704
HYDROSTATIC TRANSMISSION
Lyle S. Martin, La Salle, Ill., assignor to Sundstrand Corporation, a corporation of Delaware
Filed Nov. 4, 1968, Ser. No. 772,933
Int. Cl. F15b *15/18*
U.S. Cl. 60—53 **8 Claims**



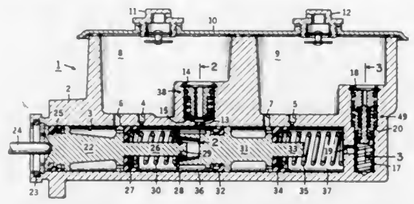
A filter bypass valve for bypassing fluid from the charge and control pump of a hydrostatic transmission around a clogged filter to a drain including a differential pressure valve member normally blocking communication between the charge pump and the drain and biased to its closed position by pressure downstream of the filter so that the differential pressures acting on the valve when the filter becomes clogged cause valve opening with the valve remaining in its open position directing fluid to the drain to prevent contamination of the associated hydraulic circuits.

3,522,705
HYDRAULIC BRAKE SYSTEM
Franz Wienecke, Frankfurt am Main, Germany, assignor to Alfred Teves G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed July 15, 1968, Ser. No. 744,815
Claims priority, application Germany, July 24, 1967, T 34,394
Int. Cl. B60t *11/26;* **F15b** *1/06, 7/00, 7/08*
U.S. Cl. 60—54.6 **4 Claims**



A hydraulic brake system has a brake-fluid reservoir wherein a gas pressure pocket behind the fluid is maintained at an elevated level to pressurize brake fluid in the system in order to hold the brakeshoes in slight contact with the wheel-brake drums or disks.

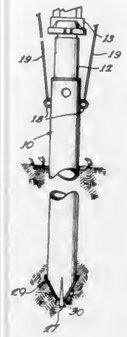
3,522,706
TANDEM MASTER CYLINDER
Richard C. Bueler, Glendale, Mo., assignor to Wagner Electric Corporation, Newark, N.J., a corporation of Delaware
Filed Aug. 15, 1968, Ser. No. 752,904
Int. Cl. F15b *7/00, 7/08*
U.S. Cl. 60—54.5 **9 Claims**



A tandem master cylinder having an inhibiting portion for delaying the application of fluid pressure from one fluid pressure generating portion thereof to vehicle front disc brakes and a proportioning portion for proportioning the application of fluid pressure from the other fluid pressure generating portion thereof to vehicle rear drum brakes.

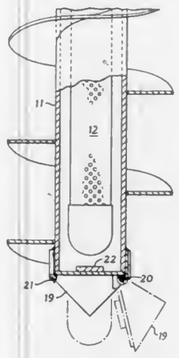
3,522,707
PILING CONSTRUCTION
Gabriel Fuentes, Jr., 1501 Ashford Ave., Santurce, Puerto Rico 00911
Continuation-in-part of application Ser. No. 609,102, Jan. 13, 1967. This application Nov. 20, 1967, Ser. No. 684,297
The portion of the term of the patent subsequent to June 17, 1986, has been disclaimed
Int. Cl. E02d *5/12, 7/02*
U.S. Cl. 61—56 **11 Claims**

This invention relates to apparatus for driving a concrete piling formed of a number of concrete pile sections which are spliced together to form a piling of a predetermined length including a dummy pile for providing a pilot hole, special pile sections for hard or other special driving conditions, and a sleeve for splicing the pile sections together.



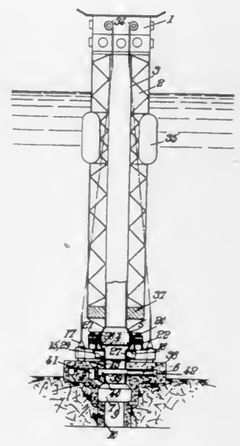
The same technique is applied to forming retaining walls, bulkheads and even to light poles, telephone poles and the like, in which case, the poles are easily repaired or replaced if damaged.

3,522,708
METHOD OF AND MEANS FOR THE LOWERING OF GROUND WATER
Henry J. Firman, Peterborough, England, assignor to The Geotechnical Drilling Company, Limited, Peterborough, England, a British company
Filed Apr. 26, 1968, Ser. No. 724,409
Int. Cl. E02b *11/00*
U.S. Cl. 61—11 **11 Claims**



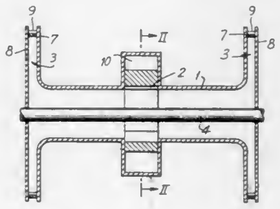
Removing water from building excavations by drilling into the ground with a hollow auger having a well-point and riser pipe retained therein; releasing the latter so that they fall into the drilled hole; withdrawing the auger; and connecting the riser to suction to remove water via the well-point. Apparatus disclosed comprises a lorry-mounted drilling derrick which is adjustable in inclination and carries a torque motor coupled to a hollow auger. Riser has a head which rests on spring-loaded catches inside auger. A hydraulic ejector mechanism forces the head between catches to eject well-point and riser from within auger.

3,522,709
MARINE PLATFORM STRUCTURE
Robert Vilain, Maisons-Alfort, France, assignor, by direct and mesne assignments, to Compagnie Francaise d'Entreprises Metalliques, Paris, France, a corporation of France
Filed Feb. 19, 1968, Ser. No. 706,343
Claims priority, application France, Feb. 24, 1967, 96,468
Int. Cl. E02b *17/00;* **E02d** *27/04;* **B63b** *35/44*
U.S. Cl. 61—46.5 **22 Claims**



The marine platform structure is movably articulated at its bottom to a base, which is constructed independently and fixed first to the marine bed. The base comprises initially a water tight work chamber. The overall platform structure is combined with a plate mounted at the bottom of the structure to receive the articulation. This plate is brought into the correct position, by appropriate guiding means, above the base to be fixed to the base.

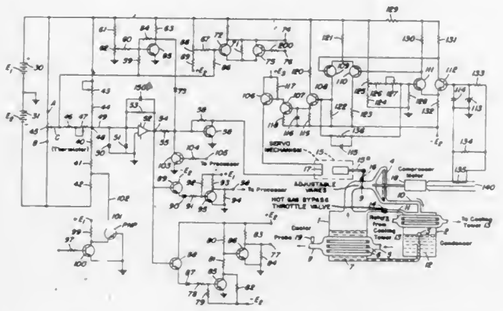
3,522,710
VORTEX TUBE
Alexandr Petrovich Merkulov, Ulitsa Fizkulturnaya 98a, kv. 24, and Natan Dmitrievich Kolyshev, Ulitsa Aerodromnaya II, kv. 60, both of Kuibyshev, U.S.S.R.
Filed Mar. 1, 1968, Ser. No. 709,686
Int. Cl. F25b *9/02*
U.S. Cl. 62—5 **5 Claims**



A hollow cylinder of a vortex tube, having central nozzles for the tangential introduction of a gas into the cylinder, is provided with slit-type straightening diffusers at its ends for producing a substantial vacuum along the axes of the cylinder to promote cooling of a body mounted thereat. The diffusers are in the form of spaced, parallel

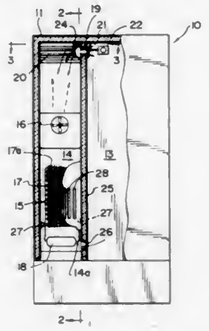
plates, entirely open at the peripheries thereof, to define a flow passageway for the gas.

3,522,711
CAPACITY CONTROLLER FOR LIQUID CHILLER
William J. Shaughnessy, Bridgewater Township, N.J., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed July 16, 1968, Ser. No. 745,258
Int. Cl. F25b *41/00*
U.S. Cl. 62—196 **19 Claims**



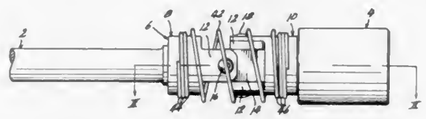
This invention relates to refrigerating systems or chilling systems for controlling the temperature of fluid, such as water, which is used to air-condition a building. The invention is particularly concerned with electronic or solid state circuit arrangements for regulating the operation of the refrigerating or chilling system. The arrangements perform the control functions without unduly stressing any of the components of the system.

3,522,712
SNOW FREE FORCED AIR REFRIGERATOR
Louis H. Carl, Ambrose J. Braunecker, and Ben W. Brightman, Evansville, Ind., assignors to Whirlpool Corporation, a corporation of Delaware
Filed July 5, 1968, Ser. No. 742,895
Int. Cl. F25d *17/06*
U.S. Cl. 62—414 **14 Claims**



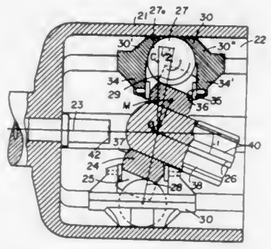
A combination side-by-side freezer-refrigerator having a forced air circulation system wherein the moist refrigerator air is firstly cooled by a portion of the evaporator and secondly mixed with colder, dry freezer air to pass therewith in heat transfer association with the remainder of the evaporator for recirculation to the freezer and refrigerator spaces.

3,522,713
UNIVERSAL JOINT FOR WRENCHES
Eugene Hayes, Kansas City, Kans., assignor of fifty percent to Charles Atchison, Shawnee, Kans.
Filed Oct. 3, 1968, Ser. No. 764,827
Int. Cl. F16d *3/26*
U.S. Cl. 64—17 **2 Claims**



A universal joint structure for interconnecting the shank or handle of a wrench to the socket or other work-engaging portion thereof, said joint structure including end members connected by means permitting universal misalignment of the end members, and a coil spring encircling said joint and connected at its ends to said end members, whereby said end members are normally but yieldably held in axially aligned relation.

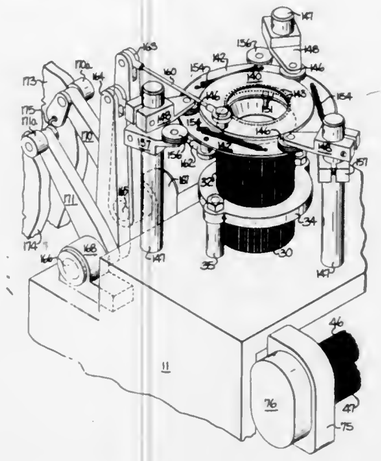
3,522,714
UNIVERSAL JOINT
Ernest Wildhaber, Brighton, N.Y.
(124 Summit Drive, Rochester, N.Y. 14620)
Filed June 11, 1968, Ser. No. 736,185
Int. Cl. F16d *3/34*
U.S. Cl. 64—21 **13 Claims**



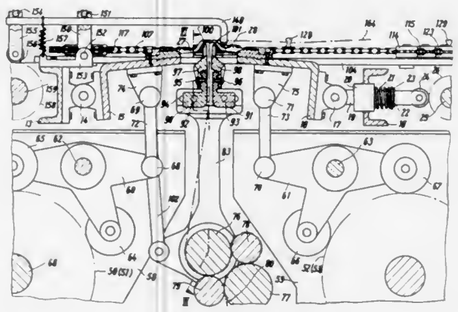
This constant velocity universal joint comprises an outer member and an inner member both having straight ways extending parallel to their respective axis. Balls engage the ways of both members to operatively connect them. Each ball is guided by an individual block slidable without turning along the way of preferably the outer member. And control means are provided that act on said blocks to keep the balls in the plane bisecting the angle between the intersecting axes of said two members. The invention also provides novel control means.

3,522,715
CIRCULAR WARP KNITTING MACHINE
Robert E. Merritt and Curtis J. Simmons, Mount Airy, N.C., assignors to Renfro Hosiery Mills Company, Mount Airy, N.C., a corporation of North Carolina
Filed Oct. 18, 1967, Ser. No. 676,147
Int. Cl. D04b *25/02*
U.S. Cl. 66—5 **7 Claims**

Sets of warp yarns are selectively guided to a circular series of latch needles as they are simultaneously raised and lowered to rapidly form an open lace type tubular fabric having periodically interconnected stitch chains. The rate of yarn feed and fabric taken up is varied to change the size of the stitches being formed and to thereby fashion the tube as it is knit. Pattern control means is provided for transversely cutting the seamless tubular fabric after a predetermined number of courses have been knit to form individual stocking blanks and the like. Means is also provided for longitudinally slitting the fabric adjacent the lateral cut to form blanks suitable for use in the formation of full length tights and the like.

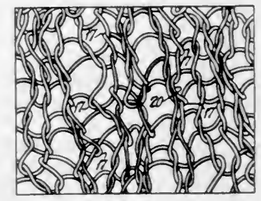


3,522,716
FLAT WARP KNITTING MACHINE AND GUIDE NEEDLES THEREFOR
Walter Palange, Oisterwijk, Nordbrabant, Netherlands, assignor to Jean Gusken, Dulken, Rhineland, Germany
Filed June 7, 1968, Ser. No. 735,405
Claims priority, application Germany, June 7, 1967, 1,635,808
Int. Cl. D04b *23/02*
U.S. Cl. 66—87 **17 Claims**



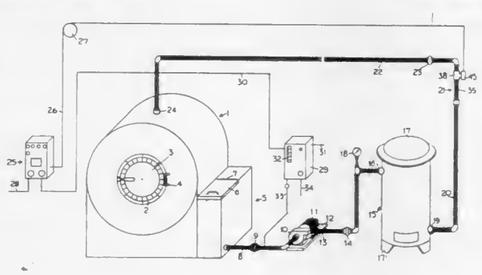
A flat warp knitting machine with two rows of curved guide needles, facing each other, swivelable around parallel axes and transposable in relation to one another along said axes for producing a links-links warp knitted fabric through reciprocal takeover of stitches. Two sinker combs are movable back and forth in the longitudinal direction of guide needles with the fabric and guide the fabric between them, through that comb which lags the sloughing of the stitches. A pressure exerted at the end of the knitted fabric tightens the stitches. The heads of the guide needles contain needle holes. The rows of guide needles are arranged to swivel such that the needle heads of one row of needles are continuously directed essentially in parallel to the oppositely directed needle heads of the other row of needles.

3,522,717
STOCKING AND METHOD OF MAKING THE SAME
Denis Albert Edward Mattingly, London, England, assignor to The Klinger Manufacturing Company Limited, London, England, a British company
Filed Nov. 30, 1967, Ser. No. 686,965
Int. Cl. A41b *11/00*
U.S. Cl. 66—178 **20 Claims**



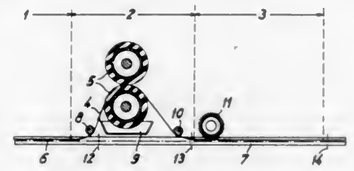
A stocking is knitted of crimped yarn of the kind formed by sharply bending yarn at intervals along its length through angles of at least 180° and setting the yarn in this configuration. The bends which have been set in the yarn tend to persist in the stockings knitted from the yarn and their presence is believed to account for desirable characteristics in the stockings including a reduced tendency for the stockings to snag.

3,522,718
MOISTURE CONTROLLER FOR DRYCLEANING SYSTEM
Robert A. Gillespie, Skaneateles, N.Y., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
Filed May 21, 1968, Ser. No. 730,855
Int. Cl. D06f *39/10, 43/08*
U.S. Cl. 68—13 **10 Claims**



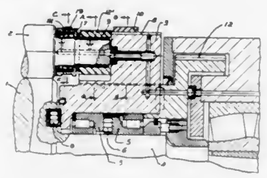
A drycleaning system which includes a washer for cleaning fabrics, a filter, conduit means interconnecting the washer and filter and a pump for circulating a volatile organic drycleaning solvent having a drycleaning detergent and water added thereto through the washer and filter. An impedance electrode is connected into the conduit means which is electrically connected to an impedance controller that controls a water supply unit for adding water to the drycleaning system. The impedance electrode means consists of a housing having a single concentric electrode positioned therein and a mounting means for holding said concentric electrode within the housing.

3,522,719
DEVICE FOR TREATING A CONTINUOUSLY MOVING FABRIC WEB IN AT LEAST THREE TREATMENT ZONES
Kurt Bruckner, Leonberg, Germany, assignor to Bruckner Trockentechnik KG, Leonberg, Wurttemberg, Germany
Filed Sept. 24, 1968, Ser. No. 761,969
Claims priority, application Germany, Sept. 27, 1967, 1,610,912
Int. Cl. B05c *3/134, 3/138*
U.S. Cl. 68—20 **6 Claims**



This device comprises a pair of laterally spaced endless feeding and clamping members for holding the edges of the fabric web, which extend through the first and third of three treatment zones. Means for releasing the edges of the fabric web from the endless feeding and clamping members are provided at the end of the first treatment zone, to permit the web to travel through the second treatment zone, and means for re-engaging the edges of the fabric web with the endless feeding and clamping members are provided at the end of the second treatment zone.

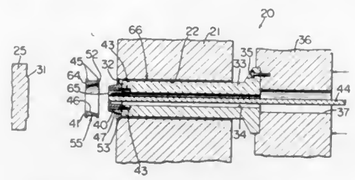
3,522,720
PLANETARY WORKROLL CAGES FOR PLANETARY ROLLING MILLS
Tadeusz Sendzimir, % T. Sendzimir, Inc., Waterbury, Conn. 06712
Filed Apr. 4, 1968, Ser. No. 718,707
Int. Cl. B21b *13/20*
U.S. Cl. 72—240 **15 Claims**



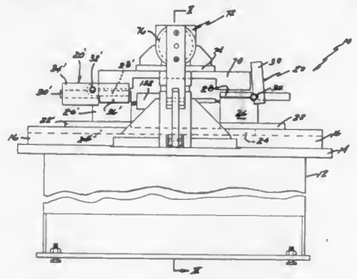
The invention relates to so-called planetary rolling mills for flat articles which consist of two assemblies each with one backing roll and a plurality of small workrolls uniformly spaced around it. The invention is an improvement over previous systems for securing even spacing of the planetary workrolls around the backing rolls.

3,522,721
APPARATUS FOR AND METHOD OF MAKING INDIRECT EXTRUSIONS
Warren G. Whiting, Richmond, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Mar. 1, 1968, Ser. No. 709,664
Int. Cl. B21c *23/00*
U.S. Cl. 72—255 **20 Claims**

This disclosure relates to an improved apparatus for and method of making indirect extrusions utilizing a comparatively inexpensive and readily detachable die holder which is utilized and supported around an extrusion die which is fixed to the front of a hollow ram. The construction and arrangement of the die holder and die and the technique made possible by such construction and arrangement enable extruding to be achieved with optimum efficiency and economy.

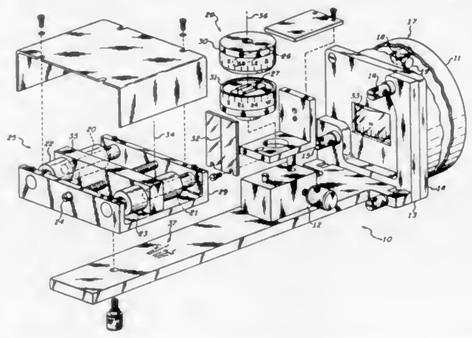


3,522,722
WING BENDING MACHINE
Otis Ward Goff, Jenison, Mich., assignor to Schiefler Tool and Engineering, Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Aug. 12, 1966, Ser. No. 572,114
Int. Cl. B21d *11/04*
U.S. Cl. 72—319 **4 Claims**



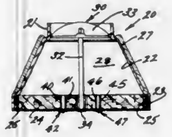
A wing bending machine adaptable to varying dimension forming operations, employing torsional, rotational fluid motors on the pivot axes of the bending wings that straddle and are mounted to members of a support transversely variable in size with shifting of the support members, wings, and motors with respect to each other.

3,522,723
APPARATUS AND METHOD FOR CALIBRATING MAGNETIC COMPASSES
Donald H. Baker and Donald J. Kesselring, Phoenix, Ariz., assignors to Sperry Rand Corporation, a corporation of Delaware
Filed Mar. 29, 1968, Ser. No. 717,125
Int. Cl. G01c *17/38*
U.S. Cl. 73—1 **3 Claims**



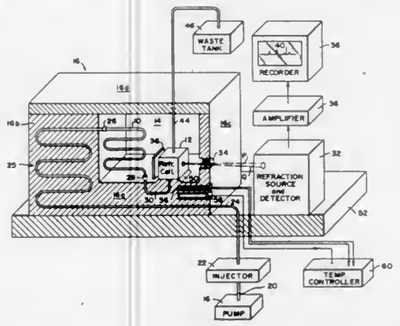
Magnetic compasses are calibrated by locating permanent magnets with positionable magnetic shields near the compass to be calibrated and the horizontal component of the earth's magnetic field cancelled by the permanent magnets. The earth's magnetic field is simulated by having one permanent magnet approximately three times the magnetic field strength of another magnet and the two magnetic-field-simulating magnets mounted counter-rotatably with respect to each other. The simulated magnetic field will allow a compass swing on magnetic compasses without requiring the vehicle on which the compass is mounted to be physically rotated.

3,522,724
METHOD AND APPARATUS FOR TESTING CLEAN ROOM FILTRATION EFFICIENCY
James V. Knab, Grand Rapids, Mich., assignor to Weber Showcase & Fixture Co., Div. of Walter Kidde & Company, Inc., Grand Rapids, Mich., a corporation of New York
Filed Mar. 29, 1968, Ser. No. 717,345
Int. Cl. G01m *3/20*
U.S. Cl. 73—40.7 **4 Claims**



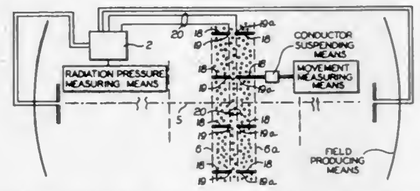
A clean room having a series of air diffusing units across one surface thereof, the individual units being fed by compressed air ducts which, ordinarily, are each connected to a series of the units. Each of the units is provided with two sealable apertures for access into the interior thereof. Smoke is introduced into the individual diffuser units through one of the apertures and the smoke concentration within the unit is monitored through the other of the apertures. The exterior of the unit is then scanned utilizing conventional photometer techniques. Each unit, thus, can be tested individually and it is not necessary to fill the entire system with smoke as required in the past.

3,522,725
LIQUID CHROMATOGRAPH
James L. Waters, Framingham, Mass., assignor to Waters Associates, Inc., Framingham, Mass.
Filed Jan. 8, 1969, Ser. No. 789,706
Int. Cl. G01n *31/08*
U.S. Cl. 73—61.1 **9 Claims**



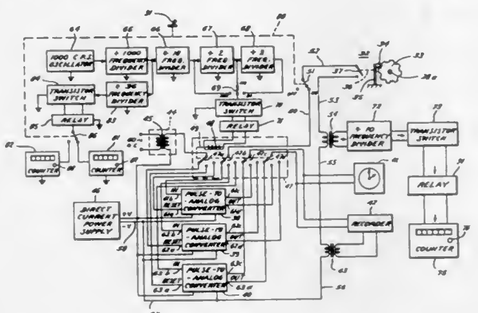
A liquid chromatograph has a small volume chromatography column and a refractometer cell housed in a single heat exchanger so that the coupling distance between them is kept to a minimum. The temperature of the liquid being analyzed is kept constant by circulating it through the heat exchanger just before it enters the column. Consequently, the viscosity and refractive index of the liquid remains essentially constant from the time it enters the column until it leaves the cell.

3,522,726
ELECTROMAGNETIC DEVICE
Harry S. Jones, Hoboken, N.J.
(50 Navesink Drive, Monmouth Beach, N.J. 07750)
Continuation-in-part of application Ser. No. 393,434, Aug. 31, 1964. This application Dec. 12, 1966, Ser. No. 607,122
Int. Cl. G01l *3/26, 5/13;* **G01m** *15/00*
U.S. Cl. 73—117.4 **5 Claims**



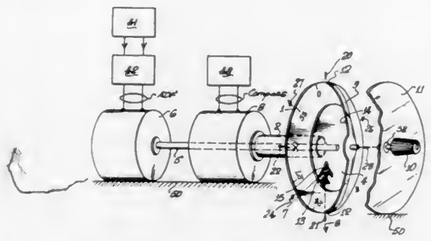
This specification describes a device having means for producing a detached electromagnetic field, a current carrying conductor in the field, an alternating current passing through the conductor in synchronization with the alternating magnetic portion of the field and means for measuring the thrust imparted to the conductor by such operation and/or the deviation in the electromagnetic field caused by such operation. The measuring devices are per se of the known variety.

3,522,727
MEASURING APPARATUS FOR DRILLING RIGS
Charles W. Calhoun, Houston, Tex., assignor, by mesne assignments, to Tenneco Oil Company, Houston, Tex., a corporation of Delaware
Filed Dec. 27, 1968, Ser. No. 787,469
Int. Cl. E21b *45/00*
U.S. Cl. 73—151.5 **12 Claims**



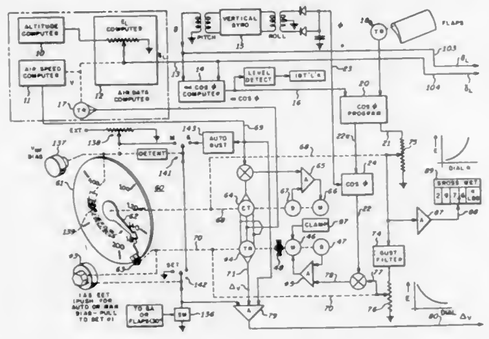
Measuring apparatus for determining the rate of penetration of a drill bit in drilling an oil well type borehole into the earth. A pulser mechanism is operated by a measuring line which is attached to the traveling block of a rotary drilling rig for producing pulses representing incremental amounts of downward movement of the drill pipe supporting the drill bit. Three pulse-to-analog integrator units are provided for taking turns counting the pulses from the pulser mechanism and supplying to a signal indicator an analog signal proportional to the number of pulses counted. A stepping relay mechanism operates so that at any given instant the input of one integrator unit is coupled to the pulser mechanism, the output of another integrator unit is coupled to the signal indicator and the third integrator unit is coupled to a reset signal source. A timing circuit advances the stepping relay mechanism at a periodic rate which thus determines the duration of the successive integration intervals. The signal indicator is calibrated to express the rate of penetration in terms of fee per hour.

3,522,728
NAVIGATIONAL INSTRUMENT
Leif R. A. Brun, 7102 Natal Drive, Westminster, Calif. 92683
Filed Aug. 31, 1967, Ser. No. 664,795
Int. Cl. G01c *21/00*
U.S. Cl. 73—178 **7 Claims**



An aircraft instrument displaying magnetic heading, bearing from and to a radio station, the present course or a selected future course, and the interception of a radial corresponding to that course. A rotatable azimuth ring positioned according to compass information reads the vehicle's heading against a fixed lubber's mark or index. A diametral course bar turns with this ring, but may be adjusted or set in angular relation thereto. Concentric with the azimuth ring is a disc, angularly positioned by radio direction finder information. In the center of the display is a fixed reference object. Near the rim of the disc is a marker shaped like an airplane silhouette or the like, constrained always to point upward. Adjacent this marker, on the disc, is an index mark. In use, the number on the azimuth ring lying adjacent this index mark is the true radial from the station, i.e., the vehicle's line of position. Interception of a planned radial is displayed by the arrival of the silhouette marker under the course bar. A radial is tracked by setting the course bar and then keeping the silhouette marker under it. The angular relation between the silhouette marker and the central reference object displays the radio bearing. Additional fixed indices on the rim of the instrument are provided to facilitate the interception of predetermined radials at the standard angles of 45° and 90°.

3,522,729
AIRSPEED COMMAND SYSTEM
Harry Miller, Scottsdale, Ariz., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Jan. 22, 1968, Ser. No. 699,638
Int. Cl. G01c *23/00*
U.S. Cl. 73—178 **6 Claims**



Integrated airspeed computer and command display apparatus for aiding an aircraft pilot in controlling aircraft speeds during critical takeoff, approach, landing and go-round phases of aircraft operation wherein the following air-speed command functions and displays are provided:

(a) Elevator commands for take-off, climb-out and go-around are displayed as a flight director pitch command,

(b) Computation and display of a reference airspeed relative to the actual airspeed under various flight conditions and aircraft configurations,

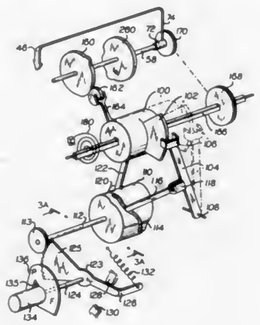
(c) Airspeed error display adjacent to the flight director command bars for indicating the error between a computed speed command and the actual airspeed,

(d) Airspeed error commands to control an automatic throttle control system during approach and landing to automatically maintain a gust-compensated stall margin program without requiring manual adjustment for flap position and/or gross weight changes, and

(e) Computation of aircraft gross weight.

The fundamental relationships that govern the system are based on the longitudinal aerodynamic balance of the aircraft as a function of airspeed, angle of attack, and flap position, these relationships being implemented and generated from measurable flight parameters of Pitot-static presures, pitch and roll attitude, and flap position.

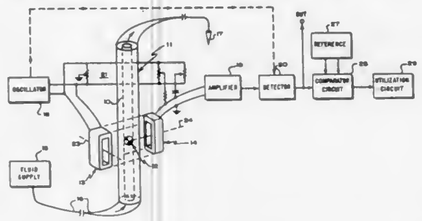
3,522,730
MULTICHARACTERISTIC MAXIMUM ALLOWABLE AIRSPEED INDICATOR
Emil P. Knapp, New Fairfield, Conn., assignor to Lear Siegler, Inc., Armonk, N.Y., a corporation of Delaware
Filed Oct. 22, 1968, Ser. No. 769,529
Int. Cl. G01p *5/00*
U.S. Cl. 73—182 **16 Claims**



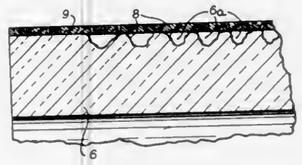
Maximum allowable airspeed pointer mechanism including multiplicity of pointer driving devices. Each of the devices includes a cam mechanism shaped in accordance with the maximum allowable airspeed of particular aircraft in particular use. A selector arrangement is provided for selectively rendering operative particular pointer driving devices to be responsive to a static pressure capsule.

3,522,731
FLUID FLOW RATE DETECTOR
Donald R. Wilson, Santa Cruz, Calif., assignor to Pacific Plantronics, Inc., Santa Cruz, Calif., a corporation of California
Filed Mar. 4, 1968, Ser. No. 715,117
Int. Cl. G01f *1/00*
U.S. Cl. 73—209 **2 Claims**

An electronic fluid flow rate detector includes a conductive object disposed in the flow stream of fluid and positioned asymmetrically in a locally-generated magnetic field for providing an indication of fluid flow rate in response to the detected position of the object within the magnetic field.

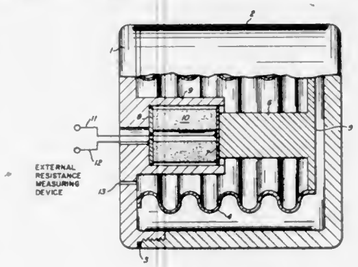


3,522,732
SENSING ELEMENT FOR HYGROMETERS
Hans Bauer, Lenzkirch, Germany, assignor to Atmos Fritzsching & Co. GmbH, Lenzkirch, Black Forest, Germany, a corporation of Germany
Filed Oct. 19, 1967, Ser. No. 676,429
Int. Cl. G01n *25/56, 27/26*
U.S. Cl. 73—336.5 **11 Claims**



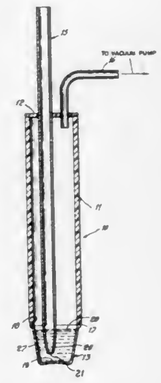
A hygrometer having a sensing element consisting of a a pitted or rough surfaced substrate, having an electrolyte coated on the walls of the pits on the surface, a capillary containing material on the substrate surface bridging the electrolyte containing-pits, and spaced electrode means on the substrate surface. This hygrometer measures both relative and absolute humidity where a negative temperature coefficient semi-conductor element is connected in series with the electrodes.

3,522,733
PRESSURE SENSOR
Harold R. Schroeder, Phoenix, Ariz., assignor to VMC Industries, Inc., a corporation of Delaware
Filed Jan. 27, 1969, Ser. No. 794,052
Int. Cl. G01l *9/02*
U.S. Cl. 73—398 **3 Claims**



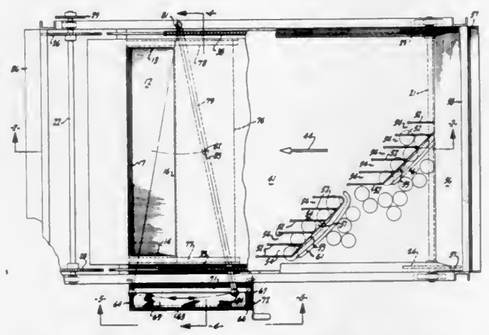
A pressure sensor utilizing a bellows element is provided in which the sensing element comprises a conductive elastomer variably compressed by the movement of the bellows element with changes in pressure. The characteristics of the conductive elastomer are such that its resistance varies in a known manner as it is variably compressed.

3,522,734
PARTICLE CAPTURE DEVICE
William A. Curby, West Newton, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 21, 1968, Ser. No. 777,814
Int. Cl. G01n *1/02*
U.S. Cl. 73—421 **11 Claims**



A device for capturing minute particles by drawing ambient air which contains the particles through an orifice small enough to cause the velocity of the air leaving the orifice to exceed sonic velocity. The orifice is knife-edged to reduce turbulence yet complete expansion within the site of the input tube. Flow is induced by a selected negative pressure above the orifice of about one-half atmosphere. Selected dimensions of the vacuum flask, the intake tube and the impinging fluid container and the distance from the orifice to the bottom of the container effectively confine particles within the agitated fluid during sampling.

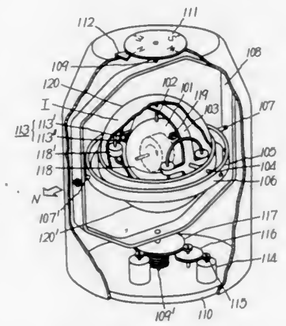
3,522,735
RANDOM SAMPLER FOR FRUIT AND THE LIKE
Michael O'Brien, Davis, Calif., assignor to The Regents of the University of California, Berkeley, Calif.
Filed Jan. 14, 1969, Ser. No. 791,054
Int. Cl. G01n *1/02*
U.S. Cl. 73—421 **5 Claims**



A random sampler for fruit and the like has a conveyor belt web on a frame with a flat, horizontal, upper run of the belt web supported on a subjacent horizontal table on the frame extending from a loading location to a sampling location. The table has an opening over which the belt passes. The belt has one or more trap doors therein defined on three sides by cuts through the conveyor belt web. The trap doors are supported in closed position by and on the table but open downwardly when above

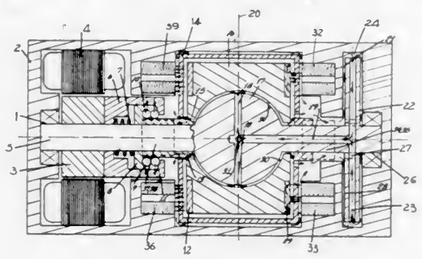
the table opening so as to let fruit or the like previously supported thereon fall through the trap door or doors and the table opening.

3,522,736
GYROSCOPIC INSTRUMENT
Takeshi Hojo, Tokyo, and Shin-ichi Kawada and Michio Fukano, Yokohama-shi, Japan, assignors to Kabushiki-kaisha Tokyo Keiki Seizosho (Tokyo Keiki Seizosho Co., Ltd.), Tokyo, Japan, a corporation of Japan
Filed May 6, 1968, Ser. No. 726,837
Claims priority, application Japan, Oct. 3, 1967, 42/63,709
Int. Cl. G01c *19/14, 19/28*
U.S. Cl. 74—5 **5 Claims**



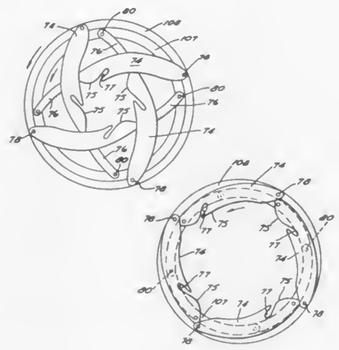
A gyroscopic instrument having means for supporting a sealed gyro case with two degrees of freedom and a liquid container surrounding the gyro case. The liquid in the container produces buoyancy balancing with the weight of the gyro case. Horizontal support means are disposed on the outside of the container and means for detecting the deviation between the inner support means and the gyro.

3,522,737
GAS-BEARING GYROSCOPES INCLUDING A ROTARY BEARING MEMBER
Claude Brenot, Paris, France, assignor to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Jan. 25, 1968, Ser. No. 700,468
Claims priority, application France, Feb. 2, 1967, 93,495
Int. Cl. G01c *19/20*
U.S. Cl. 74—5.7 **7 Claims**



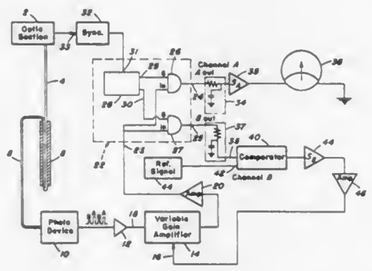
In a gyroscope with a gas bearing system including a rotary support driven by a shaft rotated by a motor inside the gyroscope gas-tight casing, the necessary pressurized gas is produced in a closed cycle from the gas present in the gyroscope casing, with the help of a movable member driven by said shaft. Preferably, this movable member comprises one or more discs provided with spiral grooves for compressing the gas by a viscosity effect.

3,522,738
ARTICLE CONTOUR FOLLOWER MECHANISM
Theodore C. Zwiep, Grand Rapids, and Ferdinand Weits, Holland, Mich., assignors to Prince Manufacturing Company, Holland, Mich., a corporation of Michigan
Original application Apr. 10, 1968, Ser. No. 720,052. Divided and this application Jan. 21, 1969, Ser. No. 792,369
Int. Cl. A22c *17/04;* **F16h** *21/02*
U.S. Cl. 74—63 **4 Claims**



This disclosure relates to a method and apparatus for removing meat from bones. The meat is removed by plowing the meat away from the bone by a plurality of dull plow members which rotate about the bone and are urged against the bone to force the meat away from and separate it from the bone without cutting the meat. Special tools are disclosed for holding the different ends of the bone so that the bone can be held without crushing during the deboning operation. Special tools are also disclosed for removing kneecaps and fibula bones prior to the meat stripping operation. The mechanism for actuating the plow members has an annular rotatable support member for the plows and an annular rotatable plow member actuating member which causes the plow members to move toward and away from the bone as the plow members rotate about the bone as a result of a differential speed between the actuating members and the plow support member.

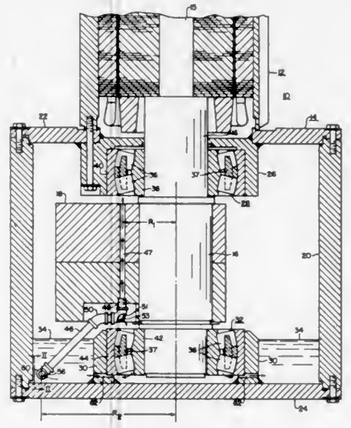
3,522,739
SPECTROPHOTOMETER APPARATUS UTILIZING A RATIO MEASURING CIRCUIT
Thomas Coor and Stuart L. Ridgway, Princeton, N.J., assignors to Princeton Applied Research Corporation, Princeton, N.J.
Filed Oct. 28, 1968, Ser. No. 771,039
Int. Cl. G01j *3/42, 3/46*
U.S. Cl. 356—97 **11 Claims**



A direct reading spectrophotometer is provided wherein an illuminating means is utilized to apply two discrete radiation wavelengths to a fiber optic bundle in a time

division multiplex sequence. The reflected light, which remains multiplexed, is then detected and transduced into electrical signals. These electrical signals are then separated by a switch which is connected to a light detector via a variable amplitude control means. The separated signal representing the denominator of the desired ratio of the two signals is then compared to a reference voltage and thereafter fed back to control the amplitude of the signals passed by the variable amplitude control means. Thus, the desired ratio may be read directly by sensing the second of the separated signals.

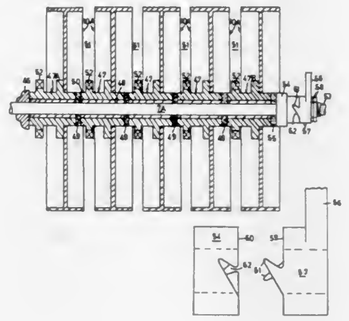
3,522,740
LUBRICATION AND BEARING ARRANGEMENT FOR VIBRATION GENERATORS
James E. Hynes, Rockford, Ill., and Zbyslaw A. Tendorf, Buffalo, and Frank A. Scarcella, Kenmore, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 1, 1968, Ser. No. 772,759
Int. Cl. F16h *33/14*
U.S. Cl. 74—87 **4 Claims**



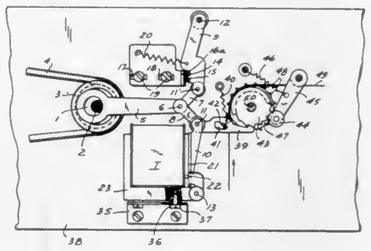
An oil lubricating arrangement for lubricating spherical roller bearings in a vibration generator regardless of the angular position of the generator, the arrangement comprising a tube supported in a heavy eccentric weight mounted for rotation by said bearings, said tube adapted to direct oil from a reservoir adjacent the weight to the bearings when the weight is rotated.

3,522,741
FREELY ROTATABLE MULTIPLE DRUM DISPLAY DEVICE
George Hamilton Berry, Elizabeth Bay, New South Wales, Australia, assignor to Beriola Machine Company Pty. Limited, Sydney, New South Wales, Australia, a corporation of Australia
Filed May 13, 1968, Ser. No. 728,394
Claims priority, application Australia, May 18, 1967, 21,960/67
Int. Cl. F16h *29/00;* **F16d** *19/00*
U.S. Cl. 74—142 **4 Claims**

A rotatable drum display device has a stationary shaft. A row of drums have their hub units rotatable and slidable on the shaft. Friction thrust pads are between the drums and normal disengagement therefrom. A pair of rotatable collars are on one end of the shaft having coacting inclined teeth and sockets. Means are provided for applying drive to the drums by rotating the outer one of the sockets in a sense tending to disengage the teeth from their sockets so as to produce axial separation on the collars, thereby compacting the row of drums and friction pads to connect frictionally the remainder of the driving rotation of the outer socket to all drums, while permitting spinning of the drums when said drive is removed.



3,522,742
DIFFERENTIAL STEPPING MECHANISM
Herbert Behrens, Neuenburg, Germany, assignor to Olympia Werke AG, Wilhelmshaven, Germany
Filed Sept. 27, 1968, Ser. No. 763,310
Claims priority, application Germany, Oct. 7, 1967, 1,524,983
Int. Cl. F16h *21/26, 27/02*
U.S. Cl. 74—142 **22 Claims**

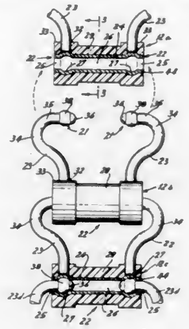


A rotary driven means, such as a sprocket wheel for transporting a record carrier tape, is stepwise turned in forward and reverse directions by two drive members reciprocated by a differential toggle linkage system including a plurality of linkages which can be selectively arrested by electromagnets to cause idling of the linkage system and stopping of the driven means, or selective operation of the two drive members.

3,522,743
LINK SPROCKET CHAIN
Thomas W. Clark, Rockville Centre, N.Y., assignor to Pic Design Corp., East Rockaway, N.Y., a corporation of New York
Filed Mar. 7, 1968, Ser. No. 711,399
Int. Cl. F16g *13/02*
U.S. Cl. 74—249 **21 Claims**

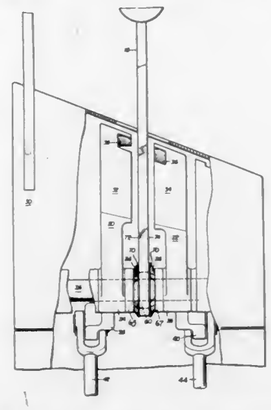
A sprocket chain is formed from a plurality of detachably interconnected links. Each of the links includes a

cross bar having end openings and a pair of spaced arms extending from said cross bar and having end portions



adapted to be securely received within openings of an adjacent link preferably by snap engagement.

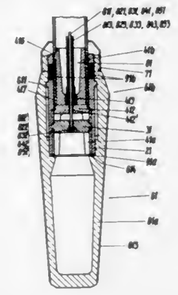
3,522,744
CONTROL LEVER MOUNTING
Donald L. Johnson, Kenosha, Wis., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Oct. 3, 1968, Ser. No. 764,741
Int. Cl. G05g *9/00*
U.S. Cl. 74—473 **7 Claims**



A mounting mechanism for a control lever universally supported on a shaft between axially spaced control elements which are selectively engageable by the lever to rotate the elements on the shaft. The mounting mechanism includes elastic disks or washers disposed on opposite sides of the control lever and respectively engaging one surface of the control lever and a surface of the control element so that pivotal movement axially of the shaft will compress one of the disks and the elasticity of the disks will return the lever to the centered position between the control elements when the lever is released.

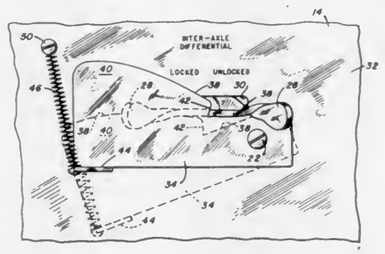
3,522,745
GAS CONTROL TURNING GRIP FOR MOTORS WITH INTERNAL COMBUSTION
Romeo Miloševič, Koper, Yugoslavia, assignor to Tomos Motor Vehicles Factory, Koper, Yugoslavia, a corporation of Yugoslavia
Filed June 20, 1968, Ser. No. 738,490
Claims priority, application Yugoslavia, June 22, 1967, P 1,249/67
Int. Cl. G05g *11/00*
U.S. Cl. 74—489 **19 Claims**

A rotary hand grip for controlling the fuel supply to an internal combustion engine on a motorcycle, outboard motor, motor-scooter, or other apparatus, by controlling the axial movtment of a Bowden cable connected to the carburetor of the engine in response to the turning movement of the hand grip mounted on the end of a handle-bar stem. A sleeve mounted on the end of the stem is constrained for rotary movement with the hand grip and is provided on the interior thereof with a double course threaded groove which accommodates the opposite ends of a slide bar which is constrained to move axially without binding, by rotation of the sleeve, and which simultaneously anchors the terminal end of the Bowden cable at the central portion thereof. The axial



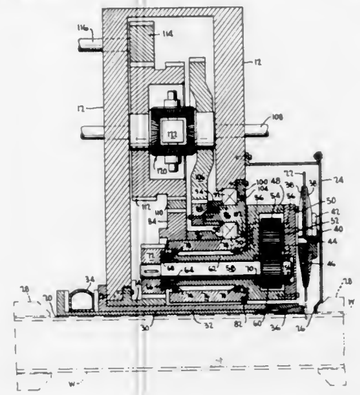
movement of the slide bar is limited in one direction by an anchor piece which bridges the handle-bar stem in the direction of the regulating member for the engine, for example, the carburetor, and which simultaneously provides a seat for the sheath or envelope for the end of the Bowden cable. Circular stops at the distal end of the sleeve limit the movement of the slide bar in the opposite direction. The hand grip is designed to contain the components of the mechanism and to fit tightly against the end of the handle-bar stem so that the entry of moisture and foreign matter thereto is effectively prevented.

3,522,746
SAFETY DEVICE FOR VEHICLES
Charles C. Reynolds, 4350 W. 8th St., Tulsa, Okla. 74127
Filed Nov. 7, 1968, Ser. No. 774,111
Int. Cl. G05g *5/06*
U.S. Cl. 74—526 **2 Claims**



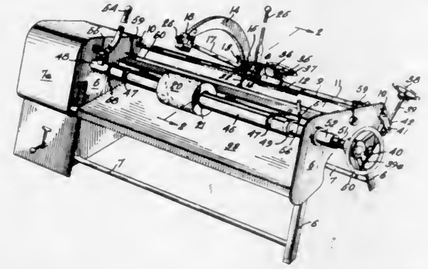
This invention relates to a safety device for use on vehicles such as trucks having a control element mounted on the rearward side of the vehicle dashboard, the control element having a control valve extending through the opening of the dashboard, the invention providing a locking plate pivoted to the dashboard and having a projection which prohibits the control lever from being inadvertently moved from a first to a second position and including means wherein the locking plate can be pivoted out of engagement with the control lever when it is desired to move the control lever from the first to the second position.

3,522,747
ROTARY SEVERING METHOD AND APPARATUS
Raymond G. Brownstein, 300 Fountain Ave., Ellwood City, Pa. 16117
Filed Sept. 25, 1967, Ser. No. 670,195
Int. Cl. B23b *3/04, 5/14*
U.S. Cl. 82—72 **15 Claims**



A method and means for severing a longitudinally extending stationary workpiece wherein at least one movable severing element, such as a circular saw, is provided. The severing element is orbited about the longitudinal axis of the workpiece while being simultaneously rotated about its own axis of rotation. The rotating and orbiting severing element can be selectively displaced toward the stationary workpiece to contact and thereby sever the same.

3,522,748
MACHINE FOR SLITTING PLASTIC FILM AND THE LIKE
Charles Treffner, Belmore, New South Wales, Australia (137 Boundary Road, Peakhurst, New South Wales 2210, Australia)
Filed Sept. 27, 1967, Ser. No. 670,899
Int. Cl. B23b *5/14, 1/00, 25/00*
U.S. Cl. 82—101 **9 Claims**

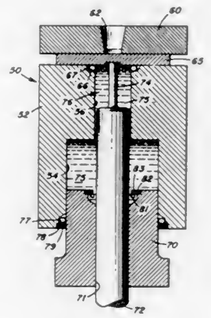


A cutting machine having an expanding driven mandrel on which a hollow core of a roll of sheet material can be gripped and rotated against a stationary cutting blade. The blade is pivoted gradually towards the mandrel cutting through the sheet material and the core.

3,522,749
FLUID ASSISTED HOLE PUNCHING

Francis Joseph Fuchs, Princeton Junction, New Jersey, assignor to Western Electric Company Incorporated, New York, New York a Corp. of New York

Filed Oct. 17, 1968, Ser. No. 768,419
Int. Cl. B26f 1/26, 1/14
U.S. Cl. 83—22 21 Claims

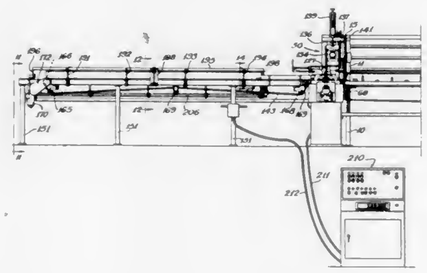


A hole is punched in or through a blank of material by subjecting the blank to pressurized fluid in the area to be punched, and by advancing a punch through the pressurized fluid and into the blank of material in the area subjected to pressurized fluid. In through hole punching, pressurized fluid assists the punch in separating a slug of material from the blank by shear propagation. Single and multiple hole punching techniques, according to the present invention, which are accomplished in a single operation, are also taught.

3,522,750
AUTOMATIC CUTTING MACHINE

Robert L. Shallenberg, Wheaton, Illinois, assignor to Servicemaster Industrial Systems Company, a Corp. of Illinois

Filed Nov. 17, 1967, Ser. No. 683,937
Int. Cl. B26d 5/20, 7/06
U.S. Cl. 83—82 49 Claims

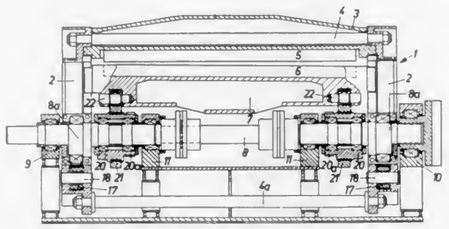


A cut off machine for pipes, rods and the like where any elongated work pieces are fed singly or in multiples from a storage rack to a frame provided with fixed and adjustable guides arranged to hold the work pieces against the fixed guides and are fed along the frame to cutting means by a pusher device. The feed rate is reduced and a brake is applied to the work pieces shortly before they reach the desired position for cutting, and the feed is then stopped and the work piece cut under the control of a controller which is responsive to movement of the pusher. The cut pieces are pulled from the cutter to a conveyor from which they are discharged laterally with a selector gate being provided to direct cut pieces and short ends into separate areas.

3,522,751
MISCUT DEVICE FOR FLYING SHEARS WITH A CONTINUOUS DRIVE

Walter Waldura, St. Ingbert-Saar, Germany, and Ferdinand Ludwig Towae, Saarbrucken, Germany, assignors to Verwaltungsgesellschaft, Moeller und Neumann offene Handelsgesellschaft, St. Ingbert-Saar, Germany

Filed Jan. 2, 1968, Ser. No. 695,192
Claims priority, application Germany, Jan. 4, 1967, 32,706
Int. Cl. B26d 1/56
U.S. Cl. 83—304 2 Claims

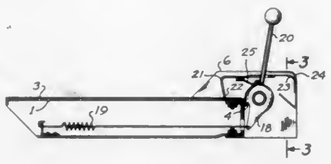


A miscut device for flying shears with an oscillating shears frame mounted on a main crankshaft whose eccentrics guide the upper knife support downwardly during each forward movement of the shears frame for the cutting action while the lower knife support connected by push rods to non-rotating miscut eccentrics of the main crankshaft is guided upwardly for the cutting action by selectively reversing these eccentrics, whereas in the lower dead center position of the miscut eccentrics the cutting knives no longer meet to produce a cutting action.

3,522,752
PAPER TRIMMER

Robert B. Ford, 8834 E. Naomi Avenue, San Gabriel, California

Filed April 5, 1968, Ser. No. 727,121
Int. Cl. B26d 5/42
U.S. Cl. 83—389 5 Claims



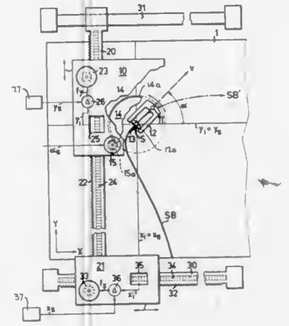
This invention relates to an improvement in paper trimmers of the type generally used throughout industry and educational institutions. The improvements are directed to a special blade construction and the means for mounting the blade on the movable member of the trimmer as well as a safety guard arrangement in combination with the blade arrangement which greatly improves the anticipated safety factor over the prior art.

3,522,753
APPARATUS FOR CUTTING FOILS OR THE LIKE

Artur Schmied, Wallisellen, Switzerland, assignor to Contraves AG, Zurich, Switzerland a corp of Switzerland

Filed Aug. 19, 1968, Ser. No. 753,434
Claims priority, application Switzerland, Sept. 1, 1967, 12,296/67
Int. Cl. B23d 19/08; B26d 5/02
U.S. Cl. 83—471 6 Claims

There is disclosed an apparatus for cutting foils or the like along predetermined cutting lines which incorporates a support table for the foil and a servomotor actuated-cutting device disposed above said support table and movable in two coordinate directions. The cutting device embodies a cutting element which is to be aligned in the cutting direction, this cutting element extending for a certain length in said cutting direction and being relatively thin in a direction transverse to said cutting direction. There is also provided a support for the cutting element. The cutting device further incorporates a body member, a pivot bearing being provided at said

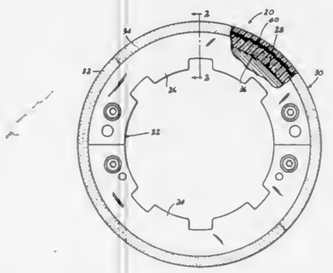


cutting device body member and capable of being pivotable by servomotor means about the cutting axis of the cutting device. This pivot bearing is mounted such that its longitudinal axis extends substantially transverse to the plane of the support table, such pivot bearing leading the momentary tangential forward movement of the cutting device. The support for the cutting element is mounted at the pivot bearing for rotation about the transversely extending axis of the pivot bearing.

3,522,754
REINFORCED FREEWHEELING RESILIENT COVER FOR ROTARY DIE-CUTTING ANVIL

Louis E. Sauer, St. Louis, Missouri, assignor to Centenary Central Inc., St. Louis, Missouri a Corp. of Missouri

Filed Aug. 14, 1967, Ser. No. 660,321
Int. Cl. B26d 7/20, 1/56
U.S. Cl. 83—659 12 Claims



A freewheeling resilient rotary die-cutting anvil cover incorporating a continuous reinforcing insert of corrugated fibreboard, and the like, to prevent binding and subsequent reduction in freewheeling, and for establishing an even cutting pressure over the outer surface of the cover. A modified cover includes a flexible member of one or multiple pieces secured together along a generally axial line or lines and including an annular rib or ribs on the inner surface disposed in annular grooves in the supporting base.

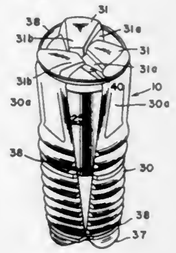
ERRATUM

For Class 85—36 see:
Patent No. 3,523,299

3,522,755
ANCHOR FOR MINE ROOF BOLT

Leslie T. Michell, 7 Brentwood Drive, Guelph, Ontario, Canada

Filed July 23, 1968, Ser. No. 746,896
Int. Cl. F16b 13/06
U.S. Cl. 85—75 1 Claim

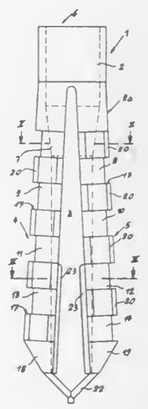


A mine roof bolt comprising a segmented expansion shell radially expanded by a wedge nut.
Each segment having an inwardly directed triangular member at its upper end which cooperate with each other to resist axial displacement.

3,522,756
AXIALLY SPLIT EXPANDING PLUG OF ELASTICALLY FLEXIBLE MATERIAL FOR AN ANCHOR BOLT OR SCREW

Wolf von Solff, Emmendingen, Germany, and Dieter Bertelsmann, Emmendingen, Germany, assignors to Max Langensiepen Kom. Ges., Emmendingen, Germany, a firm

Filed Aug. 26, 1968, Ser. No. 755,110
Claims priority, application Germany, Aug. 4, 1967, I45474
Int. Cl. F16b 13/06
U.S. Cl. 85—83 5 Claims

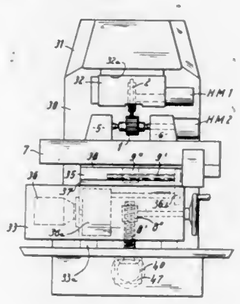


The invention provides an axially split expanding plug which has a tubular portion at its rear end and elevations projecting from its peripheral contours. The divided portion of the plug comprises at least along part of its length consecutive sections of polygonal cross section. Each section is angularly offset in relation to the adjoining sections in such a way that the corners of one section project beyond the flats or like surface portions of an adjoining section.

3,522,757
APPARATUS WITH SUPPLEMENTAL DRIVE FOR PRECISION WORKING OF GEAR WHEELS

Josef Lohrer, Munich, Germany; Herbert Loos, Munich, Germany; Gianfranco Grandi, Munich, Germany, and Fritz Hurth, Munich, Germany, assignors to Carl Hurth Maschinen-und Zahnradfabrik, Munich, Germany, a corp of Germany

Filed Oct. 18, 1967, Ser. No. 676,105
Claims priority, application Germany, Oct. 26, 1966, H60860
Int. Cl. B23f *19/08*
U.S. Cl. 90—1.6 6 Claims

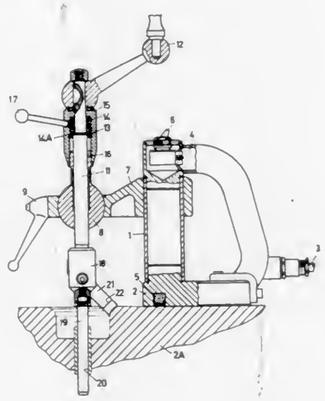


In a machine for cutting gears by use of a cutting tool operating in tight mesh with the workpiece, usually with the tool and workpiece in crossed-axes relationship with each other, profile errors are minimized by providing separate drive means for each of the tool and workpiece. Said profile errors are further minimized by automatically adjusting either or both of such drives to the reaction forces developed between the tool and workpiece in order to maintain a constant pressure on the tooth faces and thereby effect uniform cutting.

3,522,758
TURNING HEAD FOR CUTTING VALVE SEATS OF INTERNAL-COMBUSTION ENGINES

Italo Minelli, Kempthalstrasse 56, Pfaffikon, Switzerland and Paul Ramseier, Usterstrasse 55, Pfaffikon, Switzerland

Filed Feb. 20, 1968, Ser. No. 706,958
Claims priority, application Switzerland, March 1, 1967, 2,963/67
Int. Cl. B23c *1/20*; B24b *19/00*
U.S. Cl. 90—12.5 3 Claims

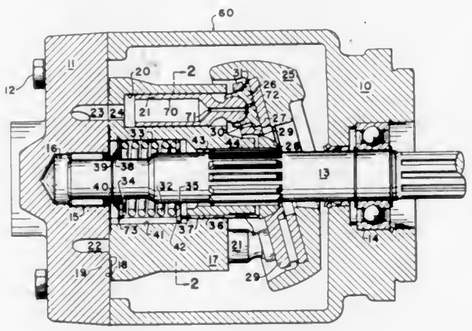


A form tool for cutting the valve seat is mounted on a spindle rotatable in a ball joint that is clampable in a holder which can be clamped in any desired position to a column. The spindle is adjustably spring loaded and can be positioned vertically. A pilot spindle projects into the valve-stem guide.

3,522,759
PUMP OR MOTOR DEVICE

Robert J. Martin, Hutchinson, Kansas, assignor to The Cessna Aircraft Company, Wichita, Kansas a Corp. of Kansas

Filed July 26, 1968, Ser. No. 747,877
Int. Cl. F04b *1/02, 9/00, 9/06*
U.S. Cl. 91—507 10 Claims

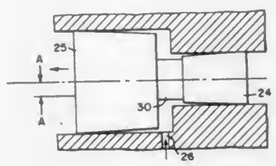


An axial piston pump or motor using single spring means acting in opposite directions to bias the piston shoes onto the swash plate and the cylinder block onto the fluid valving surface, in which a grounded resilient member opposes the force of the spring means in one direction so that the forces acting on the piston shoes and cylinder block are of different magnitude.

3,522,760
HYDRAULIC PISTON

Thomas H. Putman, Penn Hills, Pittsburgh, Pennsylvania, assignor to Westinghouse Electric Corporation, Pittsburgh, Pennsylvania a Corp. of Pennsylvania

Filed July 24, 1968, Ser. No. 747,198
Int. Cl. F01b *31/00, 7/00*; F16j *1/00*
U.S. Cl. 92—127 1 Claim

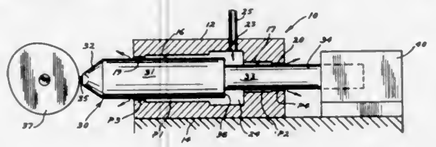


A substantially frictionless self-centering hydraulic piston for developing a force that may be resisted by a force that is applied displaced from the piston axis comprising at least two aligned cylinder sections with a piston having first and second spaced apart and connected piston sections complementary therein, at least one of the walls between each piston and cylinder section being tapered to provide a piston end with maximum clearance and a piston end with minimum clearance, together with means to apply fluid pressure to both piston ends of maximum clearance.

3,522,761
SELF THRUST BEARING STRUCTURE

Theodore J. Arneson, Jr., c/o Professional Instruments Company 4601 Highway 7, Minneapolis, Minnesota

Filed May 29, 1968, Ser. No. 732,993
Int. Cl. F01b *31/00*; F16c *1/24*
U.S. Cl. 92—162 5 Claims

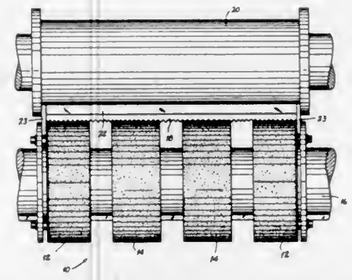


An externally pressurized fluid bearing structure including a journal having portions of different diameter forming a shoulder therebetween having pressurized fluid bearing against said shoulder to provide an axial thrust of predetermined direction.

3,522,762
MULTIPLE ANVIL STRUCTURE FOR ROTARY DIE CUTTING

Louis E. Sauer, 49 Frontenac, St. Louis, Missouri

Filed Aug. 12, 1968, Ser. No. 757,200
Int. Cl. B31b *1/22*; B26d *7/26, 9/00*
U.S. Cl. 93—58.4 2 Claims

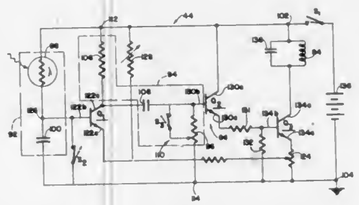


Rotary anvil construction for rotary die cutting of carton blanks across open spaces including a shaft, two spaced rotary slotting anvils slidably mounted on said shaft with the slots remote, each having a resilient cover, rotary anvils between said two slotting anvils having resilient covers spaced from each other and from the slotting anvils, said spaced anvil covers adapted to support a carton blank for a continuous rotary cut thereacross and across the intervening spaces.

3,522,763
EXPOSURE CONTROL APPARATUS

Milton S. Dietz, Lexington, Massachusetts, assignor to Polaroid Corporation, Cambridge, Massachusetts a Corp. of Delaware

Filed Jan. 25, 1967, Ser. No. 611,726
Int. Cl. G03b *7/08, 7/16*; G01j *1/46*
U.S. Cl. 95—10 12 Claims

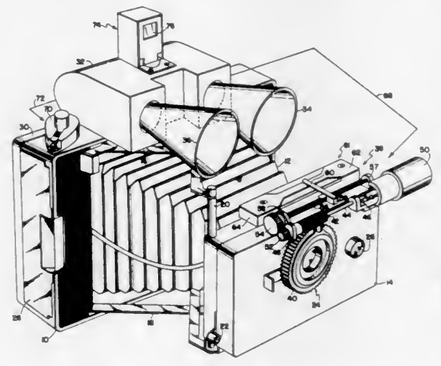


Flash photographic exposure control apparatus for a camera having an electrically timed shutter. The apparatus is characterized in the use of two timing circuits for providing shutter interval control signals. One of these circuits is responsive to scene light and the other to object distance. The circuits simultaneously generate control signals, the first such signal reaching the trigger level of a shutter regulating trigger circuit establishes exposure interval.

3,522,764
RANGEFINDING AND FOCUSING SYSTEM FOR PHOTOGRAPHIC CAMERAS AND THE LIKE

Conrad H. Biber, Needham, Massachusetts and William R. Pope, Jr., Cambridge, Massachusetts, assignors to Polaroid Corporation, Cambridge, Massachusetts a corp of Delaware

Filed March 25, 1968, Ser. No. 715,644
Int. Cl. G03b *3/00*
U.S. Cl. 95—44 20 Claims

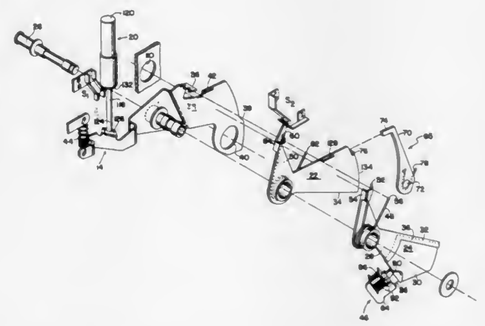


Sonic rangefinding and focusing apparatus for use with photographic cameras and the like. The rangefinder derives a pulse length modulated signal representative of object distance. This signal is used to cause the energization of a servomotor which is mechanically coupled to the translational focusing mechanism of a lens system. Feedback signals are generated in the apparatus for deriving error signals and a comparison signal representing the infinity stop of the lens system.

3,522,765
PHOTOGRAPHIC EXPOSURE CONTROL APPARATUS

Bruce K. Johnson, Andover, Massachusetts and Otto E. Wolff, Lexington, Massachusetts, assignors to Polaroid Corporation, Cambridge, Massachusetts a Corp. of Delaware

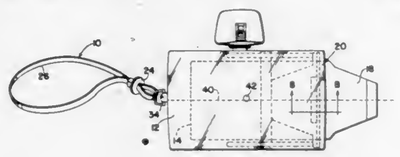
Filed Oct. 9, 1967, Ser. No. 673,574
Int. Cl. G03b *9/16*
U.S. Cl. 95—60 10 Claims



This disclosure involves photographic exposure control apparatus having separate aperture opening and closing

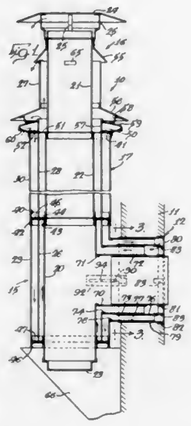
shutter blades and a control member movable between first and second positions. The apparatus further includes a first drive spring acting upon the opening blade and the control member and a second drive spring acting upon the closing blade and the drive member. Movement of the control member from its first to its second position winds the first and second drive springs and then causes exposure producing operation of the shutter blades under the influence of the wound springs.

3,522,766
CARRYING STRAP FOR A SELF-DEVELOPING CAMERA
John Wolbarst, Boston, Massachusetts, assignor to Polaroid Corporation, Cambridge, Massachusetts a Corp. of Delaware
Filed Nov. 6, 1967, Ser. No. 680,622
Int. Cl. G03b *17/56*
U.S. Cl. 95—86 **5 Claims**



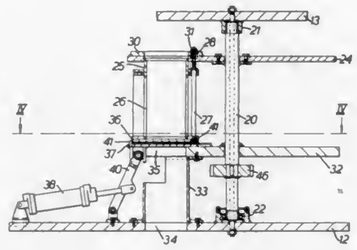
A strap for carrying a hand-held self-developing camera is positioned on said camera body to aid in removing film from said camera body while initiating processing of the film. The strap allows the camera body freedom of movement to align itself in a direction parallel to the direction of movement of the film, the direction being defined by a line passing through the center of gravity of the camera body.

3,522,767
ADJUSTABLE CHIMNEY T
Ray Derringer, Port Edwards, Wisconsin and Robert G. Moss, Wisconsin Rapids, Wisconsin, assignors to Preway Inc., a corp of Wisconsin
Filed Oct. 7, 1968, Ser. No. 765,591
Int. Cl. E04f *17/02*
U.S. Cl. 98—58 **4 Claims**



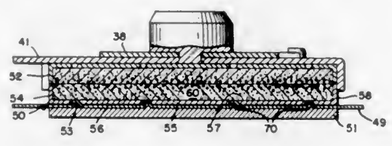
An adjustable tee for use with a thermo-syphon chimney having separate passages for up flow and down flow of insulating air and with the adjustable tee having three pipe sections in spaced relation to define a pair of annular air passages communicating with the passages of the chimney to have atmospheric air flow through the adjustable tee passages for cooling thereof as induced by the air flow through the chimney passages and with the sections of the tee being adjustable to vary the over-all length thereof to fit the thickness of a wall in which the tee is mounted.

3,522,768
PRESSES
James Shann, Kingston-upon-Hull, England, assignor to Rose, Downs & Thompson Limited, Kingston-upon-Hull, England, a British company
Filed April 5, 1968, Ser. No. 719,016
Claims priority, application Great Britain, April 6, 1967 15,831/67
Int. Cl. B30b *9/02, 15/02*
U.S. Cl. 100—125 **11 Claims**



The invention is concerned with de-liquefying presses where a permeable container or cage moves to and from a pressing station where the cage contents are pressed. The cage is resiliently suspended so that it is normally spaced vertically from a fixed abutment; when pressing occurs, the cage is forced downwardly by the pressing thrust into contact with the abutment which then receives the thrust.

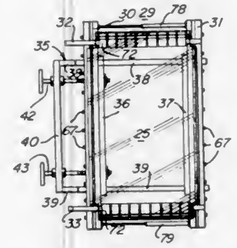
3,522,769
PRINT-EMBOSSING SEAL PRESS
Charles Priesmeyer, Park Ridge, Illinois, assignor to Meyer & Wenthe Inc., Chicago, Illinois a Corp. of Illinois
Filed March 31, 1961, Ser. No. 99,871
Int. Cl. B44b *5/02*
U.S. Cl. 101—3 **18 Claims**



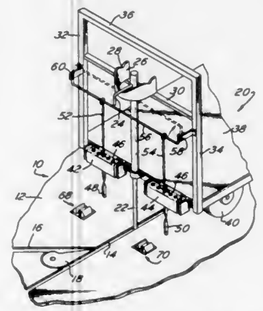
A seal press is provided with a female die structure which provides an internal portion of porous material for retention and flow control of a pigmented fluid for coating the crown portion of embossed characters formed in paper by the seal press.

3,522,770
METHOD AND APPARATUS FOR MODIFYING GRAPHIC MATTER
Paul S. Hirt, Jr., 1104 Butternut, Northbrook, Illinois
Filed Feb. 10, 1966, Ser. No. 526,526
Int. Cl. B41c *1/00*; **G03c** *11/00*
U.S. Cl. 101—426 **1 Claim**

The method of altering the ratio of two dimensions of graphic matter which comprises separating one portion of graphic matter displayed on a sheet of stretchable material, stretching said sheet in one direction while holding it taut along sheet edges parallel to the direction of stretch, enlarging the separated portion proportionally in both directions and then recombining both portions.

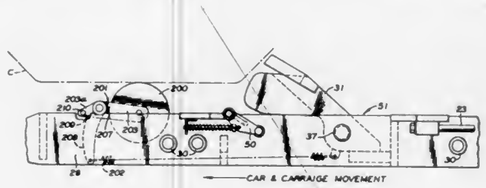


3,522,771
TOW TRUCK SELECTOR PIN
Charles E. Jacoby, Bethlehem, Pennsylvania, assignor to SI Handling Systems, Inc., Easton, Pennsylvania a corp of Pennsylvania
Filed May 31, 1968, Ser. No. 733,409
Int. Cl. B61l *11/02*; **B65g** *17/12*
U.S. Cl. 104—88 **5 Claims**



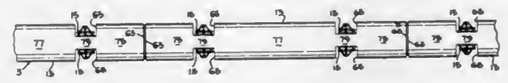
The selector pin for a tow truck is disclosed as being made from flat resilient metal or other metal heat-treated so as to have the properties thereof. The flat selector pin is provided with a 180° twist. The flexibility and high yield strength of the selector pin overcomes problems in the industry wherein selector pins made from round cold rolled low carbon steel are subjected to bending.

3,522,772
DOG CARRIAGE FOR A RAILROAD CAR MOVER
Cecil G. Hunt, c/o The Nolan Company, Bowerston, Ohio, assignor to The Nolan Company, Bowerston, Ohio a Corp. of Ohio
Filed Dec. 24, 1968, Ser. No. 786,631
Int. Cl. B61b *13/12, 1/00*; **B65g** *25/10*
U.S. Cl. 104—162 **10 Claims**
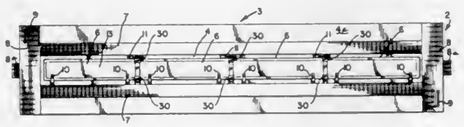


A dog carriage which carries the pivoted dog in such a manner that it is normally in inoperative lowered position so that during the retracting movement of the carriage beneath the car it will not engage the car. However, the dog is raised to operative car-engaging position just before being reversed to move the car. The raising of the dog is under the positive control of an actuating roller on the carriage which is operatively connected to the dog and is engaged by the truck of the car during the retracting movement of the carriage. The roller arrangement is such that the raising of the dog by the roller will only occur in response to engagement of the roller with the truck of the car and not in response to engagement with hopper doors or the like depending to a low position from the car. Quick-release means is provided in association with the actuating roller so that the roller can be dropped to an inoperative position when desired, for example, to allow passage of low clearance Diesel locomotives.

3,522,773
HIGH-SPEED GROUND TRANSPORTATION SYSTEMS
Lawrence K. Edwards, 301 Santa Rita Ave., Palo Alto, California
Filed July 18, 1968, Ser. No. 777,515
Int. Cl. B61d *1/00*
U.S. Cl. 105—329 **3 Claims**



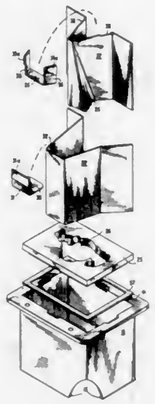
A car for rigid interconnection with other cars in a train of a high-speed ground transportation system. The car comprises an elongate shell with a pair of wheel wells at opposite sides of the shell adjacent one end of the shell and a pair of wheel wells at opposite sides of the shell adjacent the other end. The wells divide the car into end compartments and an intermediate compartment with narrow connecting sections therebetween which constitute regions of flexure for curving of the train. Wheels are mounted in the wheel wells.

3,522,774
TROUGH COVER SEAL ARRANGEMENT
Frank A. Beezhold, Lansing, Illinois, assignor to Pullman Incorporated, Chicago, Illinois a Corp. of Delaware
Filed March 20, 1968, Ser. No. 714,594
Int. Cl. B61d *39/00*
U.S. Cl. 105—377 **12 Claims**



A trough cover seal arrangement for a hopper car hatch comprising a generally V-shaped trough extending transversely of the car and fixedly attached to the hopper spaced apart hatch side coaming portions, the coaming portions being provided with openings above the trough to allow the water in the trough to drain outward of the sides of the car, the top transverse edges of the trough being in sealing relation with weather stripping attached to the end of each of two longitudinally spaced apart covers, each cover end having an upwardly projecting transverse water deflector and a transverse hold-down batten extending over the cover ends and generally parallel to a respective edge of the trough and enclosing each of the transverse water deflectors and the trough.

3,522,775
METHOD OF PRODUCING MULTIHUED FROZEN CONFECTIONS AND ALL PURPOSE NOZZLE ASSEMBLY THEREFOR
Lester John Fox, Glen Allen, Virginia and Sidney B. McMillion, Richmond, Virginia, assignors to Eskimo Pie Corporation, Richmond, Virginia a Corp. of Delaware
Continuation of application Ser. No. 670,904, Sept 27, 1967 This application March 3, 1969, Ser. No. 824,715
824,715
Int. Cl. A23g *5/02*
U.S. Cl. 107—1 **8 Claims**

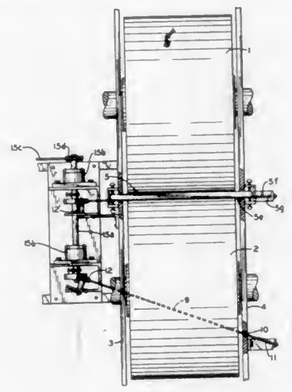


A method and an all-purpose nozzle assembly for forming flat, frozen confections of different distinctive object shapes in which adjoining areas of the object are of contrasting hues with distinctive outline form. The method comprises passing a conveyor beneath the lower end of an open nozzle passage, supporting within the lower end of the nozzle a replaceable and transversely extending extruder plate having a central cut-out section conforming to the outline shape of the object represented by the confection, installing replaceable partitions longitudinally of the nozzle interior to divide it into compartmentalized segments in which the lower portions of the partitions in conjunction with the extruder plate cut-out define the distinctive outlined areas of the object, introducing a different hued mixture of the confection in a cold, plastically flowable but shape retaining condition into the top portion of each of the adjoining compartments to emerge from the cut-out as a shaped extruded length, periodically severing a portion of the extruded length to fall onto the conveyor and passing the conveyor and severed shapes of the mix through a refrigerated compartment at subfreezing temperatures.

The nozzle assembly includes a nozzle with an inwardly extending lip at the lower end supporting a replaceable extruder plate having a central cut-out portion corresponding to the outline shape of the object, replaceable partitions insertable into the nozzle interior to extend longitudinally thereof in contact with the extruder plate to divide the nozzle interior into compartments in which the lower portions overlying the extruder plate in conjunction with its cut-out section define the adjoining distinctively outlined areas of different hues in the confection and at least one feed tube projecting into each compartment through a cover plate extending across the top of the nozzle.

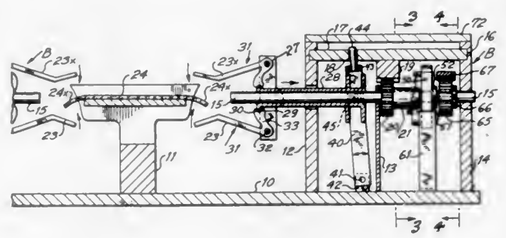
3,522,776
AUTOMATIC DOUGH PROCESSING MACHINES
Fausto Celorio Mendoza, Cumbres de Acultzingo No. 185, Lomas de Chapultepec, Mexico
Filed Sept. 23, 1968, Ser. No. 761,743
Int. Cl. A21c *5/00*
U.S. Cl. 107—8 **8 Claims**

An automatic dough processing machine having a pair of dough-shaping rolls rotatively mounted on parallel axes. Dough is supplied to the rolls from above and passes downwardly between the rolls while adhering to one thereof. The machine is provided with an endless belt conveyor disposed below the rolls to receive the processed dough therefrom. A pressure regulating device is placed at a point near the bight of the rolls. A wire is positioned at an angle to



and flush with the surface of the said one of the rolls following the bight and is connected to a frequency device for imparting longitudinal vibrations to the wire for detaching the dough from the surface of the said one roll without, however, impairing the texture of the surface of the dough.

3,522,777
CLOCKWISE-COUNTERCLOCKWISE PASTRY TWISTING DEVICE
Leonhard Schafer, 2770 Briggs Ave., Bronx, New York
Filed Oct. 30, 1968, Ser. No. 771,749
Int. Cl. A21c *11/00*
U.S. Cl. 107—8 **6 Claims**



A device comprising a pair of oppositely disposed rotatable elements disposed in spaced relationship, operating simultaneously upon a strip of seized pastry disposed therebetween, one element being adapted to rotate clockwise while the other element rotates counterclockwise to thereby fully convolute said seized pastry.

3,522,778
GAME TABLE
William F. Porath, P.O. Box 91, Gillett, Wisconsin and Milton A. Porath, Route 1, Suring, Wisconsin
Filed April 9, 1969, Ser. No. 814,629
Int. Cl. A47b *3/06*
U.S. Cl. 108—153 **14 Claims**

A game table and leg structure therefor for supporting and bracing the same including a plurality of angularly spaced brace members in substantially abutting relation at a central axis of the table and a plurality of angularly spaced legs also in substantially abutting relation with the brace members at or near the central axis of the table. The legs are permanently or detachably secured to the brace members,

the removal and replacement of three or more legs being accomplished by a single nut and hub lock plate. When the

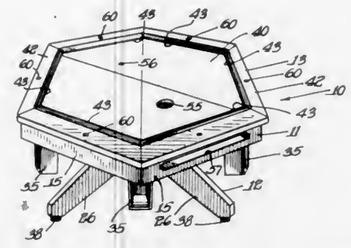
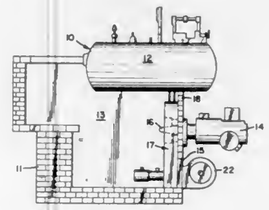


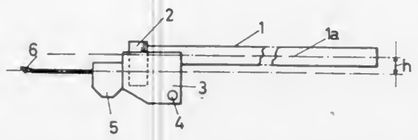
table is constructed as a pool table, means are provided for permanent bed-leveling to maintain the playing surface in a true flat condition.

3,522,779
AIR SUPPLYING AND PREHEATING UNITS FOR BOILERS
Benjamin F. Kwiat, 54 N. Pleasant Avenue, Ridgewood, New Jersey
Filed April 11, 1968, Ser. No. 720,603
Int. Cl. F23c *7/06;* **F23l** *9/00*
U.S. Cl. 110—56 **4 Claims**



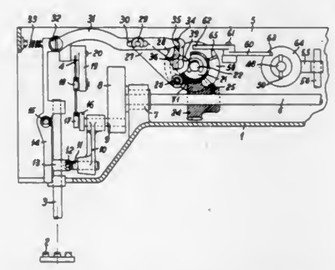
Air is supplied to the interior of a boiler through circumferentially disposed openings of a unit facing the combustion chamber of the boiler and surrounding the nozzle of the oil burner of the boiler. The unit contains deflector blades for the flowing air. Blowers connected to the motor of the oil burner may be attached to the unit to inject air into the unit. Beside the circumferential openings, tubular air supply units of known construction may be attached to the unit to further promote the flow of air.

3,522,780
NEEDLE BAR FOR HOSIERY LINKING MACHINES
Cesare L. Conti, Via Varese 18, Milan, Italy
Filed June 6, 1968, Ser. No. 734,982
Claims priority, application Italy, June 28, 1967, 804,750, Apr. 12, 1968, 15,158
Int. Cl. D05b *7/00*
U.S. Cl. 112—25 **4 Claims**



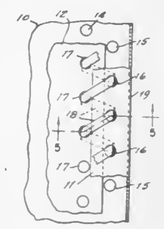
A needle-bar for linking machines (loopers) for hosiery is disclosed, in which the needle is mounted eccentrically with respect to the axis of said needle-bar. Means are further provided for varying the eccentricity of the needle with respect to the needle-bar, care being taken in any case that the axes of the needle and the needle-bar are rigorously parallel to one another. The advantage afforded by the novel eccentric needle bar is that, whenever the needle bar is to receive, in addition to its conventional reciprocal motion, also a partial alternating rotation about its own axis, the control mechanisms which govern the movement of the needle bar can be considerably simplified. Thus, the reliability of the machine and its working speed are considerably improved.

3,522,781
SEWING MACHINE
Olindo Baruffa, Aire-Geneva, Switzerland, assignor to Mefina S.A., Fribourg, Switzerland a Corp. of Switzerland
Filed May 23, 1968, Ser. No. 731,600
Claims priority, application Switzerland, May 26, 1967, 7479/67
Int. Cl. D05b *3/02*
U.S. Cl. 112—158 **6 Claims**



A sewing machine chiefly for sewing button-holes, wherein the transverse shifting and eccentricity of the needle-bar as required for zigzag stitching are controlled by two cams, preferably coaxial with the cam controlling the zigzag motion. The first cam controls the position of an intermediate connecting rod in contact with a rocking slideway, so as to define the amplitude of said transverse movement, whereas the second cam controls the location of the pivot of said rocking slideway, so as to define the eccentricity of the transverse movement of the cradle carrying the needle bar. Advantageously, a further adjusting cam on said common shaft acts on the usual main cam controlling the direction and amplitude of the movements of the fabric-feeding claw.

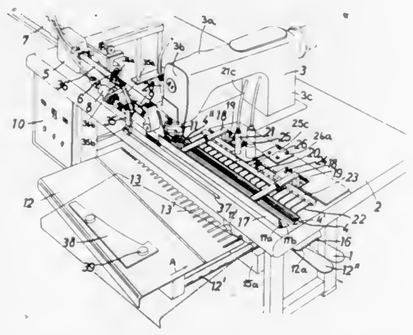
3,522,782
METHOD FOR EDGE-BINDING LEATHER GOODS, AND THE LIKE
Basil M. McNew, Fort Worth, Texas, assignor to Tandy Corporation, Fort Worth, Texas a Corp. of Delaware
Filed Feb. 23, 1968, Ser. No. 707,514
Int. Cl. D05b *1/00*
U.S. Cl. 112—262 **2 Claims**



A method for binding the finished edges of laminated sheets of leather, and the like, such as in the fabrication of wallets, purses, traveling bags and travel kits, and other similar articles, as by folding the peripheral edges of an outer laminae over the adjacent edges of one or more inner laminae, and forming a plurality of spaced rows of perforations along and adjacent to the peripheral edges of the outer

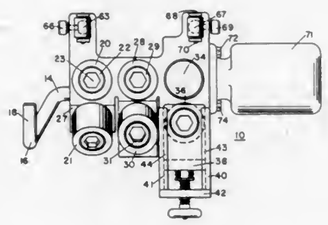
laminae, and a single row of perforations adjacent to and along the edges of the inner laminae whereby, when the peripheral edges of the outer laminae are folded over the adjacent edges of the inner laminae, the rows of perforations in each lamination will register, and securing the laminated sheets by a lace spirally threaded through the perforations, and spaced inwardly from the perimetrical edges of the outer laminae.

3,522,783
DART-STITCHING SEWING MACHINE ARRANGEMENT
Konrad Pollmeier, Bielefeld, Germany, assignor to Durkoppwerke GH, Bielefeld, Germany, a Corp. of Germany
Filed Sept. 25, 1968, Ser. No. 762,500
Claims priority, application Germany, Sept. 26, 1967, 1,660,839
Int. Cl. D05b *21/00*; **D05c** *9/10*
U.S. Cl. 112—121.15 **12 Claims**



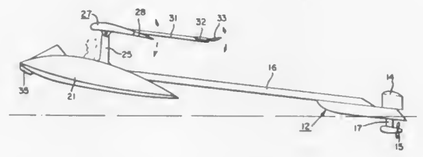
A system for sewing darts upon a sewing machine wherein a folding blade is inserted beneath a fabric-feed bar and a clamping rail and is angularly adjustable while being insertable to any desired degree, thereby allowing variation of the depth of the dart and the angle thereof. A needle bar behind the fabric-feed bar has an array of needles which transfix the inserted fabric and pass through slots in the folding blade to retain the fabric prior to operation of the feed bar and the clamping rail and after withdrawal of the plate. A stripper rod drives the fabric remaining upon the folding table downwardly into the gap between the folding blade and the sewing table to prepare the folding blade to receive another fabric layer.

3,522,784
CLOSING TOOL FOR CUP-CLIPS OR GOVERNMENT LOCKS
Harry W. Moxley, Sr., 3503 East Overton Road, Dallas, Texas
Filed April 18, 1968, Ser. No. 722,482
Int. Cl. B21d *39/04*
U.S. Cl. 113—55 **16 Claims**



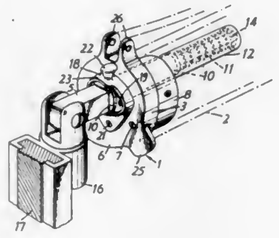
A portable tool is disclosed that, when driven along the normally outstanding lip of a so-called government lock or cup-clip securing two mating sections of an air duct together, causes the lip to bend around the flanged portion of the male duct. The tool includes a number of rollers positioned to bend the lip through a ninety degree arc from the normally outstanding position to the closed position about the flange as the tool traverses the length of the lip, a front guide for supporting the tool along the lip and power means connected to at least one of the rollers for driving the tool.

3,522,785
SEMIAIRBORNE VEHICLE
David F. Thompson, 204 Wildwood Ave., West Chester, Pennsylvania
Filed Aug. 14, 1968, Ser. No. 752,717
Int. Cl. B63b *1/18*
U.S. Cl. 114—66.5 **7 Claims**



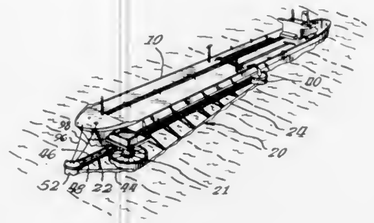
A semi-airborne vehicle is disclosed driven by a surface bound propulsion unit. Extending forwardly from the surface propulsion unit is a long pylon boom having at the forward end thereof the airborne portion of the vehicle in the form of a winged body adapted to rise above the surface of the water under the control of a pilot who rides in the cockpit of the winged body. The surface propulsion unit, which is unmanned, never leaves the surface. In one preferred form, the surface unit is water bound, and the winged body, which utilizes aero-dynamic lift and is capable of limited roll and pitch, includes a hull and a wing supported on said hull for free pivotal movement about the pitch axis.

3,522,786
ROTARY BOOM FITTING
Maurice Randell-Clark, Cobble Stones, 35 Greenway Road, Galmpton, near Brixham, South Devon, Great Britain
Filed Sept. 19, 1968, Ser. No. 760,773
Claims priority, application Great Britain, March 21, 1968, 13,843/68
Int. Cl. B63h *9/04*
U.S. Cl. 114—106 **14 Claims**



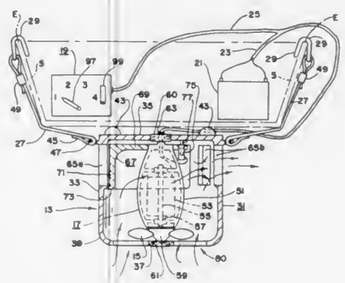
A device for connecting a sail boom to a mast or other structure with which it is to be used comprising a first part for connection to or integral with the boom and a second part adapted for connection to the mast, the two parts engaging one another and locking together against rotation, release means which can be operated to hold the parts in an unlocked position so that one can be rotated in relation to the other and safety means which act to shroud the gap between the two relatively moveable parts when they are held in their unlocked position.

3,522,787
TANKER LOADING SYSTEM
William A. Tam, Westmont, Illinois, assignor to Chicago Bridge & Iron Company, Oak Brook, Illinois a Corp. of Illinois
Filed May 7, 1968, Ser. No. 727,301
Int. Cl. B63b *21/00*, *2152*
U.S. Cl. 114—230 **15 Claims**



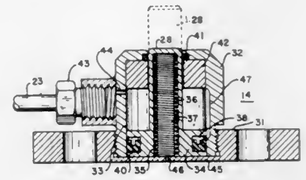
A mooring system for vessels including a mooring structure adapted for rotation about a fixed storage facility and including a first member spaced from and connected to a second member by damping means, the second member having forward and after booms offset from each other.

3,522,788
FISHING BOAT POSITIONING APPARATUS
Charles A. Montague, Jr., 5269 Pecan Grove Lane, Memphis, Tennessee, assignor to Elvin A. Stafford, Memphis, Tennessee , fifty percent
Filed Jan. 3, 1969, Ser. No. 788,898
Int. Cl. B63h *21/26*
U.S. Cl. 115—18 **9 Claims**



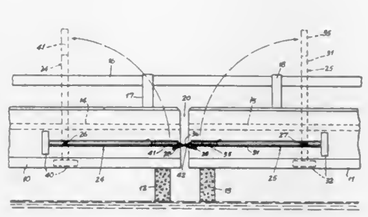
The invention includes a substantially small propulsion unit adapted to be detachably attached on the underside of the bottom of a boat and preferably at the longitudinal and transverse center of the boat. Preferably, the propulsion unit includes a motor driven screw propeller dependingly supported and driven on a vertical axis and operative for causing an upward submerged current of water. The propulsion unit includes a deflector vane facing downwardly and adapted for deflecting the upward current of water horizontally thereby affording thrust for moving the boat in a desired direction. The deflector vane is pivotable about a vertical axis for deflecting the water in a desired horizontal direction and by reactive action causing the boat to move oppositely horizontally. Electric control means including a small control box is adapted for controlling the pivotal movement of the deflector vane about its vertical axis. The control box is adapted to be located near or supported on the person of the fisherman or operator of the boat. A second embodiment (**FIGS. 6** and **7**) of the invention includes offset mounting means for a screw propeller mounted on a horizontal axis of rotation. The screw propeller of the second embodiment is supported for pivotal movement about a vertical axis. The thrust from the propeller of the second embodiment provides dual power means for selectively positioning the propeller at a desired tangential position relative to the vertical axis and provides major thrust means for thrusting the boat in a desired direction.

3,522,789
TIRE PRESSURE ALARM DEVICE
Marion A. Garrison, 2325 Monaco Parkway, Denver, Colorado
Filed Nov. 6, 1967, Ser. No. 680,922
Int. Cl. B60c *23/02*
U.S. Cl. 116—34 **15 Claims**



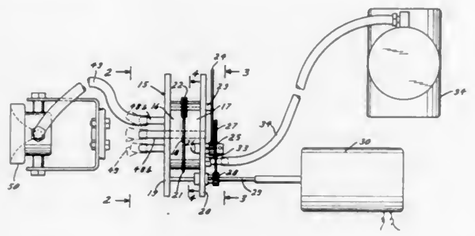
A device for indicating change of pressure in a pneumatic tire for a vehicle comprises a cylinder having a piston movable therein between normal and abnormal pressure positions. The piston is urged away from the abnormal position by a biasing spring. When moving to the abnormal position the piston moves an indicating member into indicating position in which the member engages a signal producing member to warn the driver of the vehicle. A permanent magnet is mounted adjacent the indicating position of the piston and as the piston approaches urges it into the indicating position and locks it there; this provides a positive movement of the piston into indicating position and its secure retention in that position.

3,522,790
BRIDGE FAILURE WARNING DEVICE
Robert J. Cambre, Chalmette, Louisiana and Vincent R. Valley, Metairie, Louisiana, assignors to Boh Bros. Construction Company, Inc., New Orleans, Louisiana a Corp. of Louisiana
Filed July 9, 1968, Ser. No. 743,416
Int. Cl. G08b *21/00*, *5/40*
U.S. Cl. 116—114 **5 Claims**



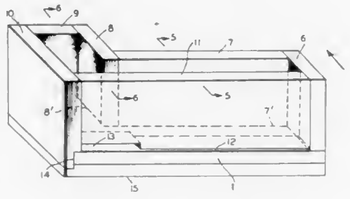
The device disclosed is an automatic warning to alarm approaching vehicle operators in the event a bridge slab or section is knocked out of position. An elongated tubular unit, pivotally mounted at the end of each adjacent span, counterweighted to swing it to an upright position. At the other end of each tubular unit there is a flare having a pull cord by which it can be ignited, engaged over a pin on the opposite bridge section, located so as to dispose the unit in a horizontal, inactive position. If the spans shift relative positions, the cords are pulled, causing flares in each unit to ignite, and releasing the units so that they can swing into upright position on their respective spans by the action of the counterweights. This places the burning flares in a clearly visible position above the roadway to warn of the bridge condition.

3,522,791
SYSTEM OF PEST CONTROL
Herman H. Feller, 3111 Brighton 1st Place, Brooklyn, New York
Filed Dec. 16, 1968, Ser. No. 784,128
Int. Cl. G10k *7/00*
U.S. Cl. 116—137 **8 Claims**



A system of pest control by the use of ultrasonic means. A high-frequency jet resonator operable by air under pressure is combined with means to produce a continuous series of ultrasonic pulses. In an aspect of this invention for simulating the ultrasonic sounds of a bat in flight around a given area, a plurality of such resonators are placed about the area, a pressure distributor being connected to all the resonators for sequentially setting them off to produce a series of ultrasonic pulses in succession around the area.

3,522,792
DEVICE FOR APPLYING A COATING OF VARYING THICKNESS
Norman E. Delfel, Peoria Heights, Illinois, assignor to the United States of America as represented by the Secretary of Agriculture
Filed Nov. 14, 1967, Ser. No. 683,439
Int. Cl. B05c *3/18*
U.S. Cl. 118—415 **1 Claim**

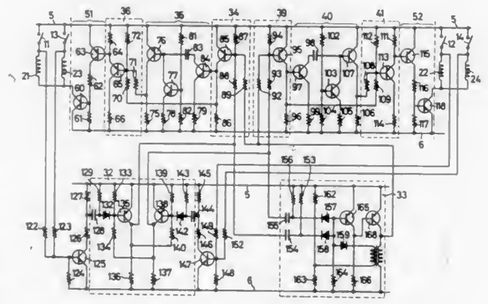


An L-shaped laterally flanged coating device having vertical walls and adapted to be moved over a substrate. The bottom edge of the trailing wall is spaced from the substrate a distance to provide a thin coating for about 75-80 percent of its length while the remainder of the trailing wall is further elevated from the substrate by a factor of four to five. The portion of the wall opposite the enlarged gap being recessed to provide additional coating capacity for the enlarged gap area.

3,522,793
CONDITIONED WATER HABITAT FOR SHIPPING AND KEEPING LIVE FISHES
Frederick W. Proewig, Wantagh, New York, assignor to Aquarium Import Corporation, Amityville, L.I., New York
No Drawing. Filed Aug. 21, 1968, Ser. No. 754,487
Int. Cl. A01k *61/00*
U.S. Cl. 119—3 **12 Claims**

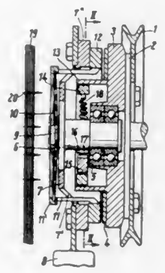
Water used as a habitat for transporting, storing, and keeping live fishes is conditioned by the addition of substantially non-toxic, water-soluble cellulose derivatives and especially cellulose ethers such as methyl cellulose, sodium carboxymethyl cellulose, and others in amounts not substantially exceeding 5 g. per 100 liters.

3,522,794
ELECTRONICALLY CONTROLLED INJECTION SYSTEM FOR AN INTERNAL COMBUSTION ENGINE
Wolfgang Reichardt, Stuttgart-Rohr, Germany, and Wolf Wessel, Stuttgart, Germany, assignors to Robert Bosch GH, Stuttgart, Germany
Filed June 26, 1968, Ser. No. 740,301
Claims priority, application Germany, March 28, 1968, 1,751,072
Int. Cl. F02d *5/02*
U.S. Cl. 123—32 **16 Claims**



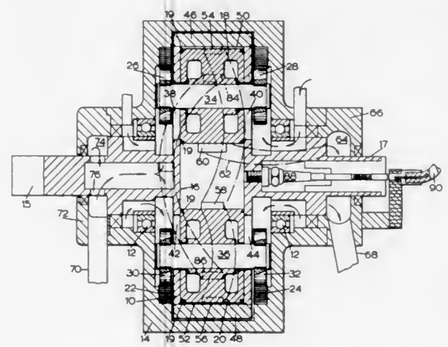
The injection time of one fuel injector may be made to overlap the injection time of a following fuel injector, even though only one multivibrator is used to control the beginning of all sequentially operated injectors. This is accomplished by causing storage means to charge during the time the multivibrator is in the unstable state, during which time current flows through the activation coil of a selected injector. This storage circuit then discharges through the activation coil of the same injector when the control multivibrator changes state, thus causing current to continue to flow through the activation coil, thus in turn causing fuel to continue being injected by the injector.

3,522,795
FAN ARRANGEMENT FOR AUTOMOTIVE VEHICLES AND THE LIKE
Gerd W. Seifert, Unterschondorf-Ammersee, Germany, Continuation-in-part of application Ser. No. 705,743, Feb. 15, 1968, which is a continuation-in-part of application Ser. No. 599,908, December 1966, now Pat. No. 3,396,909. This application Jan. 2, 1969, Ser. No. 788,397
Claims priority, application Germany, Jan. 5, 1968, P 1,601,439
Int. Cl. F01p *7/02*; **F16d** *11/06*; **F04d** *25/14*
U.S. Cl. 123—41.12 **7 Claims**



A centrifugally actuated clutch, especially for the fan blade of the cooling system of an internal-combustion engine, in which the load or fan-blade shaft is journaled with respect to the driven shaft and coaxially therewith in a bearing. The co-operating members of the clutch are located radially outwardly of the bearing, preferably in a clutch housing which surrounds the bearing in the radial sense and which also may extend axially about the bearing. Fluid or friction clutching may be used. A partition can separate a thermostatic clutch from a centrifugally operated clutch.

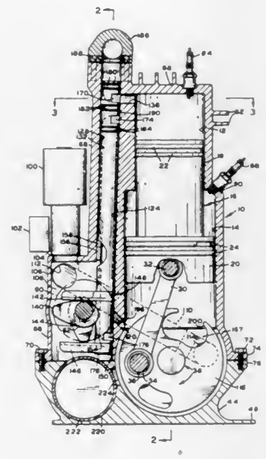
3,522,796
INTERNAL COMBUSTION ENGINES
Austin C. Mercer, Jr., Bradford, England, assignor to Mercer Engineering Company (Bradford) Limited, Bradford, York, England
Filed Jan. 15, 1968, Ser. No. 697,826
Claims priority, application Great Britain, Jan. 20, 1967, 3,118/67
Int. Cl. F02b *57/04*, *33/08*
U.S. Cl. 123—44 **4 Claims**



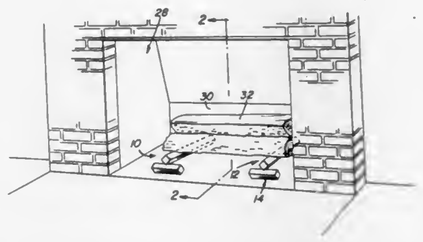
A rotary internal combustion engine comprising a cylinder assembly mounted for rotation about an axis and having an opposed pair of closed outer end cylinders at the inner ends of which is a common combustion chamber. Respective pistons reciprocate in the cylinders. A combustible mixture is introduced into the cylinders at their outer ends for compression during outward movement of the pistons, and passage means in the cylinder walls is provided for transferring the compressed mixture to the combustion chamber. The pistons act to valve the passage means, and both fuel intake and exhaust from the combustion chamber.

3,522,797
SUPERCHARGED ENGINE
Donald E. Stinebaugh, Post Falls, Idaho, assignor, by mesne assignment, to Power Research & Development, Inc., Spokane, Washington, a Corp. of Washington
Filed Dec. 1, 1967, Ser. No. 687,164
Int. Cl. F02b *33/26*
U.S. Cl. 123—75 **16 Claims**

A four-cycle, supercharged engine (FIGS. 1 to 6) in which the combustible mixture is turbulated by drawing it into the crankcase through a valve cam chamber and by the crank and is supplied to a dual cylinder through positively driven sleeve valves. Piston type valving is provided and a single piston acts to valve both intake and exhaust. Supercharging is adjustable by a crankcase plug (FIG. 1) adjustably withdrawable from the crankcase, which also is used to relieve compression to facilitate cranking of the engine to start it. In the engine of FIGS. 7 and 8, a carburetor is connected to the crankcase by a check valve, and the crankcase is connected by a check valve to the intake manifold which has a volume at least as great as the displacement of each piston so that a supply of highly compressed air-gasoline mixture is available immediately upon the start of an intake stroke of the piston. A dual or stepped piston has wedge-like head ends to eliminate ping and a booster piston is driven by the crankshaft oppositely to the stepped piston to add to the supercharging, and the drive of the booster piston is adjustable manually by a spline connection to the booster piston to vary the supercharging. Valving pistons slidable in sleeves operate to connect single ports in the cylinders alternately to intake and exhaust. A camshaft is connected through adjustable spiral gearing to a camshaft drive to provide timing adjustment while the engine is running. A supercharged engine of FIGS. 10 to 14 has an intake manifold of as great a volume as that of each of two pistons, and the manifold is connected by a check valve to a supercharging crankcase. A single sleeve valve is driven by a three lobe, constant diameter cam to effect quick opening and quick closing of intake ports to the two cylinders, and a similar sleeve valve effects exhaust of the two cylinders. A rotary hollow plug is rotated by an actuator driven by the combined action of a throttle controlled link and a manifold pressure controlled link. Rotation of the plug in the same direction successively closes off compartments in the plug from the crankcase to successively increase supercharging.



3,522,798
ANDIRON
Robert N. Frazer, Box 431, Marion, Kentucky
Filed July 23, 1968, Ser. No. 746,980
Int. Cl. F23h *13/00*
U.S. Cl. 126—298 **6 Claims**

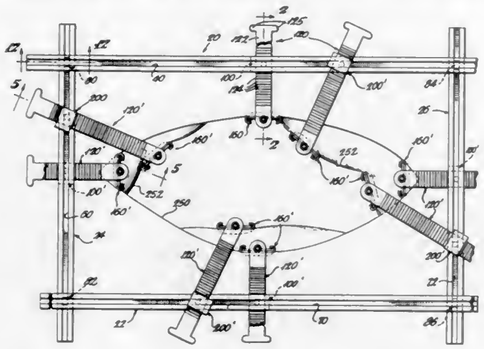


A fire dog consisting of an elongated square firewood supporting bar welded at one end to an elongated transversely extending relatively shorter bar, the first bar, in operative position, inclining rearwardly toward the back of a fireplace.

3,522,799
SURGICAL RETRACTOR DEVICE
William K. Gauthier, 310 Codifer Boulevard, Metairie, Louisiana
Filed June 21, 1967, Ser. No. 647,827
Int. Cl. A61b *17/02*
U.S. Cl. 128—20 **29 Claims**

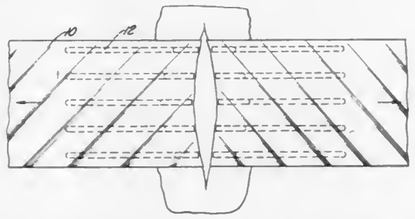
Four sections or arm means of similar construction are slidably interconnected to form a frame means. A pair of in-

dependent support means is slidably supported on each section or arm means and held in place by detent means. Each support means has a recess formed therein which slidably



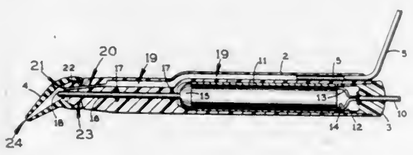
receives a support arm which is held in place by detent means. A retractor blade is mounted on each support arm for pivotal movement and vertical adjustment with respect thereto.

3,522,800
DISPOSABLE WOUND RETRACTOR AND DRAPE AND METHOD OF USING SAME
Arthur J. Lesser, Los Angeles, California
Continuation-in-part of application Ser. No. 467,859, June 29, 1965. This application July 19, 1966, Ser. No. 567,329
Int. Cl. A61b *17/02*
U.S. Cl. 128—20 **9 Claims**



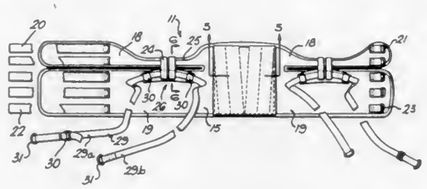
A novel disposable wound retractor and drape comprising a thin plastic sheet having a length substantially greater than its width containing longitudinally thereof at one end a plurality of generally parallel transversely spaced thin elongated metal reinforcing stays of generally rectangular cross-section, one of the long dimensions of each stay terminating at the edge of the sheet and the length of the stays being less than the length of the sheet.

3,522,801
ULTRASONIC DENTAL HYGIENE DEVICE
Seymour Robinson, Miami, Florida, assignor to Hydrosonic Corporation, Miami, Florida a Corp. of Florida.
Filed Aug. 6, 1968, Ser. No. 750,634
Int. Cl. A61h *9/00*
U.S. Cl. 128—66 **6 Claims**



A hand operated device from which a jet of water may be directed on the teeth and gums, which water is energized with ultrasonic energy from a transducer within the device, which in turn is supplied by energy from an electronic ultrasonic generator.

3,522,802
TRACTION APPARATUS
Walter Morton, 3525 Fleury, Mississauga, Ontario, Canada
Filed Dec. 7, 1966, Ser. No. 599,912
Int. Cl. A61h *1/02*
U.S. Cl. 128—75 **10 Claims**



A method and apparatus for applying traction wherein traction force is applied to the outermost and uppermost portions of the pelvis in a direction generally toward the feet of the patient and toward the longitudinal center line of the patient.

3,522,803
INSERTER FOR INTRA-UTERINE DEVICE
Gregory Majzlin, 92 Whitman Drive, Brooklyn, New York
Filed Aug. 28, 1967, Ser. No. 663,598
Int. Cl. A61f *5/46*
U.S. Cl. 128—127 **9 Claims**

An insertion apparatus string method for inserting an intra-uterine device which has a string associated therewith into a uterus is provided, the apparatus having a hollow tube member open at both ends and a rod member having string securing means at one end thereof. The rod member is moveable in the hollow member from a first position in which the string is secured to the rod member and a second position in which the string is pulled through the hollow member to seat the intra-uterine device therein. The hollow member is then inserted into the uterus and moved relative to the rod member to cause expulsion of the intra-uterine device from the hollow member into the uterus.

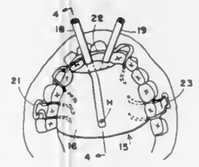
3,522,804
INFANT'S NECK AND HEAD SUPPORT
Abraham Towbin, 18 Inis Circle, West Newton, Massachusetts
Filed May 21, 1968, Ser. No. 730,866
Int. Cl. A61f *13/00*
U.S. Cl. 128—133 **5 Claims**



A brace for wear by infants to prevent spinal injuries of the "whiplash" type due to sudden, extreme movements of

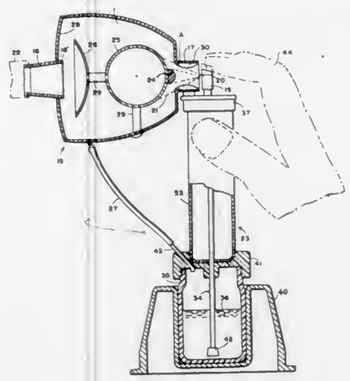
the head. The brace is made of molded rubber and extends off the child's shoulders, back and chest. A head support shaped to conform generally to the child's head extends upward along the back of the infant's neck and head, and is reinforced by stiffening ribs.

3,522,805
DENTAL APPLIANCES FOR INHIBITING TONGUE-THRUSTING AND THUMB-SUCKING
Melvin Wallshein, 8645 Bay Parkway, Brooklyn, New York
Filed March 4, 1968, Ser. No. 710,090
Int. Cl. A61f *5/56*
U.S. Cl. 128—136 **10 Claims**



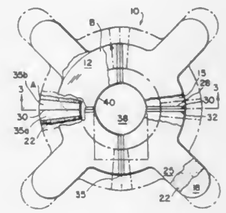
Air passage structure carried by a detachable teeth-engaging means on only one jaw, protrudes out of the mouth to hold the lips from closing to form a seal. Said structure has air outlet ports within the mouth at such positions that with slight movement of the tongue in directions other than to pass between the upper and lower teeth, it acts as a valve to stop the air intake. To inhibit thumb-sucking only, the air passages are so spread that the thumb cannot serve to shut all of them simultaneously.

3,522,806
AEROSOL APPARATUS FOR INHALATION THERAPY
George Szekely, New York, New York, assignor to G.S. International Laboratory Corp.,, New York, New York a Corp. of New York
Filed Aug. 7, 1968, Ser. No. 750,808
Int. Cl. A61m *11/00, 11/02, 11/06*
U.S. Cl. 128—173 **10 Claims**



A baffle-containing casing has an inlet nipple into which a nozzle discharges a liquid spray to be nebulized into a dry aerosol which is directed from the casing through an outlet nipple to the patient's mouth. The spray may be made by use of a power unit which is a spray maker operated by a compressed gas actuating an atomizer, all of which is a unitary structure whose operating member of its valve control is also the member which is the spray nozzle. The position of the nozzle is such when operating, that the particles of liquid issuing therefrom will impinge all around the inner surface of the intake nipple before entering the baffle chamber. This causes an automatic inrush of air through the intake nipple and into the baffle chamber, which crashes the larger particles of the spray against a relatively small semi-spherical baffle, causing nebulization thereof into an aerosol which is driven to the patient. Large spray particles remaining or caused into existence by bunching, are intercepted and drained back into the liquid supply which is being acted on by said spray-making gas-powered unit. The automatic inrush of air through the intake nipple which is caused by jet action, is strong enough to create proper dry aerosol though the spray flow is weak, is attainable because of the provision of a plurality of spaced, inward, radially extending fins in the intake nipple; such fins giving the nipple which may be of the Venturi type, a shape which is sort of like an internal gear, whose teeth are of various shapes. Flow of air into the nipple at intake, is in straight lines and unbent from the free atmosphere.

3,522,807
FECAL RECEPTACLE
Bluma Millenbach, 25 Roe Court, Islip, New York
Filed Oct. 2, 1968, Ser. No. 764,462
Int. Cl. A61f *5/44*
U.S. Cl. 128—283 **10 Claims**

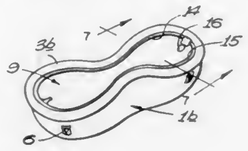


The invention is particularly suited to comatose or incontinent patients who, having no control of bowel functions, are literally helpless in that regard and accordingly present a serious problem from the standpoint of cleanliness and nursing care. The structure contemplates a disposable article which comprises a plastic bag, the open top of which is secured to a ring of flexible material such as paper, plastic or textile, treated with a pressure sensitive adhesive so as to adhere between the buttocks of a patient with the bag in position to receive fecal matter. A principal feature of the invention is the construction of the flexible ring whereby it presents an initially small aperture adjacent or surrounding the anus of the patient. However, during the process of defecation, as the sphincter expands, the ring likewise expands to increase the diameter of the aperture so as to ensure proper accommodation of fecal matter flowing therethrough into the bag and to ensure adherence of the ring to the patient. The expandability of the adhering ring is effected by providing a plurality of pleats therein which are normally in folded condition, but which open during defecation. Further, the existence of the pleats effects venting passages so that gas released by the patient is vented and not trapped in the bag to cause ballooning or possible bursting.

3,522,808
SANITARY CLOTHING ARTICLE
Gurdon S. Worcester, High St., Gloucester, Massachusetts
Continuation-in-part of application Ser. No. 591,725, Nov. 3, 1966. This application July 8, 1969, Ser. No. 842,817
Int. Cl. A61f *5/44*
U.S. Cl. 128—286 **15 Claims**

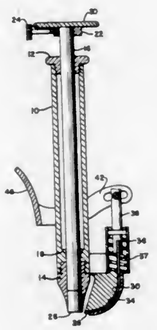
A sanitary clothing article is formed by a bag having flexible walls adapted to fit between the user's legs or buttocks with front and back portions extending upwardly toward the users' waist. The bag has soft pad means forming a lip opening into the bag and is adapted to fit in a position on and around an excretory organ of the body to hold the bag in direct communication therewith. Means are provided for holding the bag with said opening in said position, thereby to bar excreta from issuing exteriorly of the bag,

these means including a belt to be worn on the user's waist, and either split band means cooperating with the lip, or fastener means on portions of the bag cooperating with said belt for supporting the bag by the belt. A check valve of flex-



ible material attached inside the lip opening, or constricting closure means within the lip, are provided for closing the lip opening and confining the contents of the bag after detachment from the body.

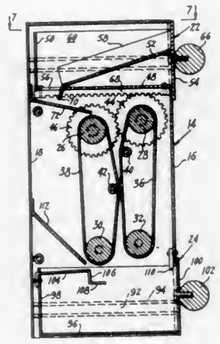
3,522,809
SURGICAL INSTRUMENT
Frank M. Cornell, Franklin Ave. and Colonial Road, Franklin Lakes, New Jersey
Filed Aug. 23, 1967, Ser. No. 662,649
Int. Cl. A61b *17/32*
U.S. Cl. 128—305 **12 Claims**



A surgical instrument for removing and transplanting patches of skin or other tissue having a predetermined geometrical configuration and a predetermined thickness. A tubular body member is provided having an adjustable plunger within the tube and a hollow, annular knife member attached to one end of the tube. The plunger is adjustable within the hollow annular knife member and acts as an abutment to limit the depth of the annular incision which is made in a piece of skin or other tissue when the annular knife member is pressed thereagainst. A flat knife member is mounted on the tubular housing and is movable approximately perpendicularly to the cutting edge of the annular knife to cut free the patch of tissue which is contained within the hollow interior of the annular knife member after it has been pressed into the tissue. The flat knife member is flexible and is movable within a curved guide attached to the tubular body member. The end of the curved guide is positioned in alignment with the cutting edge of the annular knife member so that the flat knife cooperates with the cutting surface of the annular knife to remove a patch of tissue having a precisely determined geometrical configuration and thickness.

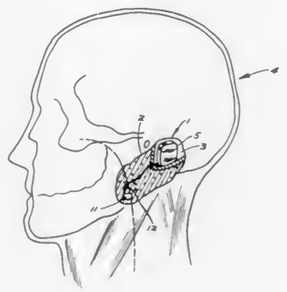
3,522,810
SAFETY ASHTRAY
George W. Eidson, Box 643, Gridley, California and Douglas O. Eidson, Box 643, Gridley, California
Filed Jan. 8, 1969, Ser. No. 789,808
Int. Cl. A24f *19/14*
U.S. Cl. 131—237 **10 Claims**

A casing is provided in the top thereof with a drawer into which cigarette butts are placed, whereupon the door is closed. Cigarettes dropped into the drawer fall between two vertical belts which are operated by a gear arrangement only



when the drawer is closed and the belts snuff out the cigarette and ultimately drop it into a receiving tray in the lower drawer.

3,522,811
IMPLANTABLE NERVE STIMULATOR AND METHOD OF USE
Seymour I. Schwartz, Rochester, New York and Robert C. Wingrove, Minneapolis, Minnesota, said Robert C. Wingrove assignor to Medtronic, Inc., Minneapolis, Minnesota, a Corp. of Minnesota
Continuation of application Ser. No. 397,899, Sept. 21, 1964. This application Feb. 13, 1969, Ser. No. 800,044
Int. Cl. A61n *1/18*
U.S. Cl. 128—419 **18 Claims**

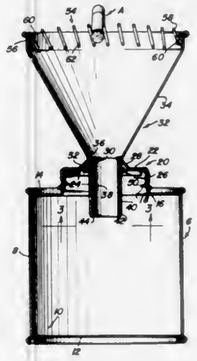


An apparatus for stimulating the carotid sinus nerve, being entirely implantable in an animal, having a battery powered timed pulse producing circuit, a pair of electrodes adapted to be atraumatically connected to spaced points on the exterior surface of the nerve to be stimulated, and capacitive coupling between the electrodes and the pulse producing circuit to provide a substantially zero net DC current flow through the nerve.

ERRATUM

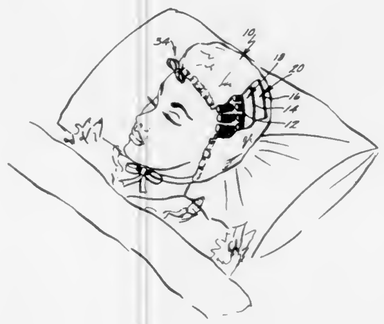
For Class 131—237 see:
Patent No. 3,522,810

3,522,812
RECEIVER FOR ASHES, BUTTS AND REFUSE
Arvin D. Chism, Frankfort, Kentucky and Kenneth B. Wilborn, Frankfort, Kentucky, assignors to Chism-Wilborn, Inc., a Corp. of Kentucky
Continuation-in-part of application Ser. No. 637,242, May 9, 1967. This application April 30, 1969, Ser. No. 820,495
Int. Cl. A24f *19/00*
U.S. Cl. 131—242 **7 Claims**



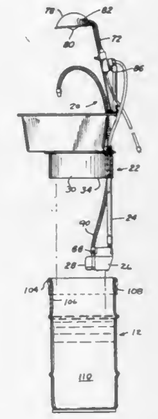
A flat-bottomed can provides a self-standing receiver. The top of the can has an upstanding screw-threaded neck for a screw cap having a lid portion that is centrally apertured and embodies a truncated conical adapter into which the depending discharge neck of an upstanding funnel is secured. A coiled spring atop the funnel provides cigarette seating and gripping members so that ashes, butts and refuse gravitate and accumulate in the receiver for emptying and disposition.

3,522,813
HAIR AND HEAD PROTECTING BONNET
Julia J. Corey, 1430 Holborn Drive, N.W., Grand Rapids, Michigan
Continuation of application Ser. No. 461,895, June 7, 1965. This application Dec. 16, 1968, Ser. No. 785,061
Int. Cl. A45d *8/40*
U.S. Cl. 132—49 **1 Claim**



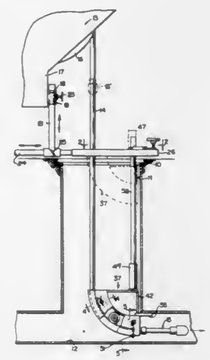
A hair and head protecting bonnet particularly for protecting the head of the wearer from being pricked and pierced by curlers in the hair which has been set. The bonnet includes highly flexible layers containing at least one inflatable and deflatable air pocket which deforms and encompasses the curlers to minimize any forces of the curlers being imparted to the head.

3,522,814
WASHER FOR PARTS AND THE LIKE
Gene R. Olson, West Allis, Wisconsin, assignor to Safety-Kleen Corporation, Elgin, Illinois, a Corp. of Wisconsin
Filed Dec. 6, 1968, Ser. No. 781,774
Int. Cl. B08b *3/02, 3/08*
U.S. Cl. 134—111 **11 Claims**



A parts washer for cleaning mechanical parts and the like, comprising a filter body having a perforated bottom wall and cylindrical side walls surmounted by a mounting flange, a sink affixed to the top of the filter body, a pump assembly attached to the filter body and depending downwardly therefrom, and a fluid conduit extending from the pump outlet upwardly and having an end portion thereof adapted to be disposed within the sink for directing solvent flowing thereto to parts disposed in the sink. The mounting flange and filter body are preferably adapted to be received in a cylindrical drum, which contains a cleaning solvent or like fluid. The filter body contains a waste material, and the solvent container preferably includes a disposable plastic bag therein which facilitates disposing of the solvent.

3,522,815
HOSE GUIDE AND SUPPORT
Charles J. Prange, Lima, Ohio, assignor to Rockwell Manufacturing Company, Pittsburgh, Pennsylvania a Corp. of Pennsylvania
Filed Oct. 23, 1968, Ser. No. 769,880
Int. Cl. B08b *9/04*
U.S. Cl. 134—167 **11 Claims**



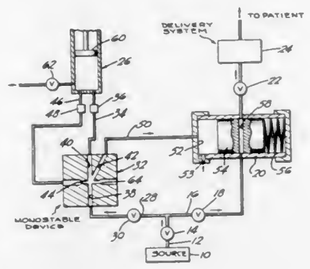
A sewer conduit cleaning apparatus of the type wherein a hose is coiled on a rotatable reel in a truck comprises a

manhole ring mounted for vertical, horizontal and rotative adjustments on the truck and incorporating a clamp structure where a guide member for the hose is releasably clamped during insertion of the nozzle end of the hose, and suitable lengths of rod are attached to the guide member to adjustably lower it into the conduit to be cleaned.

3,522,816
FLUID SYSTEM FOR FILLING AND EMPTYING AN ENCLOSURE

George S. Springer, 2114 N. Circle Drive, Ann Arbor, Michigan

Filed Jan. 30, 1969, Ser. No. 795,221
Int. Cl. F15c *1/12*
U.S. Cl. 137—81.5 21 Claims

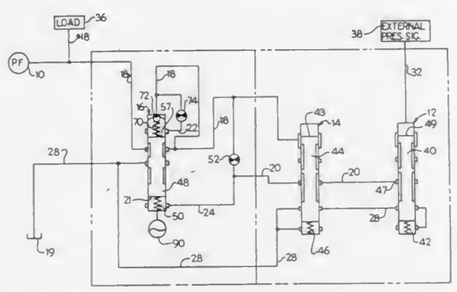


Apparatus for alternately filling and emptying an enclosure such as the lungs of human beings or animals, or which can be used to pump fluids, both liquid and gas. The apparatus includes a supply circuit, and a control circuit for controlling flow through the supply circuit, whereby (1) the cycle time, (2) the portion of time for each phase of the cycle and (3) the flow rate during the filling phase are readily established. Fluidic switches are used in the control circuit for automatically regulating the operation of the supply circuit, and in certain modifications of the apparatus, the fluidic switches may be actuated in part in response to pressure conditions in the enclosure.

3,522,817
MULTIPLE DETECTOR PRESSURE CONTROL VALVE

Robert E. Raymond, Zanesville, Ohio, assignor to International Basic Economy Corporation, New York, New York a Corp. of New York

Filed Sept. 18, 1968, Ser. No. 760,428
Int. Cl. F16k *17/10*
U.S. Cl. 137—489 12 Claims

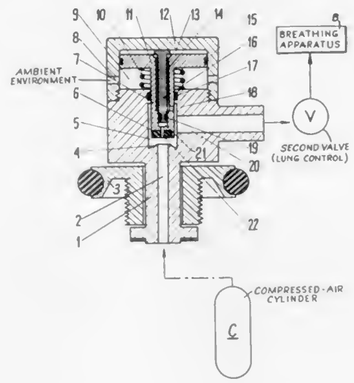


A hydraulic pressure control valve that consists of a main amplifier spool element for modulating a control flow and a plurality of detector and preamplifier spool elements each of which is arranged to detect separate pressure signals and transmit same to the main amplifier spool element to modify the operation thereof responsive to variations in said pressure signals.

3,522,818
PRESSURE-REDUCING VALVE FOR BREATHING APPARATUS

Leszek Suchy, Gdansk, Poland, assignor to Zaklady Mechaniki Precyzjnej, Przedziebiorstwo Panstwowe, Gdansk-Oliwa, Poland, a Corp. of Poland

Filed Dec. 4, 1967, Ser. No. 687,763
Claims priority, application Poland, Dec. 12, 1966, P 117,924
Int. Cl. F16k *1/18, 15/14;* A61h *31/00*
U.S. Cl. 137—494 2 Claims

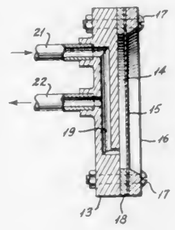


A pressure-reducing valve for breathing apparatus provided with a piston fitted inside a movable piston terminating in a valve head closing the seat of the conduit feeding the air from the air cylinder, where the area of the piston equals the area of the throttle port of the seat.

3,522,819
APPARATUS FOR SAMPLING SOLIDS-CONTAINING SOLUTIONS

Benjamin P. Bell, Libertyville, Illinois and Hugh H. Roberts, Lakeland, Florida, assignors to International Minerals & Chemicals Corporation, a Corp. of New York

Original application Apr. 23, 1965, Ser. No. 450,341, now Pat. No. 3,437,452, dated Apr. 8, 1969. Divided and the application Nov. 26, 1968, Ser. No. 779,136
Int. Cl. E03f *5/00;* B01d *11/00*
U.S. Cl. 137—544 5 Claims

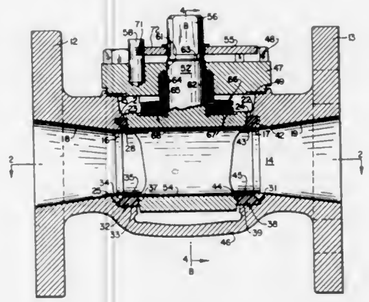


An apparatus for removing a diluted sample of solution from a body containing the solution and undissolved solid material including a sampler body having a cavity communicating through a filter with the surrounding area to admit liquid into the cavity when it is positioned before the surface of a solution, first means for introducing a continuous stream of a diluent liquid into the cavity, and second means for withdrawing a continuous stream of diluted liquid out of the cavity at a rate of flow greater than the rate at which the diluent liquid is introduced through the first means.

3,522,820
PLUG VALVE ASSEMBLY

William G. Lunt, Monroeville, Pennsylvania and John D. Watts, Monroeville, Pennsylvania, assignors to Rockwell Manufacturing Company, Pittsburgh, Pennsylvania a Corp. of Pennsylvania

Filed Feb. 16, 1968, Ser. No. 706,026
Int. Cl. F16k *5/06, 02*
U.S. Cl. 137—556 8 Claims

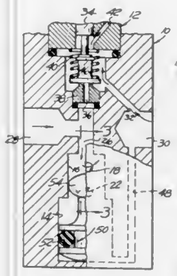


A plug valve construction, wherein a metal valve body having a through flow passage intersected by a bore rotatably mounting a ported tapered plug has annular solid plastic seat rings supported on inclined surfaces in recesses formed in internal body bosses surrounding the intersections of said bore with the passage, with the plug surface engaging areas of the seat rings lying in a conical envelope, a spring being provided for urging the plug into engagement with the seat rings and an external indicator being provided for showing seat ring wear.

3,522,821
PILOT ACTUATED VALVE

Jerome B. Komendera, Bloomfield Hills, Michigan, assignor to The Automatic Valve Corporation, Farmington, Michigan

Filed Sept. 25, 1968, Ser. No. 762,422
Int. Cl. F16k *11/10, 06*
U.S. Cl. 137—596 4 Claims

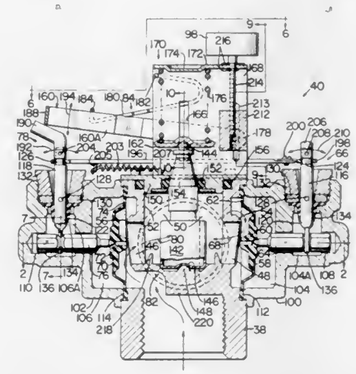


A valve comprises a deformable ball acting as a spool valve in a control chamber to alternately connect a distributor passage to either exhaust or line pressure, while precluding the possibility of a direct temporary connection between supply and exhaust. The ball also acts as a poppet valve while deforming into and against the supply inlet port. The position of the ball is controlled by a piston which is acted upon by line pressure from a second distribution passage.

3,522,822
FORKED LEVER AND GROOVED MEMBER CONSTRUCTION

Harold A. McIntosh, South Pasadena, California, assignor to Robertshaw Controls Company, Richmond, Virginia a Corp. of Delaware

Filed March 27, 1968, Ser. No. 716,416
Int. Cl. F16k *19/0, 31/44*
U.S. Cl. 137—607 12 Claims

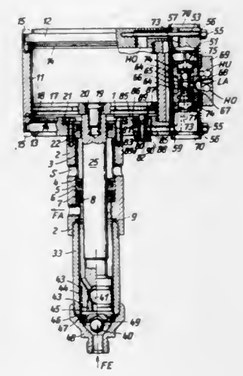


This application discloses a linearly guided member to be reciprocated and moved along a straight axis of motion and containing a V groove means transverse to said axis of motion. The groove means may be a circular groove with opposed spaced V groove bottom portions. A pivoted lever means has a pivoted position substantially perpendicular to said axis and has fork tines straddling said V groove means with parallel opposed inward edges tapered to form V shaped edges substantially in engagement with said bottom portions. The guided member may have a pilot modulating a valve diaphragm with a pilot passageway and a bleed opening.

3,522,823
CONTROL SLIDE VALVE

Harry Scheffer, Hamburg, Germany, assignor to Harry Kruger, GmbH, Hamburg-Lokstedt, Germany

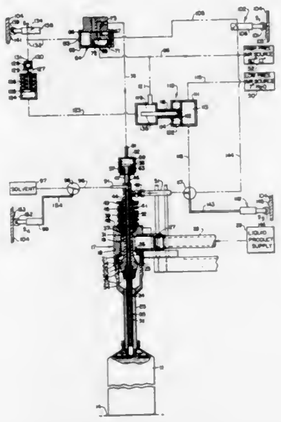
Filed March 4, 1968, Ser. No. 710,013
Claims priority, application Germany, March 8, 1967, K61654
Int. Cl. F16k *11/07*
U.S. Cl. 137—625.25 3 Claims



A slide valve spool slidably arranged on a slide valve face plate provided with connections for different pressure stages of a working gas serves to control the gas flow from one connection to the other. The spool member consists of a

material with high thermal conductivity and has covered its recess in contact with the gas flow and its sliding face with a plastics coating of good sliding ability. With this valve spool icing can be avoided and lubrication is necessary only after long periods of time.

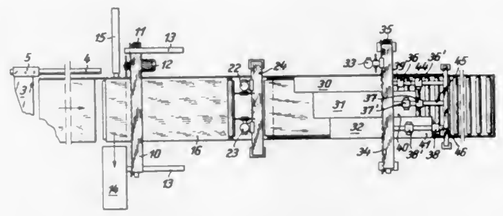
3,522,824
AUTOMATIC CONTAINER FILLING APPARATUS
Harold Keith Allen, Glen Rock, New Jersey and William Avery Walters, New York, New York, assignors to Colgate-Palmolive Company, New York, New York a Corp. of Delaware
Filed July 12, 1967, Ser. No. 652,861
Int. Cl. B65b *3/26;* **B67c** *3/04*
U.S. Cl. 141—90 **8 Claims**



An automatic machine for filling continuously a moving row of containers with a product liquid comprises a filling head for each container having a product fill nozzle adapted to extend into the container during filling and adapted to be withdrawn after filling. The type of filling head with which the invention is concerned incorporates a low pressure air sensing tube within the nozzle, and when the liquid in the container reaches and blocks the lower end of the sensing tube a control device is actuated to shut off the product fill valve leading to the nozzle. Each head includes a sensing tube cleaning arrangement whereby after each filling operation the sensing tube in the withdrawn nozzle is automatically subjected to a short time blast of high pressure air therethrough to try to clear out any product liquid coating its inner surfaces, to prevent the accumulation of deposits eventually restricting or even blocking the effective opening of the sensing tube. This avoids premature shut off of the product fill valve. A smaller diameter tube extends down through the interior of the sensing tube to terminate in openings opposite the internal surfaces at the lower end of the sensing tube and a control is provided to automatically discharge a quantity of solvent liquid such as water to dissolve or otherwise free the deposits of product liquid just prior to the high pressure air blast for more effective cleaning of the lower end of the sensing tube.

3,522,825
METHOD AND APPARATUS FOR SAWING PANELS
Elimar Wehner, Walderseestrasse 70, Hamburg-Grossflottbek, Germany
Filed Nov. 8, 1967, Ser. No. 681,491
Claims priority, application Germany, Nov. 11, 1966, W42775
Int. Cl. B27b *5/06*
U.S. Cl. 143—1 **7 Claims**

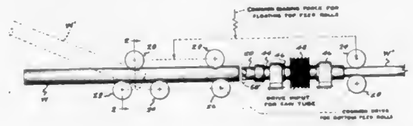
The invention pertains to the method, and the apparatus for performing the method, of sawing large panels in perpendicularly disposed directions to produce a variegated subdivision thereof. The panels are transported in a given direction during processing and are first sawed into a plurality of longitudinally extending portions parallel to the direction of movement. The leading edges of the portions, after sawing, then engage separate abutments to restrain the panels against movement in the given direction while mounted on a common conveyor. While the panel portions are stopped, the portions are sawed in a direction transverse to the direction of given movement and thereupon the abutments are released from the portion leading edges and the transversely sawed portions are transported in the given direction at a greater rate of speed than previously imparted thereto.



Sawing devices for the subdividing of panels, such as of plywood or the like, are known wherein first a longitudinal cut is taken on the panels and the saw is then swung through a 90° rotation to perform a transverse cut. Known devices utilize either single blades, or a plurality of blades to perform this type of subdivision.

It is also known to provide panel sawing apparatus wherein one sawing apparatus is employed to perform the longitudinal cuts, while other sawing apparatus performs the transverse cutting.

3,522,826
APPARATUS FOR CYLINDRICALLY SIZING ELONGATED WORK PIECES
Evander M. Ervin, Florence, South Carolina; Richard Ferguson, Charlotte, North Carolina and Charles V. Hinton, Charlotte, North Carolina, assignors to Terlesco Inc., Charlotte, North Carolina a Corp. of North Carolina
Filed March 27, 1968, Ser. No. 716,564
Int. Cl. B27m *3/00;* **B27b** *33/18*
U.S. Cl. 144—4 **7 Claims**

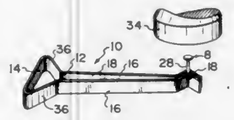


Elongated work pieces, such as wooden billets, are efficiently sized to a desired cylindrical cross section by feeding them through a tubular cutting head fitted with teeth presenting cutting edges that extend from an inner diameter path corresponding to the size of cylindrical cross section desired outwardly to an extent sufficient for circumscribing the work piece cross section at the axial relation of feeding through the cutting head, so that axial alignment of work piece and cutting head is unnecessary and may be set eccentrically to eliminate defects in the work piece as the sizing is accomplished.

3,522,827
HOLDER FOR DRIVING NAILS
Eric W. Muller, 2011 West Fargo, Chicago, Illinois
Filed Sept. 7, 1967, Ser. No. 666,039
Int. Cl. B25c *3/00*
U.S. Cl. 145—46 **7 Claims**

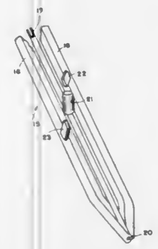
A reversely bent strip of flat material having a widened bight and two legs urged convergingly into contact with each other with their end portions bent conjointly at right angles

in nesting relationship for resiliently receiving and holding shanks of nails in a plurality of positions at the right angle



turn as introduced into place by sliding the shank thereto between the converging legs.

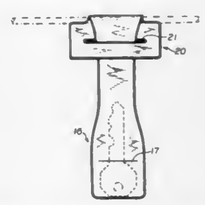
3,522,828
FRAMES FOR HANDBAGS, POCKETBOOKS AND PURSES
Berek Laufer, 390 Ocean Parkway, Brooklyn, New York
Filed April 19, 1968, Ser. No. 722,764
Int. Cl. A45c *13/06*
U.S. Cl. 150—29 **3 Claims**



The frame comprises U-shaped parts hinged at their corresponding distal ends about a common axis line. The catch consists of a post on one frame part and a tab extending from an adjacent frame part to releasably engage the post. When the frame consists of three U-parts, the post is on the middle one to cooperate with tabs extending thereto from each of the others. The post may be a rod piece of round or square cross section as examples thereof. The tab is a parallelogram of rhomboid shape, or trapezoid in shape, as examples thereof. Each tab is positioned slanted towards the post and slanted along the general plane of the closed frame, and a corner or edge of each tab is adapted to be intercepted by the post while the frame parts are a bit apart. Then forcing the tab around the post, past the crest of an arc when the post is round, or past the vertex of an angle when the post is of square cross section, brings the frame parts together and releasably locks them in such contact relation; the frame assembly having some resilient capability so it is temporarily distorted somewhat to allow the required movement and the reverse thereof to open the catch.

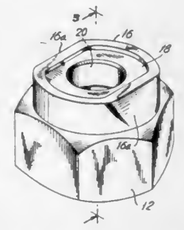
3,522,829
SECRETING HOLDER
Donald Weintraub, 102-50 62nd Road, Forest Hills, New York
Filed Oct. 7, 1968, Ser. No. 765,545
Int. Cl. A45c *11/32*
U.S. Cl. 150—40 **5 Claims**

A secreting holder for hiding keys or the like in a secure hidden position where they will be accessible only to those knowing their location. The holder is preferably formed of two overlying sheets of thermoplastic material edge sealed to each other to form a pocket therebetween. One of the sheets is formed with an access slit through which keys, coins, or the like objects which it is desired to hide may be inserted into the pocket formed between the sheets. A locking slot is extended through an attaching portion of the holder formed at an end of the body remote from the access slit with the



body portion drawn through the locking slot to surround a wire or the like member to which the holder is secured.

3,522,830
LOCK NUT
Robert E. Blizard, Hatboro, Pennsylvania, assignor to Standard Pressed Steel Co., Jenkintown, Pennsylvania a Corp. of Pennsylvania
Filed May 8, 1968, Ser. No. 727,754
Int. Cl. F16b *39/34*
U.S. Cl. 151—7 **4 Claims**



A lock nut having an annular locking bushing of a hard, resilient resin with inwardly inclined flats at its periphery engaged by inwardly deformed portions of an outer collar of the metal nut body to lock the bushing against both axial and rotational movement.

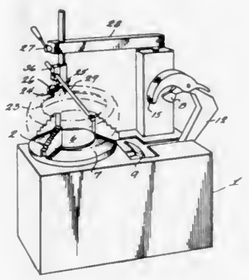
3,522,831
METHOD OF BONDING DIENE RUBBER TO ETHYLENE/PROPYLENE OR ETHYLENE/PROPYLENE/DIENE ELASTOMER
Luigi Torti, Monza, Italy and Stefano Marcello, Ferrara, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy a Corp. of Italy
No Drawing. Continuation-in-part of application Ser. No. 417,775, Dec. 11, 1964, now abandoned . This application April 3, 1968, Ser. No. 718,339
Claims priority, application Italy, Dec. 13, 1963, 25, 716/63
Int. Cl. B29k *8/00;* **B60c** *1/00;* **C08c** *11/00*
U.S. Cl. 152—330 **7 Claims**

Covulcanization process useful in the manufacture or retreading of tires. A first layer of a natural or synthetic diene rubber containing a mineral reinforcing filler, and sulfur and accelerator, is bonded to a second elastomer layer of an ethylene/alpha-olefin copolymer or ethylene/alpha-olefin/diene terpolymer having an ML (1+4) at 100°C of at least 60, optionally containing plasticizer to decrease the ML to a workable value, and containing an organic peroxide and sulfur, by contacting the two layers and heating to effect vulcanization.

3,522,832
TIRE MOUNTING AND DEMOUNTING MACHINE
Ludwig Held, 168 Traubenweg, Darmstadt 61, Germany and Eickhard Goebel, 19 Eschollbrucker Str., Darmstadt 61, Germany
Filed Nov. 1, 1967, Ser. No. 679,727
Int. Cl. B60c *25/08*
U.S. Cl. 157—1.22 **3 Claims**

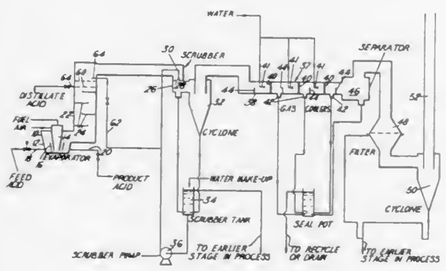
Tire mounting and demounting apparatus is provided in which tires with rims of varying diameter are locked on a

power-actuated stepped chuck, the interior of the chuck being sealed against dirt and other foreign matter by a plate or cover member. When demounting a tire, the tire beads are broken by a pair of spring balanced breaker shoes which are articulately connected to, and actuated by, a common pneumatic cylinder. A stop acts in association with the upper breaker shoe and ensures proper seating of the breaker shoes in the drop center well of the rim. A tire bead rolling-off tool



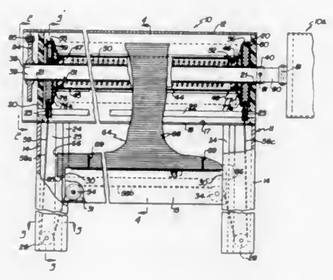
consisting of a pair of oppositely rotating rollers rolls off the bead while protecting the tire rim against deforming forces. When mounting a tire a bead rolling-in tool, consisting of a plurality of cooperating rollers, mounts the bead without subjecting the rim to distorting forces. The foregoing abstract is not intended to define the scope of the invention and is only provided to permit a cursory review of the gist of the invention.

3,522,833
PRODUCTION OF PHOSPHORIC ACIDS
William R. Mustian, Jr., Lakeland, Florida; James Austin, Maidenhead, England and John D. Ellis, Lakeland, Florida, assignors to Occidental Research & Engineering Ltd., London, United Kingdom a Corp. of England
Continuation of application Ser. No. 690,689, Dec. 13, 1967, which is a continuation of application Ser. No. 471,999, July 14, 1965. This application Jan. 21, 1969, Ser. No. 796,280
Claims priority, application Great Britain, July 21, 1964, 29,524/64
Int. Cl. B01d *1/14*
U.S. Cl. 159—16 3 Claims



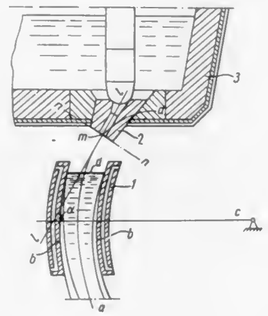
Phosphoric acid concentration process comprising releasing hot combustion products below the surface of a phosphoric acid solution to concentrate the acid to a P_2O_5 content of at least 68% (IFB) and produce a phosphoric acid-containing gaseous effluent having gross particulate contaminants, removing such contaminants and subsequently passing the phosphoric acid-containing effluent through a gas/liquid contacting device irrigated with aqueous liquid irrigant selectively to condense and absorb substantially fluoride-free phosphoric acid vapor to form substantially pure phosphoric acid distillate solution, and recovering the distillate; and apparatus particularly adapted to carry out such process.

3,522,834
SELF-STORING ROLLER SCREENS
Leonard J. Corcoran, 595 King George Way, West Vancouver, British Columbia, Canada
Filed Feb. 17, 1969, Ser. No. 799,624
Int. Cl. E06b *9/20*
U.S. Cl. 160—23 3 Claims



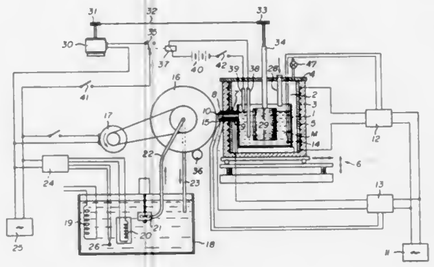
A screen including a frame-supported shade capable of being rolled up and stored in a frame part and extended to position of use by remotely operated means.

3,522,835
METHOD OF FEEDING THE MOLTEN METAL INTO A CURVED MOULD
Georgy Lukich Khimich, ul. Lenina, 53, kv.92, Sverdlovsk, U.S.S.R.; Vitaly Maximovich Niskovskikh, ul. Festivalnaya, 21, kv.60, Sverdlovsk, U.S.S.R.; Meer Yakovlevich Broide, pr. Ordzhonikidze, 10, kv.22, Sverdlovsk, U.S.S.R., and Alexei Ivanovich Varaxin, ul. Dybenko, 22, Korp.5, kv.374, Moscow, U.S.S.R.
Filed March 1, 1967, Ser. No. 619,789
Int. Cl. B22d *11/10*
U.S. Cl. 164—82 1 Claim



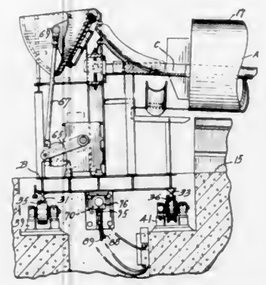
A method of, and a device for, introducing molten metal into the mold of a continuous casting machine casting curved ingots in a curved mold, the top portion of which extends with its axis at an angle to the vertical in which the stream of metal is directed along a tangent to the curve of the ingot mold to fall in a parabola that approximates the curve of the mold. The stream of molten metal being located to impinge on the meniscus of the metal in the mold at its center.

3,522,836
METHOD OF MANUFACTURING WIRE AND THE LIKE
Derek King, La Chapelle-sur-Carouge, Switzerland, assignor to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware
Filed July 6, 1967, Ser. No. 651,551
Claims priority, application Switzerland, July 6, 1966, 9991/66
Int. Cl. B22d *11/06*
U.S. Cl. 164—87 9 Claims



A method and apparatus for manufacturing wire and the like by maintaining static equilibrium in molten material at the outlet of a nozzle to form a convex meniscus from which the material is continuously drawn off and solidified by means of a moving surface at constant temperature.

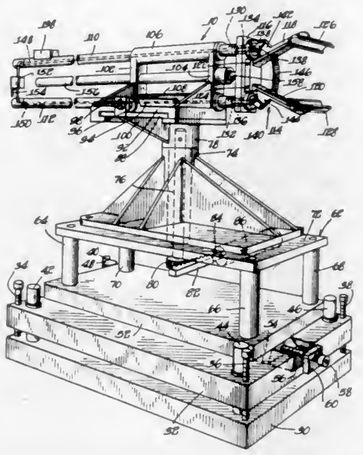
3,522,837
CENTRIFUGAL PIPE CASTING
Louis Philippe Giguere, Terrasse Duvernay, Trois Rivieres, Quebec, Canada, assignor to Canada Iron Foundries, Limited, Montreal, Quebec, Canada
Filed April 20, 1967, Ser. No. 632,371
Int. Cl. B22d *13/10*
U.S. Cl. 164—299 6 Claims



A centrifugal iron pipe casting apparatus with twin ladles each with a pouring trough arranged for movement of one ladle and trough into pouring position while the other is moved out of pouring position for filling and cleaning. The ladles are mounted on a carriage provided with downwardly facing supporting rails running on fixed rollers to avoid any deposit on the rails which would interfere with smooth travel. A fluid pressure actuating device moves the carriage back and forth and terminal cushioning means ensures smooth acceleration and deceleration.

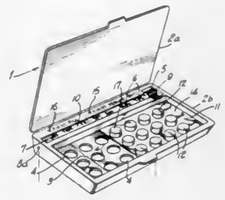
3,522,838
DIE CASTING EXTRACTOR
Richard J. Ott, Baroda, Michigan, assignor to Respond Inc., Baroda, Michigan a Corp. of Michigan
Filed April 30, 1968, Ser. No. 725,465
Int. Cl. B22d *29/06*
U.S. Cl. 164—404 12 Claims

There is disclosed an apparatus comprising jaws mounted on a slide adapted to be actuated for shifting the jaws into an open die casting machine for gripping and removing the casting and then withdrawing the jaws along



with the casting from the machine and delivering the casting to a transfer mechanism or other suitable point of discharge.

3,522,839
AIR CONDITIONER FOR HEATING, COOLING, AND PRESSURIZING VEHICLE CABS
David W. Wendt, Port Washington, Wisconsin; Charles L. Harbeck, Pewaukee, Wisconsin and Raymond N. Sellon, Jr., Shorewood, Wisconsin, assignors to Stolper Industries, Inc., Menomonee Falls, Wisconsin, a corp. of Wisconsin
Filed Mar. 8, 1968, Ser. No. 711,687
Int. Cl. B60h *3/00*
U.S. Cl. 165—44 5 Claims

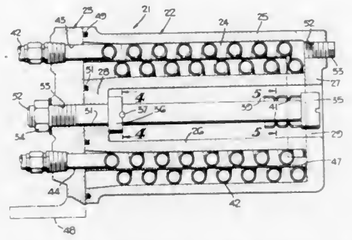


Heating and cooling units assembled in a housing preferably extending across a vehicle cab above the windshield can be operated selectively to heat or cool air admitted either by recirculation from the cab or from out of doors and optionally pressurized by a fan after traversing a filter. The filter and out-of-door air inlet are preferably mounted externally of the cab but directly communicating with the housing of the interior, air circulation being controlled manually by means of dampers. The filter is externally accessible for cleaning.

3,522,840
A HEAT EXCHANGE AND PRESSURE RELIEF DEVICE THEREFOR
Robert S. Wentworth, Jr., Wilmington, California, assignor to Borg-Warner Corporation, Chicago, Illinois a Corp. of Delaware
Filed Dec. 4, 1968, Ser. No. 781,153
Int. Cl. F28d *1/06*
U.S. Cl. 165—74 7 Claims

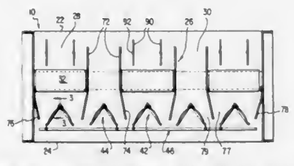
A pressure relief device for a heat exchanger wherein the housing consists of a cover, and a case adapted to seat against the cover; coils for conducting hot fluid through the housing for cooling the fluid; a cooling fluid in said housing

surrounding the coils; and attaching means including shear means operable to shear upon occurrence of excessive pressure in said housing, allowing the case to separate from the



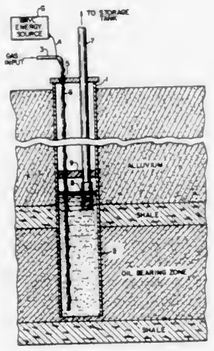
cover to release the pressure in said housing; stop means limiting the travel of said case under influence of said pressure, and decelerating means decelerating the movement of the case prior to its reaching the travel limit permitted by the stop means.

3,522,841
CONSTANT VOLUME AIR HEATING AND COOLING UNIT
Spyros Papalexiou, West New York, New Jersey, assignor to Aeronix, Inc., Linden, New Jersey a Corp. of New Jersey
Filed Oct. 4, 1968, Ser. No. 765,133
Int. Cl. F28f *27/02*
U.S. Cl. 165—103 **7 Claims**



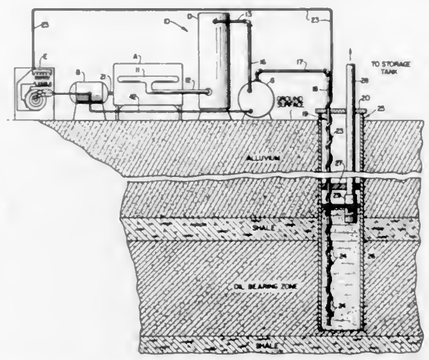
An air supply conditioning unit of the constant volume air heating and cooling type is disclosed. Air foil shaped dampers are provided at the outlet ends of the heat exchanger and free air passages to regulate the amount of air passing through each. The unit maintains a constant volume of air flow and efficiently blends the various streams of existing air without causing undue turbulence.

3,522,842
APPARATUS FOR OIL PRODUCTION AMPLIFICATION BY SPONTANEOUS EMISSION OF RADIATION
Robert V. New, 2501 Cedar Springs Road, Dallas, Texas
Filed May 29, 1967, Ser. No. 641,825
Int. Cl. E21b *43/24*
U.S. Cl. 166—52 **8 Claims**



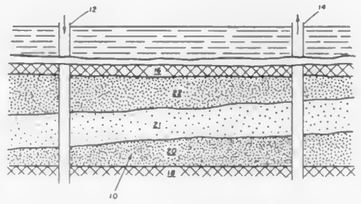
Apparatus for the recovery of viscous crude petroleum from a natural reservoir by use of heat by utilizing gases herein set forth of suitable energy levels, and an electromagnetic wave transducer for exciting the atoms and molecules of the gas or gas mixtures or causing interaction between them and the transducer discharged electromagnetic waves (i.e. "population inversion" or "collision, second kind") that will emit radiation in the infrared sector of the electromagnetic spectrum.

3,522,843
APPARATUS FOR PRODUCTION AMPLIFICATION BY STIMULATED EMISSION OF RADIATION
Robert V. New, 2501 Cedar Springs Road, Dallas, Texas
Continuation-in-part of application Ser. No. 641,823, May 29, 1967.
This application March 12, 1968, Ser. No. 712,510
Int. Cl. E21b *43/24*
U.S. Cl. 166—60 **8 Claims**



Exhaust gas and electrical generating plant equipment for field use in producing internal combustion engine exhaust gas and radio frequency electrical energy and a transducer arranged to effect an interaction within said transducer of said gases and said electrical energy with resultant radiation in the infra-red (heat) sector of the electromagnetic spectrum to heat the oil bearing zone and the contained hydrocarbon oil of a natural reservoir to reduce its viscosity level, and/or also to sufficiently heat interstitial water to vaporize it into steam to create kinetic energy to assist and assure flow of the hydrocarbon oil into a drilled well for recovery of the oil.

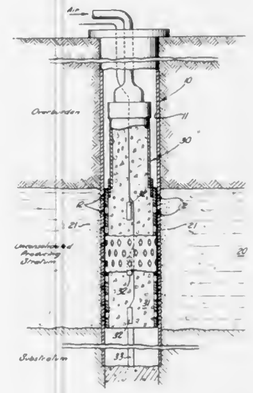
3,522,844
OIL RECOVERY PROCESS WITH SELECTIVE PRECIPITATION OF POSITIVE NONSIMPLE LIQUID
Milton K. Abdo, Dallas, Texas, assignor to Mobil Oil Corporation, a Corp. of New York
Filed Dec. 12, 1968, Ser. No. 783,370
Int. Cl. E21b *33/138, 43/22*
U.S. Cl. 166—270 **5 Claims**



This specification discloses an oil recovery process involving the injection of a positive nonsimple aqueous liquid. The aqueous liquid contains a material which is reactive with divalent metal ions within the reservoir to form a plugging deposit within the reservoir. A chelating agent for such

divalent metal ions also is injected into the reservoir. This agent functions to form complexes with the ions thus tending to prevent their entering into precipitate-forming reactions. Subsequent to the injection of the positive nonsimple liquid, an aqueous liquid containing a chelating agent is again injected into the reservoir. As the injected fluids move through the reservoir, the material contained in the positive nonsimple liquid is selectively precipitated from solution to form plugging deposits at zones of crossflow between adjacent strata of diverse permeabilities. An aqueous solution of an alkali metal salt may be injected into the reservoir prior to or concomitantly with the initial introduction of the chelating agent.

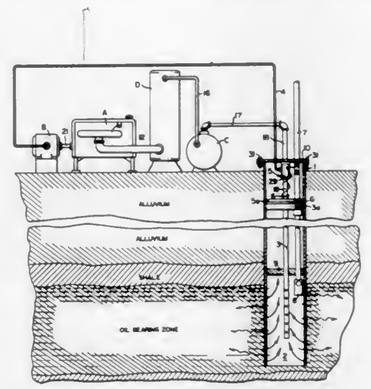
3,522,845
METHOD OF CONSOLIDATING AND PRODUCING A HYDROCARBON-BEARING FORMATION
Charles L. Bauer, New York, New York, assignor to Texaco Inc., New York, New York a Corp. of Delaware
Filed Feb. 28, 1968, Ser. No. 708,916
Int. Cl. E21b *33/13, 43/24*
U.S. Cl. 166—272 **6 Claims**



A method of recovering hydrocarbons from a subterranean formation having an unconsolidated or friable structure and traversed by a well bore by heating the formation to a temperature sufficient to cause incipient fusion and consolidation of the sand adjacent the well bore.

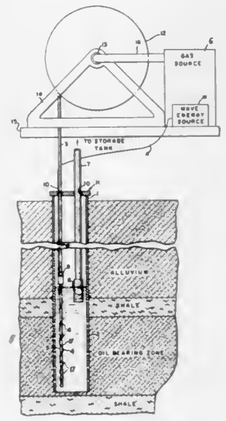
3,522,846
METHOD AND APPARATUS FOR PRODUCTION AMPLIFICATION BY SPONTANEOUS EMISSION OF RADIATION
Robert V. New, Old National Building, 5619 Fannin St., Houston, Texas
Continuation-in-part of application Ser. No. 641,825, May 29, 1967.
This application Oct. 4, 1968, Ser. No. 765,052
Int. Cl. E21b *43/24*
U.S. Cl. 166—303 **28 Claims**

A method and variant apparatus for the recovery of crude petroleum from a natural reservoir by introduction through a drilled well-bore of suitably heated inert gas or mixtures of such gases as herein set forth of suitable energy levels, produced by excitation of the atoms and molecules of the introduced gas by "electro-energy" impacts (for the purposes of this application "electro-energy" is used as a generic term and includes electrical current discharges and/or electromagnetic wave discharges) to effect an interaction between said gas and the impacted electro-energy with resultant ionizing excitation of the gas atoms and molecules and emission of radiation in the infrared (heat) sector of the electromagnetic spectrum within the natural reservoir. The apparatus contemplates a source of suitable gas, preferably internal combustion engine exhaust gases, a suitable source of electrical current as herein defined, and transducer means composed of a tube for conducting the gas into the drilled well-bore and extending through the natural reservoir oil



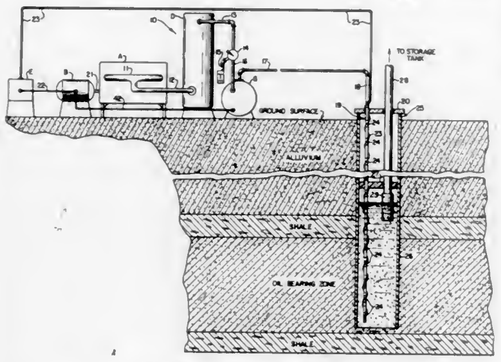
bearing zone and discharge elements for injecting electro-energy impacts into the gas or gases to excite the atoms and molecules during their passage through and from the transducer.

3,522,847
APPARATUS FOR CLEANING HEAT AMPLIFICATION BY STIMULATED EMISSION OF RADIATION
Robert V. New, 2501 Cedar Springs Road, Dallas, Texas
Filed April 25, 1968, Ser. No. 724,002
Int. Cl. E21b *43/24*
U.S. Cl. 166—60 **7 Claims**



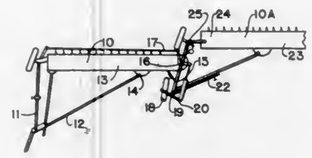
Portable apparatus for the cleaning of a cased well-bore and its attendant equipment and the immediately adjoining natural oil and/or gas reservoir by use of heat by utilizing gases herein set forth of suitable energy levels, and an electromagnetic wave transducer for exciting the atoms and molecules of the gas (i.e., to establish interaction between the gas and the electromagnetic waves effecting "population inversion" or "collision, second kind ") to emit radiation in the infrared sector of the electro-magnetic spectrum.

3,522,848
APPARATUS FOR PRODUCTION AMPLIFICATION BY STIMULATED EMISSION OF RADIATION
Robert V. New, 2501 Cedar Springs Road, Dallas
Filed May 29, 1967, Ser. No. 641,823
Int. Cl. E21b *43/24*
U.S. Cl. 166—60 **6 Claims**



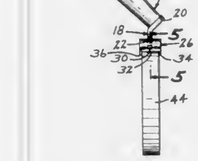
Gas and high frequency electrical generating plant equipment for field use in producing exhaust gas (carbon dioxide and nitrogen) which may be admixed, if desired, with gas or gases of differing energy levels, and high frequency electrical energy for an electromagnetic radio frequency transducer disposed in a natural hydrocarbon oil reservoir and arranged to impact the said gases and effect atomic and molecular interaction of the gases and electromagnetic waves with resultant emission of radiation in the infra-red sector of the electromagnetic spectrum into the natural reservoir to heat the oil bearing zone and the contained high viscosity hydrocarbon oil and reduce its viscosity level sufficiently to free and assure flow of the viscous hydrocarbon oil into a completed production well formed in the natural reservoir for recovery of the oil.

3,522,849
FLEXIBLE CONNECTING MEANS BETWEEN ADJACENT AGRICULTURAL IMPLEMENT SECTIONS OF THE DISC CULTIVATOR TYPE
Ralph W. Sweet, Forgan, Saskatchewan, Canada
Filed Mar. 25, 1968, Ser. No. 715,673
Int. Cl. A01b *49/00*
U.S. Cl. 172—314 **7 Claims**



A flexible connection between adjacent disc cultivator sections or the like which includes a front wheel assembly to which the rear end of the tail beam of the forward section can be connected by a ball joint thus giving flexible control in many planes to this point of connection and at the same time permitting limited adjustment of the rolling direction of the front wheel assembly.

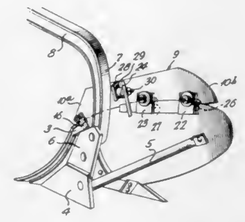
3,522,850
CULTIVATING TOOL
Ephraim Pede, 4332 Regent St., Duluth, Minn. 55804
Filed Jan. 22, 1968, Ser. No. 699,656
Int. Cl. A01b *1/00;* **B20g** *3/00*
U.S. Cl. 172—376 **2 Claims**



The disclosure relates to a hand cultivating tool and includes a bracket on which is formed a head portion, the head portion including a base portion and an arm portion, the arm portion having an arcuate base. Further included is an arcuate clamping piece together with means for drawing the clamping piece upon a circular blade member positioned between the clamping piece and the arcuate base. The bracket has formed thereon a tubular receiver member which is normal to the bracket and in which is secured the end of a handle.

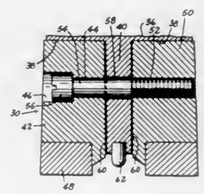
3,522,851
PLOW STRUCTURES
Haul M. Reddick, Sr., 614 W. Main St., and Haul M. Reddick, Jr., 112 Edgelea St., both of Williamston, N.C. 27892
Filed Feb. 14, 1968, Ser. No. 705,461
Int. Cl. A01b *15/10*
U.S. Cl. 172—736 **4 Claims**

A trash cover for use in combination with a plow which is completely adjustable to fit all plows and plowing conditions. The trash cover is adapted to be mounted on any plow having a curved moldboard. The trash cover is mounted on and supported by any plow that has a curved moldboard. A bracket is secured to the plow moldboard by lug bolts and the bracket may be moved laterally on the moldboard until the leading edge of the trash cover moldboard is correctly positioned. The trash cover moldboard is mounted to the bracket by means of a carriage bolt said bolt passing between the bracket and the trash cover moldboard and through



two washers, one of which is flat on one side and concave on the other side; the other washer being flat on one side and convex on the other. When fitted together, the washers form a ball and socket arrangement which will automatically take up any misalignment between the bracket mounted on the plow moldboard and the bracket mounted on the trash cover moldboard. The plow beam does not function to support the trash cover.

3,522,852
EXPANDABLE DRILL BIT AND REAMER CONSTRUCTION
Allen Eugene Bardwell, Princeton, N.J., assignor, by mesne assignments, to Trident Industries, Inc., Princeton, N.J., a corporation of Delaware
Filed Aug. 18, 1967, Ser. No. 661,560
Int. Cl. E21c *13/00*
U.S. Cl. 175—384 **9 Claims**



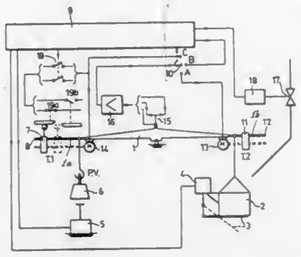
Drilling bit and reamer units comprising a shaft or body having a reduced lower end. In one preferred embodiment, a row of elongated chisel bit elements or fingers of carbide or other suitable material is mounted in and extends downwardly from said lower end, the center finger being of bullet-nose shape and the others of one-half bullet-nose form, the flat surface facing in the spin direction. In a second preferred embodiment, two spaced block-like teeth extend down from cavities in the lower end, each tooth being of solid steel or having a cutter insert of carbide or other suitable material, said teeth being drawn by a heavy bolt towards a partition separating the cavities, and shims for insertion between each tooth and the partition to compensate for wash or wear of the exposed outer surface of the teeth. Affixed to the shaft above the cutting elements or to the teeth are spaced reamers formed for effective reaming and minimum withdrawal sticking.

3,522,853

METHOD FOR ADJUSTING THE EFFECT OF A PRESET BATCH WEIGHT VALUE DURING THE REPEATED WEIGHING OF MATERIAL IN A CONTAINER

Nils Alf Birger Fluur and Arne Olof Soderholm, Bromma, Sweden, assignors to AB Max Sievert, Vallingby, Sweden

Continuation-in-part of application Ser. No. 536,407, Mar. 22, 1966. This application Jan. 21, 1969, Ser. No. 792,711
Claims priority, application Sweden, Mar. 25, 1965, 3,876/65
Int. Cl. G01g *23/14*
U.S. Cl. 177—1 10 Claims



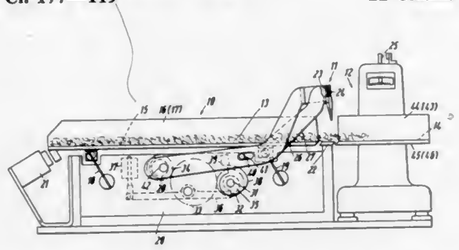
Batch weighing employing balance means in which taring devices for adjusting the weighing in relation to a preset selected weight value of the batches is made in such a way that the effect of the chosen weight (P.V.) of the batches is adjusted for the weighing of the following batch. By displacing one of the counter-balances of the taring devices, the balance means is brought to equilibrium in its balance position with a selected preset weight and the filled balance container and the other counter-balance is arranged to bring the balance means to its position of equilibrium following the removal of the preset weight and the balance container emptied or at least partially emptied while at least at the end of the weighing the effect of the first mentioned counter-balance has been removed.

3,522,854

METHOD OF AND APPARATUS FOR WEIGHING FIBER MATERIAL, PARTICULARLY SMOKING TOBACCO

Kurt Liedtke, Verden (Aller), Germany, assignor to Focke & Pfuhl, Bremen, Germany, a firm

Filed Dec. 18, 1968, Ser. No. 784,862
Int. Cl. G01g *13/02*
U.S. Cl. 177—119 11 Claims



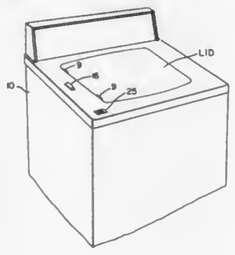
This invention provides a method of and an apparatus for weighing specified portions of a continuous fleece of fiber material, particularly a continuous fleece of shredded tobacco, on a weighing machine. The method comprises the steps of feeding the leading end of a continuous cohering fleece of fiber material onto a weighing machine and severing this end from the rest of the fleece when the specified weight has been deposited on the weighing machine. The apparatus for carrying out said method comprises conveyor means provided with sidewalls for conveying a continuous fleece of fiber material, a weighing machine having a weighing platform extending on the level of and adjacent the delivery end of the conveyor means and likewise provided with sidewalls aligning with the sidewalls of the conveyor means, and severing means interposed between the conveyor means and the weighing machine and arranged to rip or tear off the weighed leading end from the fleece.

3,522,855

WASHING MACHINE WITH CLOTHES WEIGHER

William A. Waseman, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 22, 1967, Ser. No. 685,079
Int. Cl. G01g *19/52*
U.S. Cl. 177—144 6 Claims



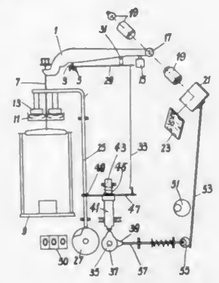
A clothes washing machine having weighing mechanism incorporated therein for determining proper load size. The door or closure structure of the machine serves as the weighing platform when it is in the open position adjacent the tub opening thereby facilitating placing of the clothes into the tub after weighing.

3,522,856

PRECISION BALANCE WITH PREWEIGHING

Ludwig Weickhardt, Goettingen, Germany, assignor to Firma Sartorius-Werke und vormals Gottinger Prazisionswaagenfabrik G.m.b.H. Aktiengesellschaft, Goettingen, Germany

Continuation of application Ser. No. 465,972, June 22, 1965. This application July 17, 1967, Ser. No. 653,807
Claims priority, application Germany, June 25, 1964, S 91,686
Int. Cl. G01g *23/14*
U.S. Cl. 177—168 7 Claims



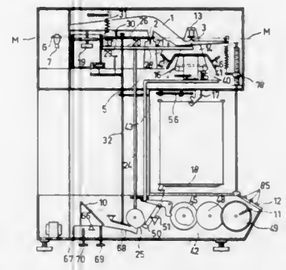
A substitution type precision balance having a spring adapted to oppose the torque of its counterweight so that preweighing can be carried out, and means for retracting the spring from contact with the balance arm during precision weighing operations. The balance weight selection means is equipped with a stop so that a set of balance weights can be selected but not deposited on the load side of the balance until the stop is released. The same manually operable control means withdraws the spring and releases the selected balance weights. The single optical system for reading the beam position is arranged to make readings of two orders of magnitude of measurement.

3,522,857

ANALYTICAL SCALE WITH COARSE AND FINE WEIGHING

Adolf Ast, Messstetten, Germany, assignor to August Sauter KG, Ebingen, Wurttemberg, Germany, a corporation of Germany

Filed Jan. 22, 1968, Ser. No. 699,489
Claims priority, application Germany, Jan. 24, 1967, 1,549,264; July 26, 1967, 1,549,273
Int. Cl. G01g *23/14*
U.S. Cl. 177—170 9 Claims



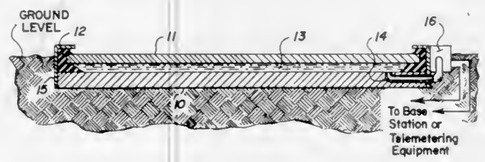
An analytical scale having a fine balance beam adapted to balance about a fulcrum dividing the fine balance beam into two level arms, means for applying a load force to one level arm, means for applying a counterforce to the other lever arm, means coupled to the fine balance beam providing at least a coarse and fine weighing range, and an optical weight indicator mechanism. A coarse balance beam is provided, the coarse balance beam being secured at one end thereof by a pivotal mounting positioned a predetermined lateral distance away from the fine balance beam. Support means for supporting the other end of said coarse balance beam are included such that said coarse balance beam intersects and contacts the fine balance beam at the other lever arm thereof during the coarse weighing range, said support means applying an additional force to said coarse balance beam, said additional force being transmitted to the other lever arm of the fine balance beam by its point of contact with said coarse balance beam.

3,522,858

SNOW DEPTH MEASURING DEVICE

Frank W. Christensen, Ogden, Utah, assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed July 12, 1968, Ser. No. 744,352
Int. Cl. G01g *5/04*; G01w *1/14*
U.S. Cl. 177—208 4 Claims



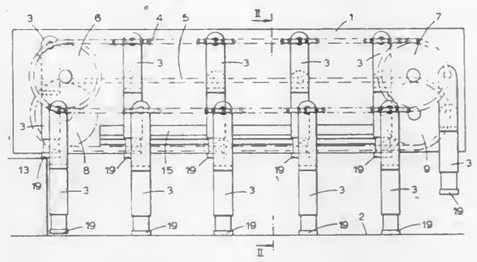
A snow depth measuring device is provided which permits measurement of small changes in the pressure of a liquid contained in a factory sealed chamber between two parallel plates one of which is exposed to the snow fall.

3,522,859

WALKING MACHINE

Meredith W. Thring, The Coach House, Powell Road, Buckhurst Hill, Essex, England

Filed Jan. 22, 1968, Ser. No. 699,716
Claims priority, application Great Britain, Jan. 26, 1967, 4,046/67
Int. Cl. B62d *57/02*
U.S. Cl. 180—8 17 Claims



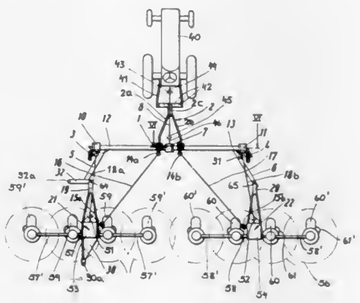
A vehicle adapted to traverse the ground comprising a frame, a set of legs for supporting the frame from the ground and arranged in line along the direction of travel of the vehicle, and a pair of equal length continuous bands mounted on wheels that are rotatable on the frame. The legs are pivotally mounted on the bands, and the frame is movable over the legs in the direction of travel of the vehicle when the bands are driven by the wheels to move the legs from the rear to the front of the vehicle. In one embodiment, the bands are mounted at the same height on the frame, and, in another embodiment, the bands are displaced vertically on the frame relative to each other.

3,522,860

HITCH FOR AGRICULTURAL IMPLEMENT WITH TWO OR MORE TRAILERS

Josef Purrer, Martin Maier, and Albert Krauss, Gottmadingen, Germany, assignors to Maschinenfabrik Fahr A.G., Gottmadingen, Kreis Konstanz, Germany, a corporation of Germany

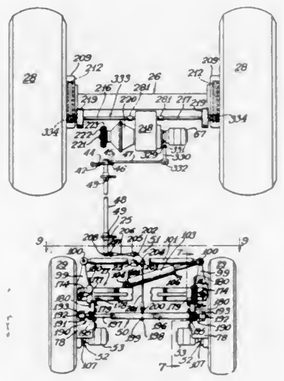
Filed June 28, 1968, Ser. No. 740,896
Claims priority, application Germany, June 30, 1967, 1,557,783
Int. Cl. B60d *1/00*
U.S. Cl. 180—14 10 Claims



A hitch for coupling two or more trailers equipped with rakes, tedders or the like to a common tractor in lateral juxtaposition for field work and in tandem for road transportation, with a cross-bar having two or more generally transverse mounting arms whose free ends form

hinged junctions with tongues of respective trailers; one of these arms, near an end of the cross-bar, has an extension substantially parallel to that bar which can be attached to a rear rail of the tractor in lieu of a centrally mounted thill secured to this rail during field work, the detached thill being swingable about the cross-bar axis into a traveling position in which it is linked with the tongue of the trailer articulated to the last-mentioned arm.

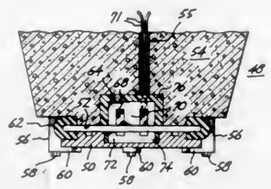
3,522,861
FOUR WHEEL DRIVE ATTACHMENT FOR COMBINES
Tommy A. Middlesworth, Hinsdale, Ill., and William H. Knapp, Davenport, Iowa, assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 500,671, Oct. 22, 1965. This application Apr. 15, 1968, Ser. No. 742,988
Int. Cl. B60k *7/00, 17/34*
U.S. Cl. 180—44 **9 Claims**



An auxiliary hydraulic drive apparatus for a vehicle having a pair of principal traction wheels and a pair of guiding wheels in which an auxiliary hydraulic power distribution means is interconnected between the change speed transmission of the vehicle and the guiding wheels, the power distribution means having a fixed displacement per revolution of the main traction wheels whereby the guiding wheels are driven in substantially the same peripheral linear velocity as that of the main traction wheels. Said apparatus also including mechanical or hydraulic clutch mechanisms for engaging and disengaging the system.

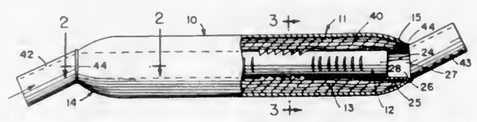
3,522,862
METHOD AND MEANS FOR GENERATING ACOUSTIC PRESSURE IN FLUID MEDIUM
Clive R. B. Lister, 3136 Portage Bay Place E., Seattle, Wash. 98102
Filed May 20, 1968, Ser. No. 730,276
Int. Cl. G01v *1/04, 1/38*
U.S. Cl. 181—.5 **14 Claims**

Method and means are disclosed for producing in a body of fluid a sound useful for seismic profiling. An immersed element is caused to move within, but away from, the immersing fluid in a manner avoiding cavitation while producing a negative acoustic pressure of predetermined magnitude. Thereupon the element momentarily impacts upon relatively immovable matter and abruptly reverses its direction of movement to produce a positive acoustic



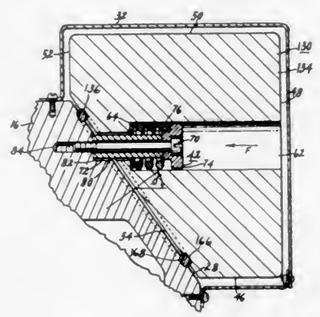
pressure materially greater than, and readily distinguishable from, the negative acoustic pressure.

3,522,863
GLASS-PACKED MUFFLER
Vincent E. Ignoffo, 7040 W. Newport, Chicago, Ill. 60634
Filed July 15, 1968, Ser. No. 744,917
Int. Cl. F01n *1/04, 7/18*
U.S. Cl. 181—59 **7 Claims**



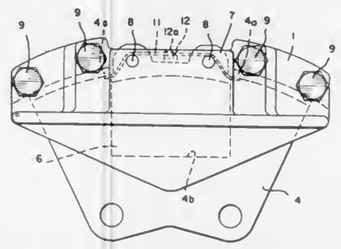
Glass-packed mufflers with straight-through tubular core providing improvements in straight-through mufflers which are more collective of exhaust sound or noise; tubular core with circumferentially offset sets of louvers or vanes arranged in rows with two oppositely disposed rows in each set; tubular shell with dome-shaped end or nose portions of wall thickness about 1.25 or more the wall thickness of the tubular shell.

3,522,864
TUNED VIBRATION DAMPER ASSEMBLY FOR MACHINE TOOLS
Robert C. Richter, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed May 8, 1968, Ser. No. 727,421
Int. Cl. F16d *63/00;* **F16f** *7/10*
U.S. Cl. 188—1 **8 Claims**



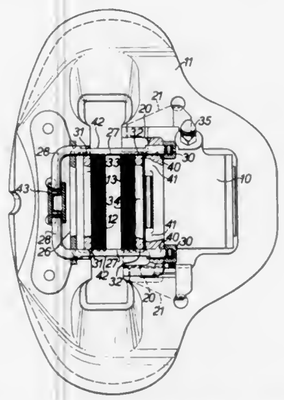
A vibration damper assembly for machine tools with modes of vibration having both horizontal and vertical components wherein at least one viscoelastic absorber element is interposed between the machine tool and a damper mass, with a resilent means being used to preload the viscoelastic absorber element, counterbalance the weight of the damper mass, and mount the damper mass to the machine tool at an angle determined by the vibration modal geometry of the machine tool.

3,522,865
FLOATING-YOKE DISK BRAKE WITH U-SHAPED SUPPORT PLATE
Ernst Meier, Frankfurt am Main, Sindlingen, Germany, assignor to Alfred Teves G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed Sept. 25, 1968, Ser. No. 762,505
Claims priority, application Germany, Sept. 29, 1967, T 34,910
Int. Cl. F16d *55/224*
U.S. Cl. 188—72.4 **6 Claims**



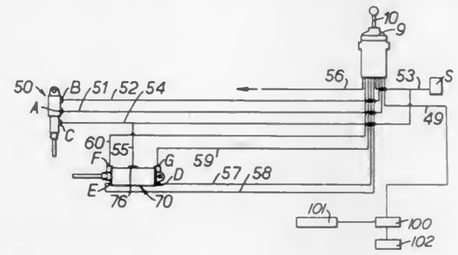
A floating-yoke disk brake with a brakeshoe-removal opening spanned by removable pins which support the brakeshoes. A plate which straddles the brake disk is formed with two windows snugly fitting the brakeshoes to absorb all braking stresses, and the brake yoke or caliper is shiftably supported on this plate by the pins and a leaf spring. The leaf spring extends over these pins and engages beneath the plate to hold the brake in position while allowing limited movement of it. A cross tongue on this leaf spring urges the brakeshoes toward their rest positions.

3,522,866
BRAKE ELEMENT AND RETAINING MEANS THEREFOR
Bernd Marie Adolf Habersack, Duez, Germany, assignor to Girling Limited, Birmingham, England
Filed Dec. 2, 1968, Ser. No. 780,540
Claims priority, application Great Britain, Dec. 1, 1967, 54,802/67
Int. Cl. F16d *65/02*
U.S. Cl. 188—73.6 **12 Claims**



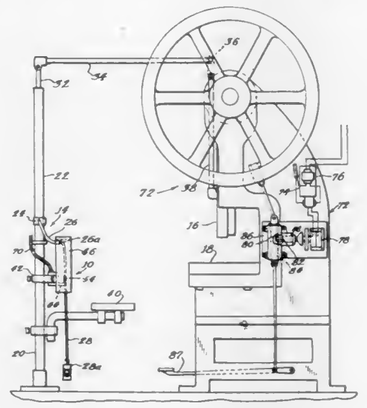
The invention provides a spot-type disc brake in which a pair of opposed brake pads are radially retained by a pair of pins which engage in notches in opposite side edges of the backplates of the pads. The pins have flats so that, by turning the pins until the flats face one another, the pads can be withdrawn for replacement. Releasable means are provided to prevent inadvertent rotation of the pins.

3,522,867
FLUID PRESSURE OPERATED CLUTCH AND GEARS WITH INTERLOCK
Wilbur M. Page and Ralph Coupland, Lincoln, England, assignors to Clayton Dewandre Company Limited, Lincoln, England, a British company
Filed Apr. 15, 1968, Ser. No. 721,404
Claims priority, application Great Britain, Apr. 20, 1967, 18,278/67
Int. Cl. F16d *67/00*
U.S. Cl. 192—3.63 **9 Claims**



An air pressure operated gear changing system for the remote control and actuation of a gear box and comprising a control valve mechanism, a gear selector motor and a gear shift motor. The valve mechanism includes a manually operable hand lever movable to effect operation of the selector motor and shift motor and a clutch interlock control to prevent a gear engaging or gear disengaging movement of the gear shift motor until the clutch is disengaged.

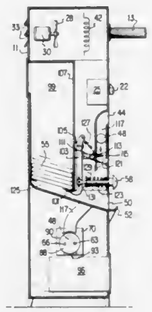
3,522,868
SUPPLEMENTAL SAFETY DEVICE FOR PRESS
Horst Genger, Chicago, Ill., assignor to Bretford Manufacturing, Inc., a corporation of Illinois
Filed Jan. 31, 1969, Ser. No. 795,658
Int. Cl. B67b *3/26*
U.S. Cl. 192—131 **16 Claims**



A supplemental safety device for use with a press mechanism of the type having cuffs for securement to the wrists of an operator, the cuffs being connected to cables which are associated with the press mechanism by

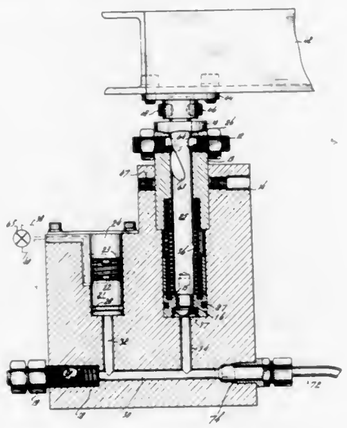
means for retracting the cables and cuffs away from the press bed during operation of the press, characterized by a switch means on the cable support adapted to be moved to a press deactivated position when the wrist cuffs are removed from the wrists of an operator and hang freely at the end of the cables, the switch means being further adapted to being moved to a press operative position when the wrist cuffs are placed on the wrists of an operator.

3,522,869
COIN OPERATED HAIR DRYING APPARATUS
Julia Schmidt, 623 Stolp Ave., Syracuse, N.Y. 13207
Filed Mar. 4, 1968, Ser. No. 710,085
Int. Cl. G07f *5/00*
U.S. Cl. 194—18 **5 Claims**



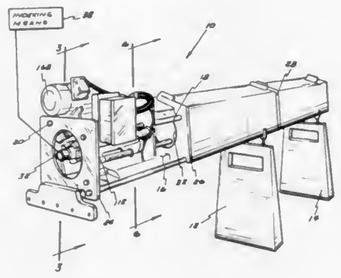
A coin actuates a dispenser and a timer. The timer may control actuation of a heater and fan for an electric hair dryer while the dispenser provides a sanitary paper bonnet.

3,522,870
ROTARY ACTUATOR
Robert G. Landry, Lewiston, and Gordon C. Adams, Auburn, Maine, assignors to Diamond Machinery Company, Lewiston, Maine, a corporation of Maine
Filed Aug. 13, 1968, Ser. No. 752,396
Int. Cl. B65g *47/00;* **F16h** *27/02, 29/02*
U.S. Cl. 198—20 **8 Claims**



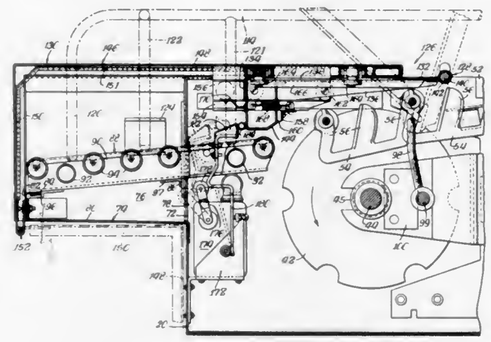
Rotary actuator arm, an apparatus for translating linearly advancing air into rotary movement of a deflecting arm or the like, particularly a device for actuating a rotary deflecting arm in a conveyor system.

3,522,871
STOCK FEEDING APPARATUS WITH SINGLE DRIVE ROLLER
Otis V. Jones, Jr., Dearborn, Mich., assignor to Acro Feed Industries, Inc., Detroit, Mich., a corporation of Michigan
Filed Aug. 30, 1968, Ser. No. 756,621
Int. Cl. B65g *47/00*
U.S. Cl. 198—25 **8 Claims**



A stock feed apparatus for supplying bar stock to a multiple spindle screw machine. A plurality of stock sections are supported in a reel parallel to one another in a circular array, each being successively indexed into a feed position. An idler roller is engaged with each supported stock section and advances with the stock into the feed position where a single drive roller cooperates with the idler roller to advance the stock in the direction of its length toward the collet of the spindle machine.

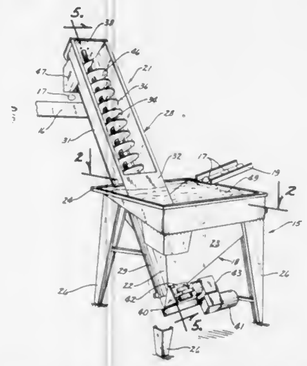
3,522,872
TRAY UNLOADING MECHANISM AND CONVEYOR STOP MEANS FOR DISHWASHING MACHINE
Howard O. Holloway, River Grove, and Anthony Trotto, Bellwood, Ill., assignors to G. S. Blakeslee & Co., Cicero, Ill., a corporation of Delaware
Filed Jan. 15, 1968, Ser. No. 697,926
Int. Cl. B65g *43/08, 47/22*
U.S. Cl. 198—29 **17 Claims**



A roller conveyor assembly located at the unloading end of an endless conveyor of a dishwashing machine for receiving trays and the like discharged from the conveyor and directing the same outwardly of the machine, e.g., to a mobile tray cart, and guide means at the loading and unloading ends of the conveyor to align trays and the like moving through the machine. Also provided at the unloading end of the conveyor is conveyor stop means

which may be positioned in operative position overlying the roller conveyor assembly for stopping the conveyor under selective conditions, and which may be pivoted away from the operative position to an inoperative position to expose the roller conveyor assembly for use.

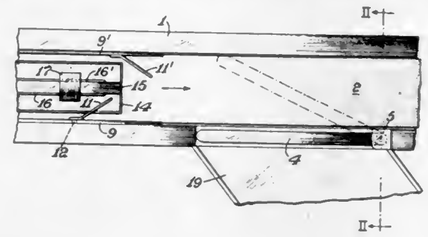
3,522,873
FEEDING APPARATUS FOR A PRODUCE MATERIAL
Joseph E. Wallace, Creston, Iowa, assignor to Vanmark Corporation, Creston, Iowa, a corporation of Iowa
Filed Oct. 11, 1968, Ser. No. 766,882
Int. Cl. B65g *47/16, 47/26*
U.S. Cl. 198—30 **6 Claims**



The invention provides a produce feeding apparatus that includes a water filled tank having downwardly and inwardly inclined side walls. Located at one end of the tank and inclined upwardly and outwardly from the bottom of the tank is an auger housing comprised of upper and lower housing sections, with the lower housing section having a diameter equal to about one-half the diameter of the upper housing section. An auger unit rotatably supported in the housing has upper and lower auger sections of equal pitch and having flight members corresponding in diameters to the diameters of the housing sections. Produce supplied to the tank enters an inlet portion in the lower housing section that is located below the water level in the tank and of a size to provide for a full loading of the lower auger section. On transfer of the produce from the lower auger section to the upper auger section, the upper auger section is only about half loaded so that the produce is distributed over the lower half portion of the upper auger housing section. A bottom discharge opening at the top of the upper housing section has a transversely extended lower side that is reversely inclined relative to the inclination of the bottom portion of the flight member in the upper housing section. The produce is thus progressively discharged from the upper housing section along such lower side of the discharge opening for successive dropping in a spaced relation onto a horizontally movable conveyor located below the discharge opening.

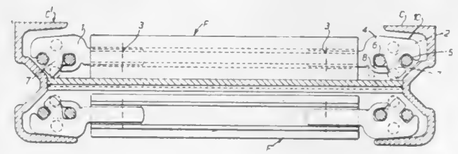
3,522,874
DESTINATION SELECTOR ARRANGEMENT FOR A DISTRIBUTING CONVEYOR
Erich Schneider, Wurttemberg, Germany, assignor to Organisation Ralfs K.G., Wiesensteig, Wurttemberg, Germany, a company of Germany
Filed Jan. 24, 1968, Ser. No. 700,172
Int. Cl. B65g *43/08*
U.S. Cl. 198—38 **11 Claims**

The receptacles of an inter-office conveyor system for mail or files are provided with contacts for selectively operating discharge gates in cooperation with stationary contacts on the conveyor walls. Many combinations specific to respective destinations are made possible by two longitudinal conductor bars or pairs of bar sections on



the receptacles carrying contacts for cooperation with contacts similarly mounted on conductor bars or bar sections on the conveyor walls.

3,522,875
CONTINUOUS CHAIN SCRAPER ASSEMBLIES
Johann Hans Otto Smerd, Stourport-on-Severn, and Paul Arthur Collier, Rock, near Kidderminster, England, assignors to Parsons Chain Company Limited, Stourport-on-Severn, England, a corporation of the United Kingdom
Filed Dec. 18, 1967, Ser. No. 691,644
Claims priority, application Great Britain, Dec. 30, 1966, 58,407/66
Int. Cl. B65g *19/10, 19/24*
U.S. Cl. 198—175 **5 Claims**

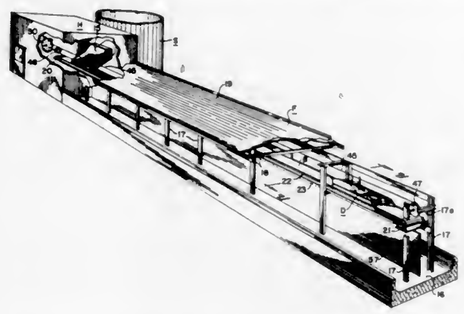


A connector for use in making up a chain scraper conveyor which connector comprises a member adapted for pivotal connection at one end to the scraper bar and having at its other or outer end transverse slots to receive the opposite limbs of the chain link and to which it is permanently secured.

3,522,876
CONVEYOR SYSTEM
Chester A. Purdy, R.F.D. 1, Belmont, Wis. 53510
Continuation of application Ser. No. 576,447, Aug. 31, 1966, which is a continuation-in-part of application Ser. No. 393,172, Aug. 31, 1964, now Patent No. 3,306,261. This application June 2, 1969, Ser. No. 835,870,
Int. Cl. B65g *15/00;* **A01k** *5/00*
U.S. Cl. 198—188 **29 Claims**

A continuous conveyor belt, having a planar, upper, load-bearing reach or flight extending along a predetermined discharge zone, and an associated deflector carriage are mounted and driven so that the carriage reciprocates along the belt within the discharge zone for deflecting the belt burden along the length of the discharge zone during both directions of travel of the carriage. The deflector carriage includes a base plate and a deflector or plow respectively underlying and overlying the upper flight of the belt in engagement therewith, the deflector or plow yieldably engaging the belt for deflecting the burden therefrom. The deflector may be designed to deflect the burden entirely off one side of the belt, or partially off both sides of the belt at the same time, or selectively off either side of the belt, and is

preferably angularly shiftable laterally of the belt for the latter purpose. Settable means are provided for selectively and automatically reversing the direction of travel of the deflector carriage at opposite ends of the discharge zone



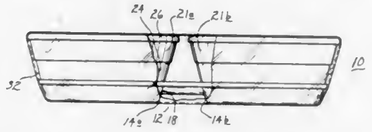
or at predetermined points therebetween and for angularly shifting a shiftable deflector to alter the direction of burden discharge at predetermined locations along the discharge zone.

3,522,877

PACKAGE

Carlos Phillips, Jr., Kirkwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Mar. 29, 1968, Ser. No. 717,168
Int. Cl. B65d *5/50, 65/16, 71/00*
U.S. Cl. 206—45.14 **5 Claims**



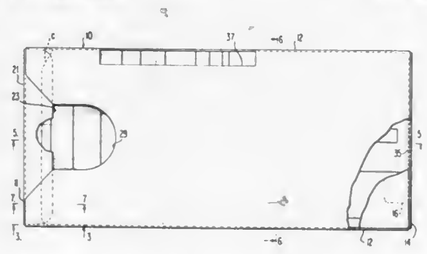
A package for holding adjacent containers in a unitary manner, which includes a thin wall compartmented tray, a plurality of containers fitted within the compartments and a plastic film overwrap around both the tray and containers to seal the containers tightly in place within the tray.

3,522,878

TABULATING CARD DISPENSING CARTON

Charles W. Rosenburg, Jr., North Tonawanda, N.Y., assignor, by mesne assignments, to F. N. Burt Company, Inc., Buffalo, N.Y., a corporation of Delaware

Filed Dec. 24, 1968, Ser. No. 786,573
Int. Cl. B65d *5/72, 83/00*
U.S. Cl. 206—56 **9 Claims**



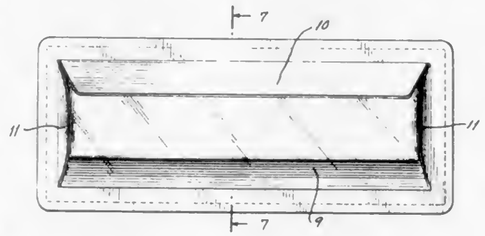
A dispenser carton for containing tabulating or other type cards wherein the carton is dimensioned slightly larger than the cards and an end flap is so dimensioned that it is capable of both acting as a closure panel for the carton and as a dispensing flap. In dispensing, the end flap is bent in a reverse direction and tucked under itself thereby providing an inclined retaining wall for the stack of cards and, at the same time, permitting removal of only one card at a time without disturbing the balance of the inclined pile.

3,522,879

SEALED VACUUM PACKAGE AND ARTICLE

William E. Young, 52 Sea Beach Drive, Stamford, Conn. 06902

Continuation-in-part of application Ser. No. 662,838, June 29, 1967, which is a continuation of application Ser. No. 412,063, Nov. 18, 1964. This application Dec. 22, 1967, Ser. No. 695,827
Int. Cl. B65d *73/00*
U.S. Cl. 206—78 **28 Claims**



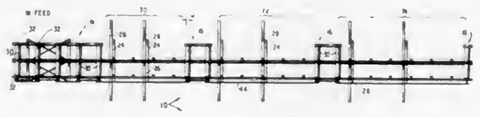
The package blank is formed as shown with a peripheral support to hold a thin flimsy piece of film smoothly and evenly in the sealing area adjacent its periphery despite the rush of evacuated air past all the side edges of the film and is constructed with a barrier film which is stretch-formable so as to conveniently form a pocket portion for containing foodstuffs as in the final package.

3,522,880

METHOD AND APPARATUS FOR CONVEYING AND SORTING ELONGATED ARTICLES

John S. Mellott and Hayes R. Mellott, both of Rte. 1, Box 97, Mercersburg, Pa. 17236

Filed July 16, 1968, Ser. No. 745,271
Int. Cl. B07b *13/04*
U.S. Cl. 209—73 **26 Claims**



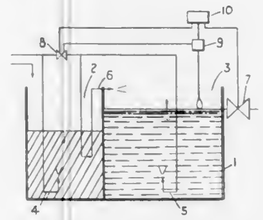
A method of, and apparatus for, sorting elongated articles according to length by conveying successive articles to be sorted lengthwise along a conveyer path defined by a plurality of spaced, longitudinally aligned conveyer segments. The articles are conveyed in edge alignment with guide means on the conveyer segments, and are supported along their bottom surface adjacent one side edge between successive conveyer segments.

3,522,881

APPARATUS FOR THE TREATMENT OF SEWAGE AND LIKE INDUSTRIAL WASTE

James B. Nicol, Glasgow, Scotland, assignor to Drysdale & Company Limited, Glasgow, Scotland, a company incorporated of the United Kingdom of Great Britain and Northern Ireland

Filed Jan. 27, 1969, Ser. No. 793,998
Claims priority, application Great Britain, Jan. 25, 1968, 3,903/68
Int. Cl. C02c *5/04*
U.S. Cl. 210—127 **7 Claims**



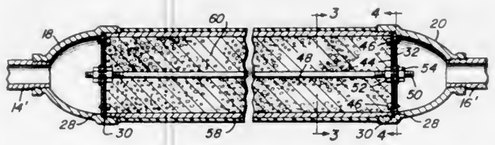
A sewage-treatment plant comprising two sections, each having a chamber for receiving sewage and an aerating means. An airlift conveys sewage from the first section to the second section. The second section further includes an outlet valve and a volume determining means, the latter means controlling the operation of the airlift conveyor, and through a timing means, the operation of the outlet valve and the second section aerating means.

3,522,882

WATER CONDITIONER

Jess W. Dykes, Rte. 3, Box 617-A, Pascagoula, Miss. 39567

Filed Dec. 17, 1968, Ser. No. 784,371
Int. Cl. B01d *25/06, 25/08, 39/06*
U.S. Cl. 210—198 **5 Claims**



An elongated tubular body for disposition in a household waterline and including removable opposite ends between which a pair of opposite end screen assemblies are supported within the body. A quantity of "Micromet," a phosphate glass soluble in water and used to inhibit scale, corrosion and red water in water systems and manufactured by the Calgon Company, of Pittsburgh, Pa., is disposed within the body between the screen assemblies, whereby water passing through the waterline and body will be treated by the "Micromet."

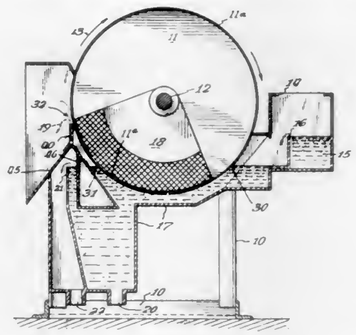
3,522,883

DEWATERING DEVICE FOR WET MAGNETIC DRUM SEPARATOR

Roger A. Steckhan, Muskego, Wis., assignor, by mesne assignments, to Electronic Memories & Magnetics Corporation, Hawthorne, Calif., a corporation of Delaware

Filed Apr. 26, 1968, Ser. No. 724,362
Int. Cl. B01d *43/00;* **B03c** *1/30*
U.S. Cl. 210—222 **9 Claims**

A wet magnetic drum separator of the type which rotates while partially immersed in a slurry containing magnetic material while backed by a magnet is provided with a dewatering device beyond its exit position from the slurry. In a preferred form, the dewatering device is a pivotally or hingedly mounted bar having a magnetic portion which is attracted by the magnet of the separating drum against the drum surface to break the miniscus of water on magnetic particles carried by the drum surface to remove water from the particles before they are released from the drum surface. The water can be returned to the slurry.

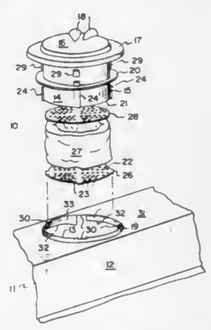


3,522,884

COOLANT FILTER

Donald J. Frost, Racine, Wis., assignor to Modine Manufacturing Company, a corporation of Wisconsin

Filed Nov. 21, 1968, Ser. No. 777,605
Int. Cl. B01d *35/28*
U.S. Cl. 210—232 **6 Claims**



A coolant filter for a radiator having a coolant tank comprising a canister held in an opening in the tank and extending inwardly thereof when in use in which the canister is of one-pieces construction with integral sides and a closed end externally of the opening provided with an external flange surrounding the opening, a replaceable filter element in the canister and fluid conduits on the canister closed end for conveying coolant to the tank through the canister and the filter element.

3,522,885

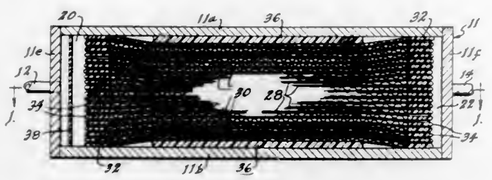
PARALLEL FLOW HEMODIALYZER

Ardis R. Lavender, Chicago, and Finley W. Markley, Naperville, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Apr. 18, 1968, Ser. No. 722,445
Int. Cl. B01d *31/00, 13/00*
U.S. Cl. 210—321 **14 Claims**

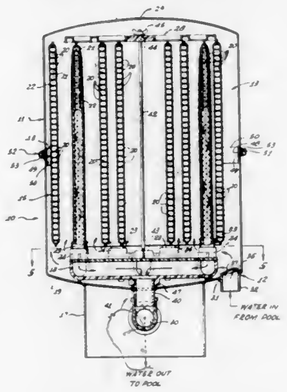
A hemodialyzer with semipermeable membrane tubes arranged in parallel. The tubes lead to blood manifolds

which are sealed from a dialysate chamber by a layer of epoxy resin surrounding the tube ends. The tube ends remain open during potting with the epoxy by having inserts in the tubes which are removed after the resin has



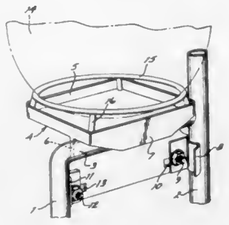
set. The use of shims or inserts in the tubes to reduce the area in the tubes available for blood flow while the tube surface area remains the same increases dialysis efficiency.

3,522,886
TANK-TYPE FILTER FOR POOL WATER AND THE LIKE
James R. Edmiston, Sherman Oaks, and Harry M. Clinton, Northridge, Calif., assignors to Swimrite, Inc., Van Nuys, Calif., a corporation of California
Filed Nov. 8, 1968, Ser. No. 774,387
Int. Cl. B01d *25/08, 25/30, 37/02*
U.S. Cl. 210—345 **13 Claims**



A filter having a generally cylindrical tank with a filter assembly inside the tank comprising a plurality of hollow grids covered with fabric for holding a coating of diatomaceous earth. The grids are supported on a manifold threaded onto an outlet fitting welded in the bottom wall of the tank, and held in place by an upper support wheel connected to the manifold by a tie rod permitting removal of the assembly as a unit. The inlet is a pipe in the bottom wall adjacent the sidewall and having a deflector which directs the fluid along the bottom wall to create a swirling vortical flow for picking up diatomaceous earth and redistributing the same on the grids. The tank is in two sections including a cover for exposing a substantial portion of the filter assembly, and the sections have outwardly turned flanges clamped together by a split ring to compress a seal ring between the sections and an insert ring fast in one section.

3,522,887
SUPPORT FOR A PARAPLEGIC WHEEL CHAIR
Edward A. Petersen, 13761½ Locust Ave., Westminster, Calif. 92683
Filed Mar. 25, 1968, Ser. No. 715,882
Int. Cl. A47c *7/54, 7/62;* **A47f** *7/00*
U.S. Cl. 211—14 **3 Claims**



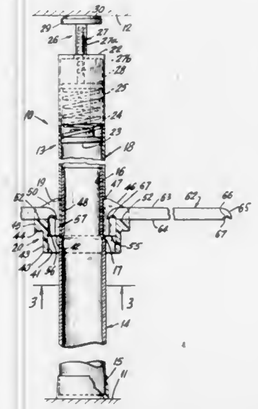
A tray for an invalid chair including a frame comprising a pair of spaced vertical members and a horizontal member extending therebetween and a tray having a flange secured to the vertical members. A ring is supported on the tray by legs resting adjacent the periphery thereof, and the tray is provided with vertical walls for preventing lateral movement of the ring.

3,522,888
FOLDING TOOL TRAY
John F. Grams and James D. R. Harris, Norridge, Ill. (both of 312 Cypress Drive, Prospect Heights, Ill. 60070)
Filed May 3, 1968, Ser. No. 726,320
Int. Cl. A47f *5/13*
U.S. Cl. 211—132 **3 Claims**

This invention consists of three U-shaped tubular frames, one of which has four casters secured to the underside thereof as a means of horizontal support when the folding tool tray is opened to a usable position. A second U-shaped tubular frame is swingably secured to the frame that has the casters secured thereto. The second frame is provided with two parallel members to which is adjustably secured the parallel members of a third U-shaped and inverted tubular frame that has the rear end of a rectangular tray swingably secured thereto. The tray is provided with an electric light on the outer portion thereof. A brace on each side of the first and second mentioned U-shaped tubular frames locks the second mentioned frame into an upright position when this invention is ready for use. A tray supporting member is suitably secured to one side of the aforesaid tray and the cross-member of the third and inverted U-shaped tubular frame,

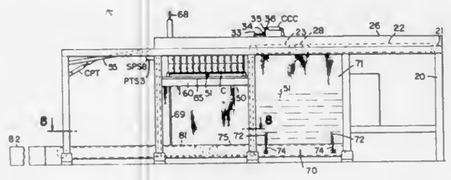
and a like tray supporting member is likewise secured to the other side of the tray and the aforesaid supporting member.

3,522,889
INDOOR CLOTHES DRIER
Martin Himmel, Mount Vernon, N.Y.; Addie L. Himmel, executrix of said Martin Himmel, deceased
Filed Oct. 5, 1967, Ser. No. 673,032
Int. Cl. A47k *10/04*
U.S. Cl. 211—171 **13 Claims**



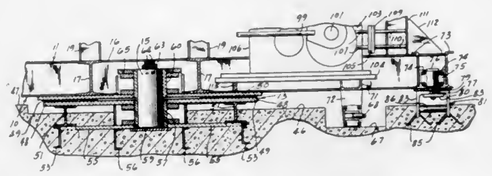
The clothes drier comprises a pole resiliently clamped between a corner of a bathtub and the ceiling or between floor and ceiling. On the pole is a ring supporting a plurality of radiating clothes supporting bars swingable on the ring to radial, substantially horizontal position. The bars can be moved to vertical positions adjacent the pole and slid out of the ring and replaced, for storage or shipment. In one modification the ring is squared-off to provide a corner to fit in a corner formed by two walls of the bathroom, with said bars radiating outwardly from the corner.

3,522,890
CAN PALLETIZER
Thomas D. Birchall, Turlock, Calif., assignor to G. W. Hume Company, Turlock, Calif., a corporation of California
Filed July 16, 1968, Ser. No. 745,274
Int. Cl. B65g *57/24*
U.S. Cl. 214—6 **18 Claims**



In this automatic can palletizer cans are presented to a long draper and moved thereby to the rear end of a normally stationary short draper having at its forward end can clamps normally holding a front row of cans. A stripper plate lies adjacent the forward end of the short draper, and cans are delivered to it at transfer time. A hoist supports a pallet beneath the normal position of the stripper plate and raises a pallet to a level slightly below the stripper plate. A switch on the long draper releases the can clamps when a desired number of cans have been backed up behind the front row, and thereupon the short draper moves cans onto said stripper plate. Switches are actuated by the cans reaching a stripping wall at the end of the stripper plate, and they reenergize the can clamps, stop the short draper, and cause said stripper plate to move out beneath the stripping end wall and drop the cans onto the pallet or onto a layer of cans already on said pallet, to make a palletized can layer. The hoist is then lowered by the height of one layer of cans and is stopped. The stripper plate then returns to its original position adjacent the short draper. Each time the stripper plate reaches its fully stripped position it picks up a paper sheet the size of the area of the pallet, carries it with it on its return, and releases the paper sheet over the layer of cans. After a preselected number of layers has been deposited on the pallet, the hoist is automatically lowered and the loaded pallet transferred away from said hoist to a dock where it can be picked up and moved elsewhere. Meanwhile, a stack of empty pallets is retained adjacent the hoist, and one empty pallet is transferred to the hoist as the filled pallet is being transferred away therefrom, the empty pallet is then raised to its uppermost position. During this pallet transfer operation, the stripper plate is held in its stripped position, and as the empty pallet is raised and nears its uppermost position, the stripper plate is returned to its original position and deposits on the empty pallet a sheet of paper.

3,522,891
FURNACE CHARGER
Edward J. Berk and Paul J. Fontaine, Chicago, Ill., assignors to Westinghouse Air Brake Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 12, 1968, Ser. No. 744,410
Int. Cl. B25g *27/14*
U.S. Cl. 214—21 **15 Claims**

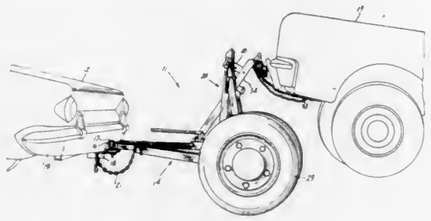


Shaker conveyor furnace charger positionable to successively charge a plurality of furnaces with meltable materials and into a retracted position out of the way of the furnace charged to be loaded with meltable materials to be charged into a next succeeding furnace. An elongated swivel frame forms the support for a shaker conveyor trough and for the drive mechanism for the trough and is swiveled for movement about a vertical axis. The trough extends along the swivel frame beyond the forward end of the frame and is reciprocably driven in a horizontal plane by the shaker conveyor drive mechanism.

3,522,892
TRAILER FOR TOWING ROAD VEHICLES
Lester S. Vegors, 300 E. 2nd St., Webster City, Iowa 50595
Filed Apr. 29, 1968, Ser. No. 724,708
Int. Cl. B60p *3/12*
U.S. Cl. 214—86 **3 Claims**

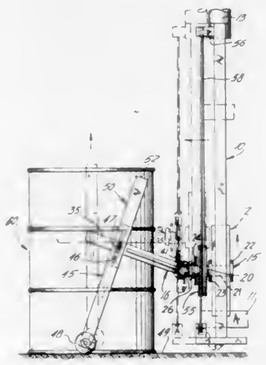
This invention provides a two wheel trailer apparatus for a towing vehicle for hoisting and towing a disabled motor vehicle. The tow trailer comprises an upright frame

structure rigidly carried on the top side of a portable chassis unit forwardly of the wheel and axle assembly. The frame structure straddles a lift arm that is pivotally connected at one end of the chassis unit at a position forwardly of the upright frame structure and pivotally movable in a vertical plane to upright and lowered positions by a hydraulic lift cylinder. In its lowered position the lift arm extends horizontally with its free end located



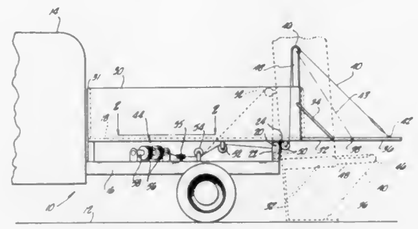
rearwardly of the wheel and axle assembly for connection with the front end of a disabled vehicle. On raising of the lift arm the disabled vehicle is drawn toward the tow trailer concurrently with the movement of the front wheels thereof to a raised position spaced upwardly and rearwardly of the trailer wheel and axle assembly. The lift arm, in its upright position may be locked to the upright frame for towing of the disabled vehicle.

3,522,893
MATERIAL-HANDLING APPARATUS FOR LIFT TRUCK OR THE LIKE
George A. Yokich, 1233 W. Brons, Peoria, Ill. 61604
Filed July 17, 1968, Ser. No. 745,445
Int. Cl. B65g *65/34*
U.S. Cl. 214—313 **8 Claims**



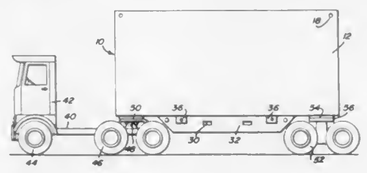
This invention is essentially concerned with material-handling apparatus including a mast for mounting on a lift truck or the like having an elevator movable on the mast and carrying a mounting structure for movement with the elevator. A pair of gripping arms are carried by the mounting structure for movement therewith and are further movable relative to the mounting structure in an upward and downward swinging relation, during which the arms are cam-actuated to move away from and toward each other, for spacedly receiving between the arms an article to be gripped, and gripping engagement with the article upon downward swinging movement of the arms.

3,522,894
TRUCK
Harold Tornheim, 430 N. Auburn Ave., Sierra Madre, Calif. 91024
Filed Aug. 1, 1968, Ser. No. 749,358
Int. Cl. B60p *1/14, 1/44*
U.S. Cl. 214—501 **12 Claims**



A platform pivoted to the rear of the body of a lift-bed truck loads and unloads objects. A pair of tension lines connects the platform to two rotatable drums, secured to the chassis of the truck, for maintaining the platform in a horizontal position as the truck bed rises to an inclined position. Objects placed on the platform rise to the level of the truck bed as it returns to a horizontal position. The drums maintain the tension lines taut in all positions of the truck bed, tailgate, and platform. A forklift attachment can similarly mount on the truck bed for lifting and supporting a variety of objects.

3,522,895
BODY LIFTING AND TRANSPORTING ASSEMBLY
Charlie M. Stokes, P.O. Box 1963, Auburn, Ala. 36830
Filed Dec. 21, 1967, Ser. No. 692,422
Int. Cl. B65d *19/02*
U.S. Cl. 214—621 **1 Claim**

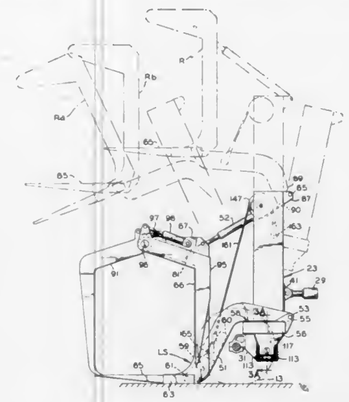


A body for a vehicle incorporating structural features that permit the body, the contents thereof and the vehicle chassis or vehicle chassis and transporter to be moved over the road together with mechanism for lifting the body which may be independent of the body or integrally attached thereto with the lifts contacting the body at particular areas thereof which have been adapted to be associated with the lifts.

3,522,896
LIFT TRUCK
John R. Newton, 1001 Normandy Drive S., Salem, Oreg. 97302
Filed June 12, 1968, Ser. No. 736,364
Int. Cl. B66f *9/18*
U.S. Cl. 214—652 **4 Claims**

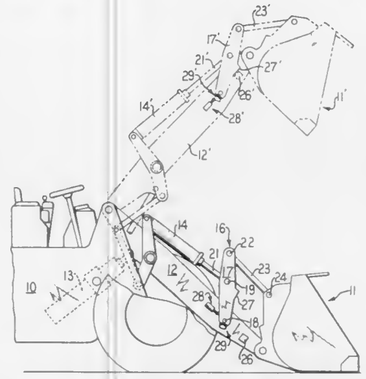
A lift truck having a tiltable telescopic mast of tubular construction and located rearwardly of the front axle and alongside of the operator's station for improved

visibility by the operator and better load stability. There is a load supporting carriage connected to the movable upright of the mast by a parallel linkage system whereby



to maintain the carriage horizontal when the mast is extended and the carriage elevated relative to the movable upright.

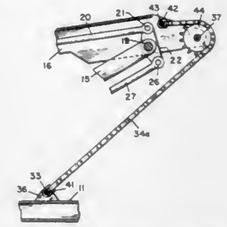
3,522,897
KICKOUT CONTROL FOR BUCKET LOADERS
Allan L. Freedy, Aurora, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed May 28, 1968, Ser. No. 732,662
Int. Cl. E02f *3/70;* **B66f** *9/22*
U.S. Cl. 214—764 **5 Claims**



A bucket loader of the type having a bucket pivotally supported on a pair of lift arms, a tilt motor connected to the bucket by means of tilt linkage and tilt controls operable into a detent position for causing the tilt motors to pivot the bucket forwardly on its lift arms as for dumping. The tilt control is released from its detent position to terminate forward tilting of the bucket at an appropriate position relative to the lift arms in response to a kickout valve mounted on the lift arm and actuated by contact with a portion of the tilt linkage.

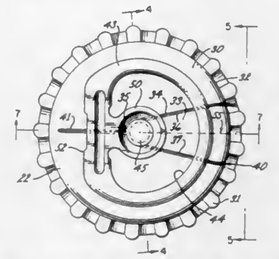
3,522,898
ELEVATING PLATFORM
John Rotheisler, Oliver, British Columbia, Canada
Filed Aug. 23, 1968, Ser. No. 754,814
Int. Cl. B66f *9/00;* **E02f** *3/30*
U.S. Cl. 214—772 **3 Claims**

A mobile chassis carrying a vertically swingable articulated boom consisting of pivotally connected lower and upper boom sections. A platform member is pivoted to the upper boom section and parallelogram linkage cooperates with the boom sections to maintain the platform member level during swinging of the boom. A fluid operator is connected to the lower boom section for



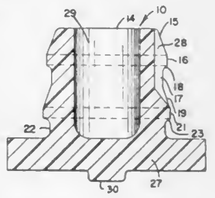
swinging the same and an elongated guiding element extends from the chassis to the upper boom section for guiding movement of the latter so that the platform member may be raised and lowered along a substantially vertical path.

3,522,899
EASY OPEN MEANS FOR BOTTLES AND THE LIKE
Frederik A. Siemonsen, Bon Air, and Alfred L. Garriques, Richmond, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Continuation-in-part of application Ser. No. 587,170, Oct. 17, 1966, now Patent No. 3,462,036. This application Feb. 3, 1969, Ser. No. 796,002
The portion of the term of the patent subsequent to Aug. 19, 1986, has been disclaimed
Int. Cl. B65d *41/10, 43/02*
U.S. Cl. 215—46 **24 Claims**



This disclosure relates to an improved easy open crown type closure cap for a bottle which is made as one unitary assembly or piece and includes a pull ring fastened thereto which enables easy opening by tearing a section in the cap and removal of the entire cap as one piece.

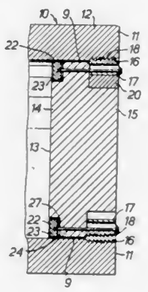
3,522,900
VALVE FOR PRODUCT DISPENSING CONTAINER
John B. Nicholson, Country Club Hills, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Oct. 18, 1967, Ser. No. 676,294
Int. Cl. B65d *51/16*
U.S. Cl. 220—44 **6 Claims**



A valve formed with a body having lengthwise spaced upper and lower peripheral annular shoulders so that the

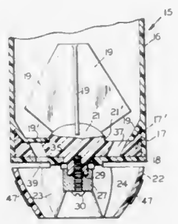
valve is inserted into a wall or vent opening in a container in two stages. Fluid passages are formed in the valve body between the annular shoulders so that in the first insertion stage fluid communication is established between the container interior and exterior. A base flange is spaced from the lowermost of the annular shoulders to coact therewith and seal the vent opening.

3,522,901
END CLOSURE FOR PRESSURE VESSEL
Heinz Carl Rauschenplat, Warren, Pa., assignor to Struthers Wells Corporation, a corporation of Maryland
Filed May 28, 1968, Ser. No. 732,565
Claims priority, application Great Britain, June 27, 1967, 29,624/67
Int. Cl. B65d *53/00*
U.S. Cl. 220—46 **9 Claims**



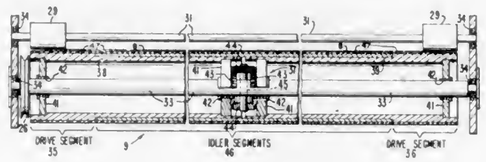
An open end pressure vessel as a closure fixed therein with the closure sealed to the pressure vessel by means of a self-energized seal. The closure is held in the pressure vessel by segments having annular projections formed thereon, the segments being urged and locked radially outward so that the annular projections of the segments enter annular grooves formed in the end of the pressure vessel, end thrust on the closure forcing the closure against the segments.

3,522,902
NON-BLEEDING DISPENSERS FOR POWDERED MATERIALS AND THE LIKE
Jacob M. Katz, 155 W. 68th St., New York, N.Y. 10023
Filed July 5, 1968, Ser. No. 742,695
Int. Cl. G01f *11/10*
U.S. Cl. 222—370 **2 Claims**



The bottom wall of a cylindrical supply-holding receptacle and an internal ring flange having a radially extending tab, locate and hold a disc rotor plate rotatably fitted and in wiping contact at the bottom of the container's interior. The tab prevents bleeding upon discharge, which is limited to a measured quantity delivered in hand, at all times. A tubular handle below the receptacle is rotatable to effect a discharge; said rotor turning with said handle. Radial vanes dividing said tubular handle, present equi-spaced flexible tabs which cooperate with grooves in a ring pad on the receptacle's undersurface to index the device to attain proper discharge positions. A discharge hole in the bottom wall of the receptacle leads to the handle's interior. A series of equi-spaced identical holes through the rotor, register successively with the hole in said bottom wall when said flexible tabs enter said grooves. The number of said tabs is the same as the number of holes through the rotor. The number of discharges per revolution of the handle, is equal to the number of holes in the rotor, so a fraction of a turn will effect a discharge, always equal to the volumetric capacity of a hole in the rotors. The number of parts, when molded, is kept to a minimum, and the only tool necessary to effect assembly, is a screw driver for a single screw.

3,522,903
PAPER STRIP PULLER HAVING DIFFERENTIALLY DRIVEN PULLERS TO PREVENT SLUING OF THE STRIP
William A. Lloyd, San Jose, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Mar. 14, 1968, Ser. No. 713,003
Int. Cl. B65h *17/08*
U.S. Cl. 226—188 **6 Claims**

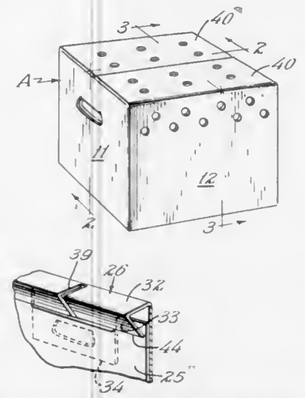


An electrographic strip chart recorder is disclosed. The recorder includes a supply roll of electrographic recording paper. A drive roller structure frictionally engages the paper and pulls it from the supply roll past an electrographic recording head which forms electric charge images to be developed upon a charge retentive surface of the paper. The charge image bearing paper is pulled past a toner station which develops the images. The drive roller includes a pair of separately rotatable drive segments disposed at opposite ends of the roller and frictionally engaging opposite side edges of the recording paper. A drive motor drives the separate drive rollers through the intermediary of a differential gear train serving to divide the driving force supplied from the motor to the drive rollers such that one of the drive rollers may rotate faster than the other and such that the same pulling tension force is transmitted to opposite side edges of the paper. In this manner, the paper is pulled from the supply roll without sluing the paper to one side or the other of the drive roller structure.

3,522,904
ANIMAL SHIPPING CONTAINER
Frank W. Locke, Minnneapolis, and James A. Harvieux, Stillwater, Minn., assignors to Hoerner Waldorf Corporation, St. Paul, Minn., a corporation of Delaware
Filed July 29, 1968, Ser. No. 748,407
Int. Cl. B65d *5/00*
U.S. Cl. 229—16 **5 Claims**

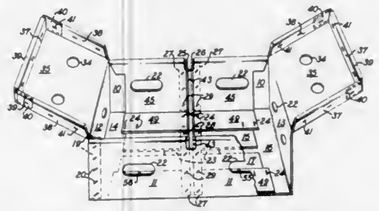
An animal shipping container includes rectangularly arranged side and end walls. Bottom panels are hinged to the lower edges of the side walls and folded into face

contact. End wall liner panels are hinged to the end edges of the lowermost bottom panel and lie inwardly of said end walls. A flap structure is hinged to the upper edge of each end wall and includes an inwardly extending horizontal flange and a downwardly and outwardly inclined reinforcing flange terminating against the inner surface of an end wall liner panel. A central tuck flange extends



through a notch in the upper edge of the end wall liner panel and lies between said liner panel and the adjacent end wall to lock the flap structure in place. Cover panels are hinged to the upper edges of the side walls and tuck flaps on the cover panels engage in slots in the flap structures. Hand holes are provided in the end walls outwardly of the liner panels.

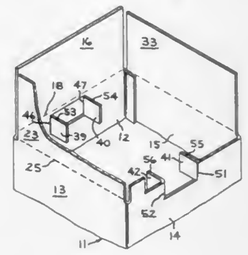
3,522,905
FRUIT AND VEGETABLE CARTON
Chung C. Wei, Scarsdale, N.Y., assignor to Calabash Company, Ltd., Hamilton, Bermuda, a corporation of Bermuda
Filed Mar. 25, 1968, Ser. No. 715,897
Int. Cl. B65d *5/02, 5/54*
U.S. Cl. 229—33 **5 Claims**



The carton of this invention is a unitary carton provided with two covers hingedly connected to the end walls of the body of the carton and closed inwardly over two partitions located in spaced relation centrally of the side walls of the carton body, such partitions constituting the inner end walls of two divisible cartons forming such unitary carton, said covers each having an end flap insertable into the space between the partitions, and the portions of the side walls and bottom wall of the carton body between the partitions being severable to transform the unitary carton into two separate complete cartons.

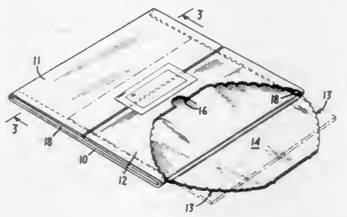
3,522,906
CARTON INNER FLAP SUPPORT
Delbert J. Painter, Jeffersontown, Ky., assignor to General Electric Company, a corporation of New York
Filed Dec. 20, 1968, Ser. No. 785,516
Int. Cl. B65d *5/02*
U.S. Cl. 229—37 **8 Claims**

Tabs formed integrally with the side walls of a carton are turned inwardly to support the inner closure flaps during bonding to the outer closure flaps. Each of the tabs is folded inwardly along a score line perpendicular to the score line between its integral side wall and integral outer closure flap. In one embodiment, wherein the tabs are cut from the carton sides alone, the tabs may be



of right polygonal configuration. In another embodiment, wherein the tabs are cut from both the carton side walls and integral flaps, the tabs may have an upper portion which is folded downwardly to provide the configuration of an inverted L-shaped support.

3,522,907
SHIPPING CONTAINER FOR PHONOGRAPH RECORD
Edgar Utterback, Jr., Terre Haute, Ind., assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York
Filed Oct. 7, 1968, Ser. No. 765,445
Int. Cl. B65d *27/00, 5/54, 5/46*
U.S. Cl. 229—68 **5 Claims**

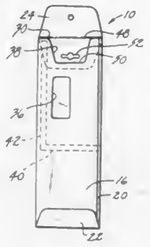


A shipping container for phonograph records comprising a cardboard blank folded to form a bottom wall and two top wall flaps. One of the top wall flaps is weakened along a line so that the flap may be easily torn to provide an access opening in the container through which a record may be removed. Means also may be provided to facilitate the start of the tear.

3,522,908
TWO-COMPARTMENT ENVELOPE
Robert J. Carrigan, Thomsonville, Conn., assignor to United States Envelope Company, Springfield, Mass., a corporation of Massachusetts
Filed Sept. 10, 1968, Ser. No. 758,782
Int. Cl. B65d *27/08*
U.S. Cl. 229—72 **9 Claims**

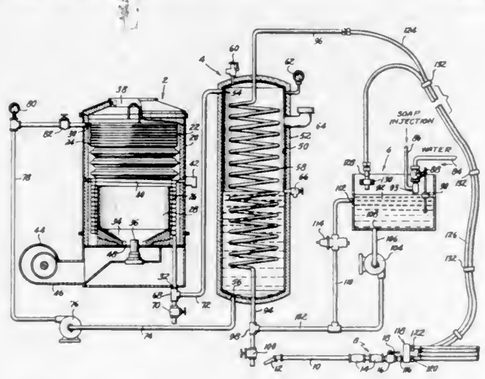
A two-compartment envelope made from a blank of sheet material including a plurality of connected panels folded into overlying relation and forming an elongated main compartment open at one end. Two of the panels are attached together in face-to-face relation forming another compartment of lesser longitudinal extent than the main compartment and wholly separated therefrom. A single closing or sealing flap provides a closure for both compartments. The other compartment has a window

for exposing at least a portion of an insert which may be received therein and may also be provided with a



side opening and an associated sealing flap foldable to a closed position relative to the latter opening.

3,522,909
INSTANTANEOUS HIGH-IMPACT FLUID JET CLEANING SYSTEMS
Perry Arant, Newport Beach, Calif., assignor to Clayton Manufacturing Company, El Monte, Calif., a corporation of California
Filed June 26, 1968, Ser. No. 740,249
Int. Cl. B05b *9/00*
U.S. Cl. 239—127 **11 Claims**



High-impact fluid jet steam and/or hot water cleaning systems comprising a steam generator having a heating coil connected in a closed circulating system with a pressure vessel so that the same heating medium is continuously withdrawn from the pressure vessel, heated in the heating coil to the desired temperature, and then discharged back into the pressure vessel. A heat exchange coil is located within the pressure vessel. The solution to be heated is circulated through the heat exchange coil so that it is indirectly heated in the pressure vessel while passing through the heat exchange coil. The inlet of the heat exchange coil is connected with a solution supply tank and its outlet is connected with a nozzle. In one form of the invention, a thermostat valve at the inlet side of the nozzle control valve automatically opens to effect return of the solution to the supply tank when its temperature drops below a predetermined value, thereby assuring that fluid of the desired temperature is continuously available at the nozzle control valve.

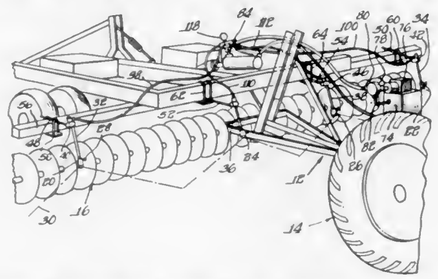
In another form of the invention, the thermostat valve is omitted and a Y-fitting is connected with the inlet of the control valve and with the outlet of the heat exchange coil and with a return bypass arrangement so that some of the solution is continuously bypassed without being returned to the supply to thus continuously make available fluid at the desired temperature, at the inlet to the nozzle control valve.

In a third embodiment, a thermostat blending valve is connected with the inlet of the nozzle control valve and arranged in the system so that unheated solution is mixed with heated solution to provide a high-impact liquid cleaning jet of the desired temperature.

A fourth embodiment includes two heat exchange coils in the pressure vessel, each connected with a separate nozzle so that the same apparatus can supply a high-impact steam jet or a high-impact heated liquid jet simultaneously and independently of each other.

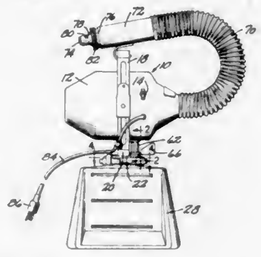
A fifth embodiment includes a single heat exchange coil and two discharge nozzles connected in the system so that either a high-impact steam jet or a high-impact hot water jet can be provided, but not simultaneously.

3,522,910
SPRAY SYSTEM
Norman W. Pfeiffer and Dwight N. Pfeiffer, Mount Vernon, Ind., assignors to Chem-Farm Inc., Evansville, Ind., a corporation of Indiana
Filed Jan. 22, 1968, Ser. No. 699,564
Int. Cl. B05b *1/20*
U.S. Cl. 239—163 **8 Claims**



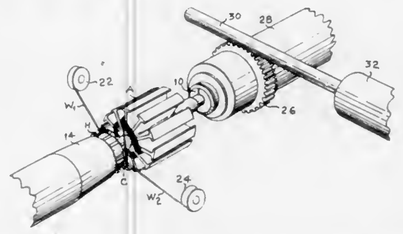
There is disclosed a system for spraying agricultural chemicals such as liquid fertilizers, herbicides and the like. The system comprises a plurality of individual spray heads precalibrated to permit a predetermined flow rate when the liquid is delivered thereto at a predetermined pressure. The spray heads are mounted in spaced relationship across a cultivator or the like and are fed from a common source including a plurality of lines of different lengths connected with a common manifold having a metering orifice therein communicating with certain of the lines, the manifold, metering orifice and various lines being correlated so that the fluid pressure is substantially the same at all of the spray heads.

3,522,911
PRESSURIZED FOGGER
Dean E. Collins, Lowell, Mich., assignor to Root-Lowell Manufacturing Company, Lowell, Mich., a corporation of Ohio
Filed Oct. 10, 1967, Ser. No. 674,158
Int. Cl. B05b *7/30*
U.S. Cl. 239—348 **4 Claims**



A pressurized fogger having an air pressure chamber with a fog forming discharge means and a sealed liquid container communicating with the chamber and supplying liquid through a conduit to said discharge means, wherein a valved bleed port is adjustable to control the air pressure acting upon liquid in the container. A flexible discharge tube connected to the air pressure chamber mounts the discharge means and a part of the flexible conduit extends therethrough.

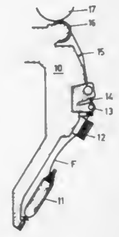
3,522,912
COIL WINDING MACHINE
Harry W. Moore, Dayton, Ohio, assignor to The Globe Tool and Engineering Company, Dayton, Ohio, a corporation of Ohio
Original application Mar. 18, 1963, Ser. No. 265,674, now Patent No. 3,395,448, dated Aug. 6, 1968. Divided and this application June 7, 1968, Ser. No. 777,511
Int. Cl. H02k *15/04*
U.S. Cl. 242—7.05 **3 Claims**



An armature winding machine is provided with means to selectively attach coil lead wires to commutator tangs which can be circumferentially offset from their associated wound coils. The unwound armature and its commutator are mounted on a shaft supported between a collet at one end and a shield at the other end. The shield normally covers lead connector tangs on the commutator from snagging the wire during winding. A pair of flyers are rotated about a common axis transverse the axis of the stationary armture shaft to wind a pair of coils into appropriate slots in the armature. When the coils are wound, the flyers are stopped with the wire trailing therefrom. A first fluid operated piston operates a rack to rotate the armature in one direction about its own axis to aline a commutator tang with the wire extending from the flyer. Then, a second fluid-operated piston retracts the shield axially to expose the tangs to the wire. The first piston retracts the rack to rotate the armature and commutator in the opposite direction causing each of said wires to be snagged on a tang circumferentially offset from the previously wound coil. The second piston then returns the shield to cover the commutator tangs, after which additional coils can be wound.

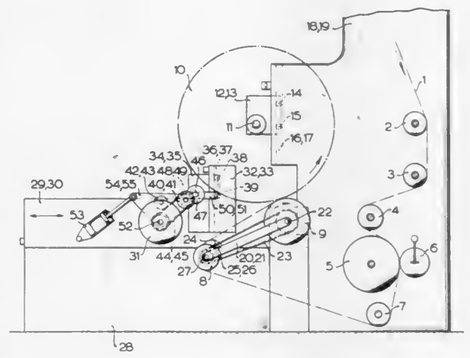
3,522,913
METHOD FOR CONTROLLING A TEXTILE MACHINE, PARTICULARLY AN AUTOMATIC CROSS-WINDING MACHINE, AS A FUNCTION OF YARN TRAVEL, AND APPARATUS FOR CARRYING OUT THE AFORESAID METHOD
Hermann Werffeli, Horgen, Switzerland, assignor to Maschinenfabrik Schweiter AG, Horgen, Switzerland, a corporation of Switzerland
Filed Sept. 17, 1968, Ser. No. 760,318
Claims priority, application Switzerland, Sept. 26, 1967, 13,405/67
Int. Cl. B65h *63/00*
U.S. Cl. 242—36 **10 Claims**

A method and apparatus for controlling a textile machine such as an automatic cross-winding machine, in dependence upon the path of travel of the yarn is disclosed. Electrical signals are produced as the yarn travels through the machine, a positive voltage peak indicating a section of enlarged yarn thickness, a negative voltage peak indicating the falling out of the yarn from its path of travel. The positive voltage peak is subsequently utilized for triggering a yarn cleaning or cutting mechanism and the negative voltage peak is subsequently utilized for triggering a bobbin exchange operation. However, when a yarn cutting or cleaning operation is being effected, the yarn necessarily would have fallen out of its path of travel,



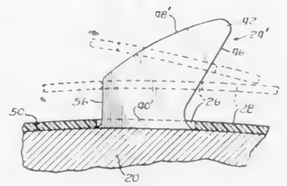
i.e. a negative voltage peak will have been generated in response thereto. Since, in this instance, a bobbin exchange operation is not desired, the subject invention provides means for suppressing or inhibiting the effect of the negative voltage peak produced during the yarn cutting or cleaning operation. Thus, in a simple, electronic fashion, the cleaning and bobbin exchange operations, necessary in textile machines, are accomplished.

3,522,914
APPARATUS FOR CONTINUOUSLY WINDING WEBS OF PAPER
Friedrich Franz Brockmüller, Lengerich, Westphalia, Germany, assignor to Windmoller & Holscher, Lengerich, Westphalia, Germany
Filed Aug. 1, 1968, Ser. No. 749,461
Claims priority, application Germany, Aug. 19, 1967, W 44,597
Int. Cl. B65h *35/04*
U.S. Cl. 242—56 **5 Claims**



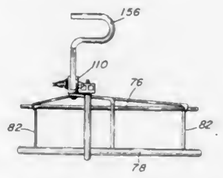
Apparatus for winding webs of paper includes a first guide means which holds a spindle assembly after a web of paper being wound about it reaches a certain size, and a second guide means which holds the spindle assembly before the roll formed by the web reaches that size and delivers it to the second guide means. Consequently a continuous web may be successively rolled onto the spindles of successive spindles assemblies.

3,522,915
TOOTH PROFILE FOR TOOTHED RING OF SELF-THREADING TAKEUP REEL
George F. Krtous and Bruno Michaels, Chicago, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 28, 1968, Ser. No. 755,881
Int. Cl. B65h *75/28*
U.S. Cl. 242—74 **7 Claims**



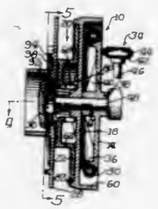
The teeth of a toothed ring for a self-threading motion picture film takeup reel are modified in profile to engage positively in perforations of a film during a takeup operation yet to be disengageable therefrom during film rewind. The tooth is profiled with a root length similar to the longitudinal dimension of a film perforation, a straight rear edge and an inclined forward edge preventing radial movement of film from the root of the tooth while permitting tangential film movement.

3,522,916
ARCHERY REEL WITH LINE-RESTRAINING MEANS
Charles A. Saunders, Box 102, Columbus, Nebr. 68601
Filed July 5, 1968, Ser. No. 742,712
Int. Cl. A01k *89/00;* **F41b** *5/00*
U.S. Cl. 242—99 **9 Claims**



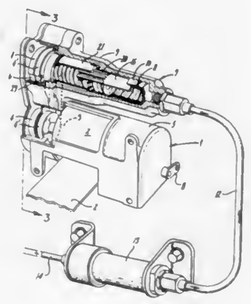
A light-weight, skeletal reel assembly attachable to an archery bow and including automatically operable means for controlling the release or rewinding of the reel-carried line.

3,522,917
REEL ASSEMBLY WITH CENTRIFUGAL CLUTCH
Oldrich Fryc, Chicago, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Nov. 24, 1967, Ser. No. 685,677
Int. Cl. G03b *1/04;* **G11b** *15/32, 23/04*
U.S. Cl. 242—197 **12 Claims**



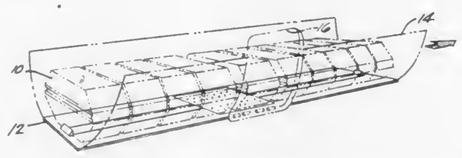
A reel assembly having a separable reel and reel support structure unidirectionally and continuously drivable by power in a forward mode, yet being drivable solely by film removal in a reverse mode or a rewind mode. The reel with film thereon may be removed from the reel support structure by a grip extending outwardly from the outer reel flange. This grip can be manually held to define the sole axis of reel support as the film is unwound from the separated reel, and to restrain that flange against rotation as the film is removed from the reel. The reel can be readily recoupled to the support structure.

3,522,918
SAFETY HARNESS DEVICE
Robert J. Wrighton, Anaheim, Calif., assignor to Pacific Scientific Company, City of Commerce, Calif., a corporation of California
Filed July 16, 1968, Ser. No. 745,286
Int. Cl. B64d *25/06*
U.S. Cl. 244—122 **5 Claims**



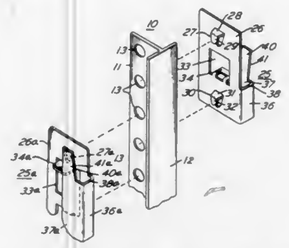
A safety harness device of the inertia type wherein the rewind spring is connected to a fluid pressure actuated portion that is normally inoperative during ordinary operations of the safety harness, but which, when actuated by the user, serves to pull upon the rewind spring to rapidly haul in the user, without injury to him however, against the back of his seat prior to ejection regardless of decelerating forces obtaining at the time.

3,522,919
BAGGAGE CONTAINER HANDLING SYSTEM
Howard E. Bader, Long Beach, Calif., assignor to McDonnell Douglas Corporation, a corporation of Maryland
Filed June 5, 1968, Ser. No. 734,788
Int. Cl. B60p *3/00;* **B64c** *1/22*
U.S. Cl. 244—137 **1 Claim**



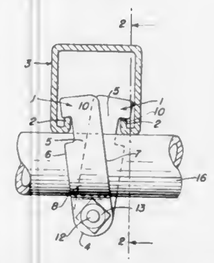
A conveyor system for a longitudinal body element of a vehicle in which there is a central side opening therein through which the cargo must be loaded or unloaded, a conveyor system which includes a power operated shuttle assembly located directly adjacent the opening which is capable of cooperating with a first cargo container and moving it in one direction and then cooperating with a subsequent cargo container and moving it in the opposite direction without any lost movement.

3,522,920
SHELF SUPPORTS
Robert Gray, Narberth, and Robert T. Halstrick, Huntingdon Valley, Pa., assignors to American Metal Works, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 20, 1968, Ser. No. 761,106
Int. Cl. A47g *29/02*
U.S. Cl. 248—243 **10 Claims**



Shelf supports are provided for vertical posts having vertically spaced openings which include clips with hooks engageable in spaced openings from opposite sides of the post. The clips are mounted at different pairs of openings and have shelf receiving and guiding fingers to support contiguous shelves at the same level. The clips and shelves are independently insertable and removable and provide adjustability of the levels of the shelves.

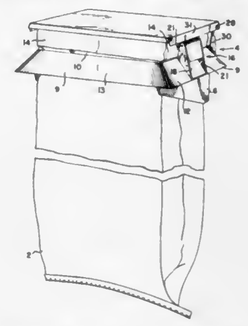
3,522,921
CLAMP FOR PIPE SUPPORT
Walter W. Lytle, San Francisco, Calif., assignor to Superior Strut & Hanger Co., Inc., a corporation of California
Filed July 18, 1968, Ser. No. 745,826
Int. Cl. F16l *3/10*
U.S. Cl. 248—62 **4 Claims**



A pair of complemental clamping plates assembled by a suitable bolt through securing flanges at one end. At the other end of each plate is a hooking end provided with a suitable recess at its edge to form a hook engageable with a flange of a support. Near the securing flange of each plate is formed a pipe seat of about quarter-cylindrical shape, so that the included angle between the axis of the seats and the hooking edge of each plate is less than ninety degrees, therefore when the pipe is nested in the seats the plates slant in opposite directions relatively to the axis of the plate for hooking on the opposite support flanges.

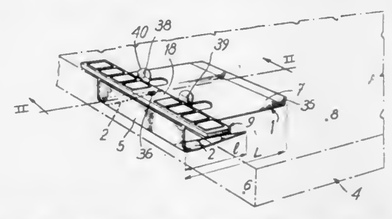
3,522,922
REFUSE SACK HOLDER AND SACK
Austin A. Byron, East Windsor Township, Heightstown, N.J., and Robert E. Hudson, Palatka, Fla., assignors to Hudson Pulp & Paper Corporation, New York, N.Y.
Filed Apr. 30, 1968, Ser. No. 725,393
Int. Cl. B65d *67/02*
U.S. Cl. 248—101 **6 Claims**

A refuse sack holder for use with disposable bags. The holder supports a disposable refuse sack in an open position so that it may be filled with refuse. The holder has associated clamps which hold the bag in position and



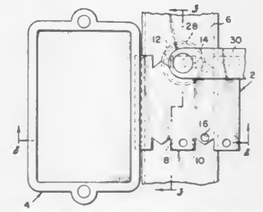
a swingably mounted lid to cover the open mouth of the bag held.

3,522,923
MAGNETIC PANEL SUPPORTING AND SECURING DEVICES
Roger Charpentier, 27 bis Avenuedes Lilas, 64 Pau, France
Filed Nov. 14, 1966, Ser. No. 593,987
Claims priority, application France, Nov. 17, 1965, 38,752; Oct. 28, 1966, 81,989
Int. Cl. H01f *1/00*
U.S. Cl. 248—206 **4 Claims**



The panel supporting device comprises a plate formed with integral prong means insertable in one end of a panel and inclined prong means or separate fasteners, insertable in the upper surface of the panel, for securely connecting the device to a panel. A magnet carried by the plate is employed for detachably connecting the device and attached panel with a suitable metallic support.

3,522,924
RECEPTACLE SUPPORT BRACKET
William O. Arnold, Jr., Parkersburg, W. Va., assignor to Union Insulating Company, Inc., Parkersburg, W. Va., a corporation of West Virginia
Filed May 31, 1968, Ser. No. 733,642
Int. Cl. F16b *15/00*
U.S. Cl. 248—216 **2 Claims**



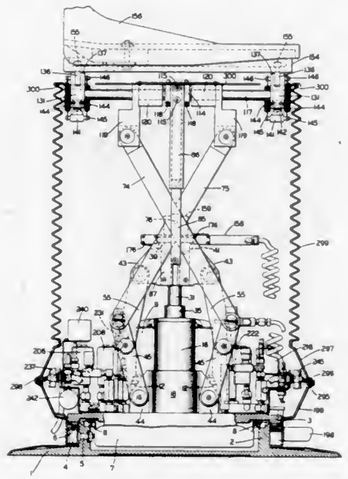
Bracket means, method and apparatus for securing an article such as an electrical wiring box to a sheet metal support, characterized in that the bracket means includes at least one stamped point extending downwardly into engagement with the support, said bracket con-

taining an orientation opening adjacent the point. To effect penetration of the support by the points and crimping of the points relative to the support, cooperating jaw means are provided on opposite sides of the bracket and the support, one jaw face member having a male projection extending into the orientation opening to properly align the jaws relative to the points.

3,522,925
DENTAL CHAIR JACK CONSTRUCTION

Dean H. Buchtel, Canton, Ohio, assignor, by mesne assignments, to The Weber Dental Manufacturing Company, a corporation of Delaware

Filed Apr. 8, 1968, Ser. No. 719,471
Int. Cl. F16m *13/00*
U.S. Cl. 248—371 **23 Claims**



A dental chair jack construction comprising a seat support mounted vertically movable upon a laterally spaced pair of scissors-type lift mechanisms. Each scissors-type lift mechanism includes a pair of cross-over arms operated by an individual hydraulic cylinder. The cylinders may be operated in unison for raising and lowering the seat support in horizontal position, or may be operated separately for tilting the seat support laterally toward either side. The seat support is formed of spring loaded telescoping members whereby it may be elongated laterally when it is tilted.

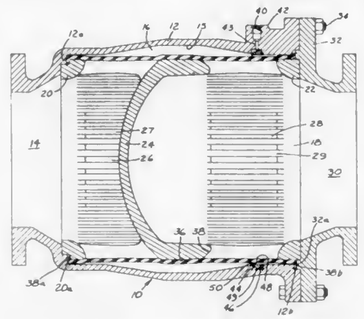
A motor operated pump furnishes fluid to the cylinders through a plurality of solenoid valves, controlled by independent manually operated electrical switches for moving the piston of either or both of the cylinders up or down. Lift arms pivotally connected at their upper ends to the pistons are pivotally connected at their lower ends to intermediate portions of bottom support arms which are pivotally connected at their inner ends to the cylinders. The lower ends of the cross-over arms are pivotally connected to the bottom support arms and their upper ends are pivotally connected to blocks slidably mounted in the upper structure.

3,522,926
EXPANSIBLE SLEEVE VALVE

Austin U. Bryant, Walnut Creek, and Charles C. Gerbic, San Anselmo, Calif., assignors to Grove Valve and Regulator Company, Oakland, Calif., a corporation of California

Filed May 23, 1968, Ser. No. 731,405
Int. Cl. F16k *7/07*
U.S. Cl. 251—5 **9 Claims**

A valve device comprising a resilient expansible tube that seals around a barrier which extends across the flow passage. There is an expansion-limiting surface forming a chamber in the housing around the tube to accommodate a control fluid which opposes sleeve expansion to determine the level of opening pressure. Formed around the expansion-limiting surface is an annular duct with a

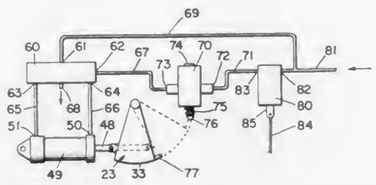


narrow, annular port opening into the chamber to insure that the tube is exposed to control pressure uniformly around its circumference. The narrow port all the way around permits rapid operation while avoiding tube damage which may result from impact against a large port opening.

3,522,927
GATE FOR FOUNDRY SAND HOPPER

Frank A. Hulet, Hutchinson, Kans., assignor to M. W. Hartmann Manufacturing Co. Inc., Hutchinson, Kans., a corporation of Kansas

Continuation of application Ser. No. 565,461, July 15, 1966. This application Sept. 12, 1968, Ser. No. 767,897
Int. Cl. F16k *1/18*
U.S. Cl. 251—29 **2 Claims**



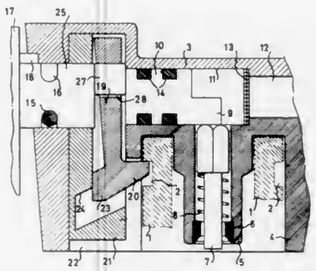
A clam-shell type discharge gate for the outlet of a bin for foundry sand mixtures is provided with means for rapidly opening and closing the outlet, accompanied by the striking of the closing members against each other in the closed position, and the striking of the half clam-shell members against rigid stops at the end of fully open positions, provides smooth even flow of dispersed and fluffed moistened sand mixture into casting flasks or containers disposed below said gate.

3,522,928
FIXTURE COMPRISING A SOCKET TO BE MECHANICALLY SECURED ON THE END OF A TUBULAR MEMBER, SUCH AS THE DISCHARGE SPOUT OF A GAS BOTTLE

Erik Oscar Henriques, Humlebaek, Denmark, assignor to A/S Teknova, Nivaa, Denmark, a company of Denmark

Filed Nov. 8, 1968, Ser. No. 774,355
Claims priority, application Denmark, Nov. 16, 1967, 5,742/67
Int. Cl. F16l *29/00*
U.S. Cl. 251—144 **3 Claims**

A fixture for use in connection with the discharge spout of pressurized gas bottles or another tubular member having a closure valve that shall be opened when the fixture is mounted on and releasably locked to the spout or tubular member. For this purpose the fixture comprises a valve opening member and a hook clamping member cooperating with individual eccentric sections of a common shaft which by manual rotation in one

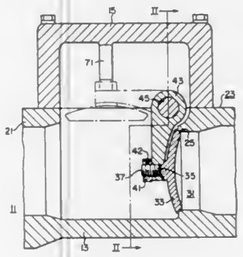


direction opens the valve and causes the hook member to engage an external annular groove in the tubular member for clamping the fixture thereto, and by opposite rotation permits the valve to close and releases the clamping effect.

3,522,929
VALVE FOR CONTROLLING ELASTIC FLUID

Joseph De Simone, Parkside, Chester, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 4, 1968, Ser. No. 695,650
Int. Cl. F04b *39/10;* **F16k** *1/20, 51/00*
U.S. Cl. 251—298 **1 Claim**

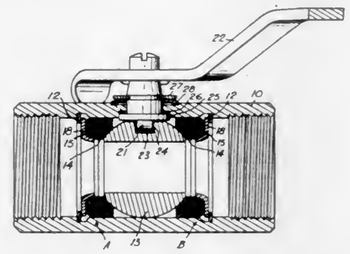


A stop-valve SV (FIG. 1) of the clapper type for a steam-turbine power plant system (FIG. 1) in which the clapper **33** and its shaft **45** are combined into a rigid assembly **31**. The valve body **11** consists of separable parts, for example a cover part **15** and a body part **13** which are abutted to form the valve body **11** and to define the openings **17** and **19** through which the bearing housings **55** and **57** for the shaft **45** extend. The parts of the bearing openings **17** and **19** in the body part **13** are unobstructed in a direction parallel to the axis of the shaft **45**, so that the clapper-shaft assembly **31** with the shaft in the bearing may be mounted as a unit in the body part before the cover part is mounted and all parts secured together. The provision of keys and keyways in the clapper shaft is then avoided.

3,522,930
ROTARY BALL VALVE AND SEAL THEREFOR

Cecil Graham Francis Richards, Aspley, Brisbane, Queensland, Australia, assignor to B. C. Richards & Co., Pty. Ltd., Brisbane, Queensland, Australia, a corporation of Australia

Filed May 31, 1968, Ser. No. 733,713
Claims priority, application Australia, May 30, 1967, 22,539; Sept. 8, 1967, 26,980
Int. Cl. F16k *5/06*
U.S. Cl. 251—315 **5 Claims**

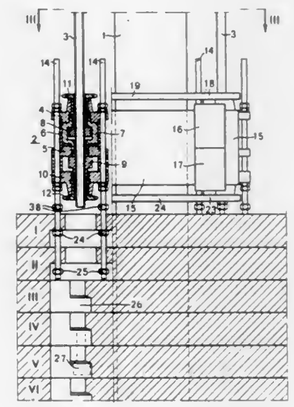


A sealing assembly for a rotary ball valve having a seal ring and a resilient backing ring, has a rigid retaining ring of obtuse-angled L-section engaging the rear and inner radial faces of the backing ring. A ball valve using such assemblies may have a single piece tubular body and be assembled by insertion of parts into the tube.

3,522,931
APPARATUS FOR ERECTING MULTISTOREY BUILDINGS

Erik Johan von Heidenstam, Regiringsgaten 58, Stockholm, Sweden

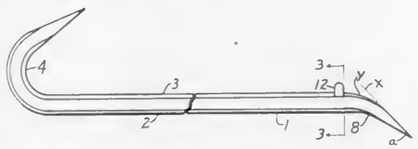
Original application Nov. 8, 1963, Ser. No. 322,562, now Patent No. 3,363,393, dated Jan. 16, 1968. Divided and this application Feb. 14, 1968, Ser. No. 705,435
Int. Cl. B66f *7/12*
U.S. Cl. 254—89 **10 Claims**



Lifting equipment for erecting multistory buildings by the technique in which floor slabs are fabricated at a ground or other base level and then raised upwardly along and fastened to vertical load bearing members. The equipment includes a plurality of reversible jacks and associated lifting rods with each jack and the associated lifting rod being movable upwardly and downwardly relative

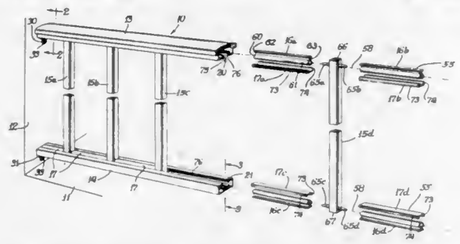
to each other. Also included are devices for fixedly connecting the upper ends of the lifting rods relative to the load bearing members and the jacks to floor slabs to be lifted and for fixedly connecting the jacks relative to the load bearing members and the lifting rods to floor slabs to be lifted.

3,522,932
MULTIPURPOSE WRECKING BAR ETC.
Harold Y. Nakasone, 91–336 Papipi Road, Ewa Beach, Hawaii 96706
Filed Feb. 5, 1968, Ser. No. 703,117
Int. Cl. B66f *3/00*
U.S. Cl. 254—131 **1 Claim**



Removable fulcrum means for elongated tools such as crowbars and the like wherein the bar has ridges top and bottom in the direction of swing.

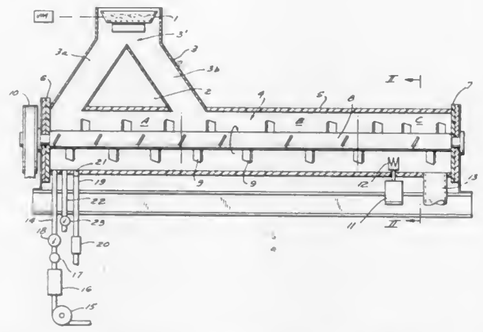
3,522,933
RAILING FORMED OF INTERLOCKING COMPONENTS
Jacob G. Braun III, 3025 Old Glenview Road, Wilmette, Ill. 60091
Filed Apr. 23, 1969, Ser. No. 818,694
Int. Cl. E04h *17/16*
U.S. Cl. 256—22 **6 Claims**



A railing structure assembled of co-operable interlocking rails, balusters and baluster connectors. The rails are provided with channels having recessed keyways extending the length of the rails to receive an end portion of the balusters and the baluster connectors. The balusters are provided at their end portions with concentric oppositely extending pins, and the baluster connectors are provided with end socket portions adapted to co-operably receive and hold the pins. The baluster connectors include key-portions by which they are engaged for sliding movement within the keyways along the rails and are disposed in pairs with respect to each baluster, there being one at each side of such baluster to rigidly interconnect and interlock the baluster with the rail, and to determine spacing between adjacent balusters.

3,522,934
METHOD AND APPARATUS FOR PRODUCING A HOMOGENEOUS MIXTURE OF GRANULAR AND VISCOUS SUBSTANCES
Ulrich Walter, Asternweg 17, Metzkausen, Germany
Filed Aug. 8, 1968, Ser. No. 751,143
Int. Cl. B01f *7/02*
U.S. Cl. 259—9 **29 Claims**

A method and apparatus for producing a homogeneous mixture of granular and viscous substances. A viscous fraction is continuously admixed with a portion of a dry granular fraction to thereby obtain a moist granular intermediate mixture. This moist intermediate mixture has thereupon continuously admitted thereinto the remainder of the dry granular fraction, and the two are continuously



admixed to thereby adhere the granules of the remainder of the dry granular fraction to the granules of the moist intermediate mixture and obtain a flowable dry granular final mixture.

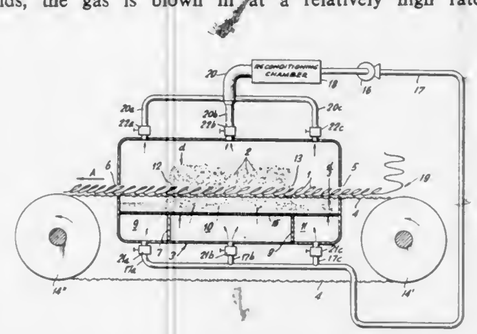
3,522,935
AIR TREATMENT DEVICE
Earl R. Lewis, Baltimore, Md., assignor to Monarch Laboratories, Inc., Chicago, Ill., a corporation of Illinois
Filed July 12, 1968, Ser. No. 744,538
Int. Cl. B01f *3/02, 13/08*
U.S. Cl. 261—30 **3 Claims**

An air treatment device of a character which includes a housing having passageways therein and enclosing a source of deodorant and electro-mechanical means to maintain circulation of room air through said housing.

3,522,936
FLUIDIZED BED FOR HEAT-TREATING PURPOSES
Hans Geipel, Oberhausen-Sterkrade, Eckenhard Forster, Oberhausen, and Wilfried Heinemann, Duisburg-Hamborn, Germany, assignors to Huttenwerk Oberhausen AG, Oberhausen, Germany, a corporation of Germany
Filed Feb. 12, 1968, Ser. No. 704,956
Claims priority, application Germany, Feb. 10, 1967, H 61,811
Int. Cl. C21d *9/56*
U.S. Cl. 266—3 **5 Claims**

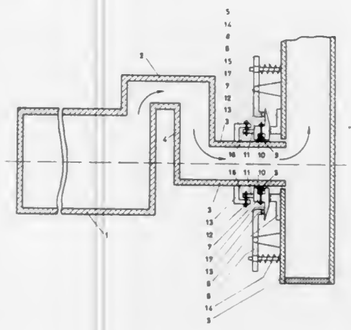
Goods to be heat-treated, e.g. coils of steel wire to be subjected to controlled cooling, are placed on an apertured conveyor passing through a tunnel into which

solid ceramic particles entrained by a stream of carrier gas are admitted through a perforated base below the conveyor, the particles enveloping the conveyed goods and being then recirculated through a heating or cooling chamber restoring their original temperature. In order to minimize loss of particles at the entrance and exit ends, the gas is blown in at a relatively high rate



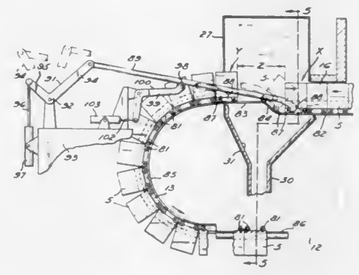
throughout a central portion of the base and at a sharply throttled rate near the ends whereby the particles accumulate in a stepped pile; the inlet and outlet ports for the conveyor are disposed at a level above the top of the lower end portions but below the top of the higher middle portion of that pile so that the goods traverse only this middle portion.

3,522,937
JOINT CONNECTING ROTARY FURNACE WITH FLUE
Paul Emile Corbiau, Antwerp, Belgium, assignor to Metallurgie Hoboken, Hoboken-Antwerp, Belgium
Filed May 9, 1967, Ser. No. 637,147
Claims priority, application Great Britain, May 17, 1966, 21,942/66
Int. Cl. C21c *5/38;* **F27d** *17/00*
U.S. Cl. 266—18 **3 Claims**



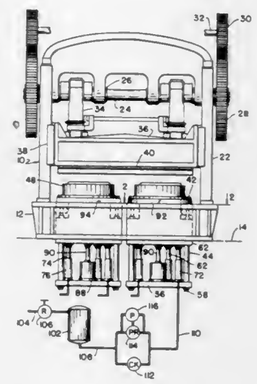
A joint for connecting a rotary furnace with a flue which receives gas from the furnace. A cylindrical rotating member is connected with the rotary furnace to turn therewith and forms a passage for the gas from the furnace into the flue. An annular flange is pressed against a surface of the stationary flue while an annular movable member is applied with pressure against the rotary cylindrical member as well as against this flange, so as to prevent passage of air from the surrounding atmosphere into the furnace and passage of gas from the furnace into the surrounding atmosphere.

3,522,938
TRAVELING GRATE APPARATUS WITH PALLET TILTING MEANS
Melvin J. Greaves, Cleveland, Tage Werner, Rocky River, and Richard B. Greenwalt, Parma, Ohio, assignors to Arthur G. McKee & Company, Cleveland, Ohio, a corporation of Delaware
Original application Mar. 11, 1966, Ser. No. 533,475, now Patent No. 3,432,287, dated Mar. 11, 1969. Divided and this application May 31, 1968, Ser. No. 767,548
Int. Cl. F27b *21/02*
U.S. Cl. 266—21 **11 Claims**



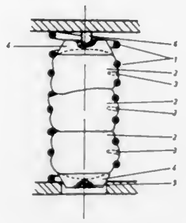
A traveling grate apparatus having a plurality of abutting pallets that tilt backwards intermediate the ends of the grate for discharging the material thereon.

3,522,939
METAL WORKING PRESS CUSHION STRUCTURE
Fredrich J. Rode, Chicago, Ill., assignor to Di-Dro Systems, Inc., Detroit, Mich., a corporation of Michigan
Filed Oct. 2, 1967, Ser. No. 672,284
Int. Cl. F16f *9/06*
U.S. Cl. 267—119 **8 Claims**



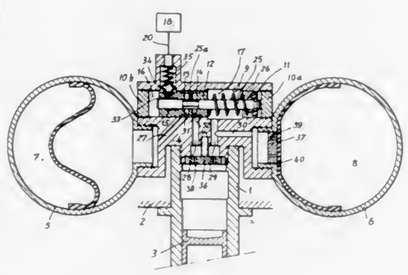
Structure for cushioning a blank holder or the like on a press with pressure at different locations thereon without regard to minor irregularities in blanks held thereby. The specific structure disclosed includes four separate hydraulic cushions for applying pressure to the blank holder at four corners of a rectangle defined by the cushions. An additional hydraulic cushion is disclosed, movable to different locations within the rectangle defined by the four hydraulic cushions to further alter the pressure pattern on the blank holder. The cushions are each connected to separate control systems for maintaining predetermined pressures in the cushions as the press is operated.

3,522,940
SPRING ELEMENT
Hendrik J. A. Nijhuis, Aalst, Netherlands, assignor to Tijer Plastics, N.V., a Dutch corporation
Filed Jan. 16, 1968, Ser. No. 698,266
Claims priority, application Netherlands, Jan. 17, 1967, 6700690
Int. Cl. B60q *11/58*
U.S. Cl. 267—34 6 Claims



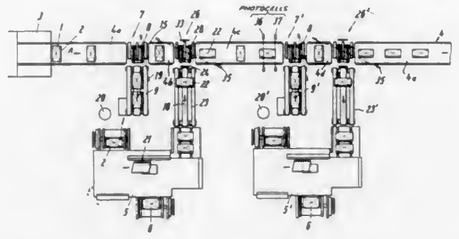
A spring element for use, for example, as a vehicle shock absorber incorporates a hollow gas tight body of extensible flexible material filled with gas at a pressure at least as great as atmospheric pressure and helical spring means disposed about the hollow body and in snug engagement therewith to serve as reinforcement therefor. If desired, dished auxiliary elements may be mounted at the extremities of the spring element so as to form interconnections with different parts of the hollow body and the spring element.

3,522,941
HYDRAULIC SUSPENSION SYSTEM HAVING A PLURALITY OF ACCUMULATORS
Edmond Henry-Biabaud, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a French Corporation
Filed Oct. 4, 1967, Ser. No. 672,863
Claims priority, application France, Oct. 18, 1966, 80,396
Int. Cl. B60q *11/30*
U.S. Cl. 267—64 5 Claims



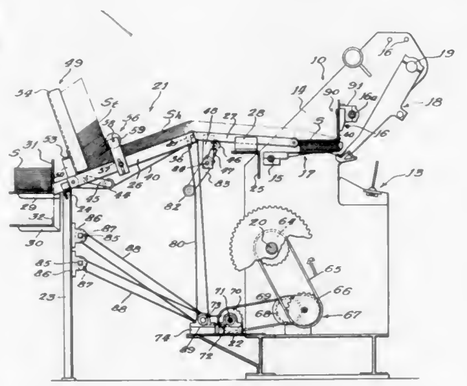
A fluid-containing suspension system for automotive vehicle, characterized in that it comprises at least two accumulators set under different pressures, each accumulator except the one operating under the highest pressure communicating respectively with the suspension system via a slide valve responsive to the suspension pressure and urged to its open position by a calibrated resilient member, said slide valve being moved to its closed position when the pressure of the suspension fluid becomes higher than the pressure prevailing in one of the other accumulators at a higher pressure value.

3,522,942
METHOD OF AND APPARATUS FOR STUFFING BUNDLES OF PRINTED MATTER
Rudolf Hepp, 7a Schmidt-Ott-Strasse, Berlin 41, Germany
Filed Dec. 14, 1967, Ser. No. 690,444
Claims priority, application Germany, Mar. 8, 1967, H 62,051
Int. Cl. B65h *5/30*; B23q *5/22*; B65g *47/00*
U.S. Cl. 270—55 16 Claims



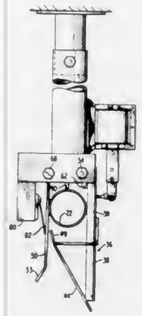
Bundles of printed matter coming from a printing press are transported along a main conveyor from which several transverse conveyors lead to respective processing machines designed to stuff inserts into these bundles. Each transverse conveyor has an outgoing line, branching off the main conveyor at an entry junction, and a return line, leading back to the main conveyor at an exit junction. A stop at the first entry junction is engageable by an oncoming bundle to deviate same onto the corresponding outgoing line if no other bundle is waiting for processing at the end of that line; otherwise, a switch at that end retracts the stop to let the bundle move on to the entry junction associated with the next processing machine.

3,522,943
SIGNATURE FEEDER FOR GATHERING MACHINE
Kermit E. Swanson, Naperville, Ill., assignor to R. R. Donnelley & Sons Company, a corporation of Delaware
Filed Mar. 27, 1968, Ser. No. 716,621
Int. Cl B65h *5/02, 31/02*
U.S. Cl. 271—6 8 Claims



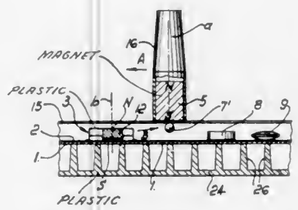
Apparatus in which conveyor means feeds a shingled stream of signatures from the bottom of a large stack directly onto the top of a supply of signatures in a signature supply box of a gathering machine, with the conveyor means being driven intermittently when sensing means senses that the top of the supply in the box has dropped below a predetermined level.

3,522,944
SAFETY LOCK APPARATUS FOR A BASKETBALL BACKSTOP
Edward A. Schroeder, Wood Dale, Ill., assignor to Porter-Leavitt Company, Schiller Park, Ill., a corporation of Delaware
Filed Jan. 5, 1968, Ser. No. 695,928
Int. Cl. A63b *63/04*
U.S. Cl. 273—1.5 6 Claims



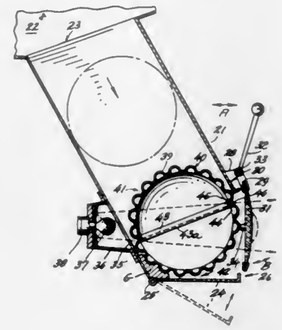
The safety lock apparatus includes a pivotal hook portion for underlying in a normally non-supporting relationship a backetball backstop frame that has been raised to a storage position by a winch. The hook portion will catch and support the backstop frame if the winch should fail. A solenoid connected to the hook portion and to the winch moves the hook portion from its underlying position when the backstop is about to be lowered.

3,522,945
MAGNETIC GAME APPARATUS AND METHOD OF USING SAME
Heinz R. Wagner, Kapfsteig 16, Zurich, Switzerland
Filed June 19, 1967, Ser. No. 646,812
Claims priority, application Switzerland, Jan. 18, 1967, 689/67
Int. Cl. A63f *1/00, 7/01*
U.S. Cl. 273—123 14 Claims



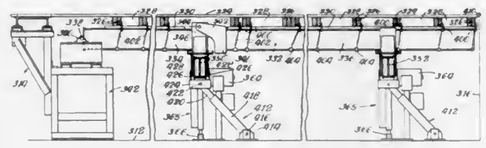
A game apparatus consisting of a game board having desired indications or patterns thereon. The playing elements comprise a hand-guided magnetic member, a magnetic pushing member and a projectile. The projectile and pushing member move in the same plane and the hand held guide member moves in a parallel plane. The projectile is of a much smaller mass than the pushing member. In use, the small projectile is magnetically attracted to the guide member and then moved to a position near the pushing member by gripping and moving the guide member. As the guide member nears the larger pushing member, the latter is attracted to the former thus causing the pushing member to strike the smaller projectile. Due to the differences in mass, the projectile is rapidly driven away from the guide member breaking free of the magnetic field of the guide member.

3,522,946
CHUTE AND AN INDICIA BEARING BALL FOR INDEXING AND READOUT THEREIN
Joseph Bosco, 31 Summer St., Everett, Mass. 02149
Original application July 18, 1966, Ser. No. 566,188, now Patent No. 3,464,698, dated Sept. 2, 1969. Divided and this application June 18, 1968, Ser. No. 737,908
Int. Cl. A63f *1/18*
U.S. Cl. 273—138 6 Claims



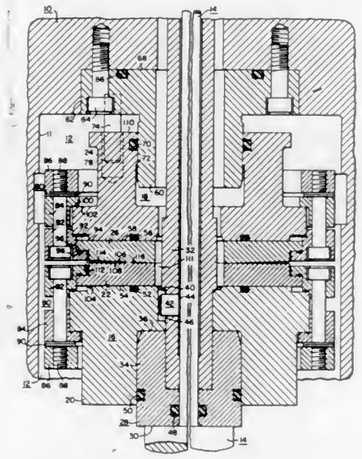
A hollow spherical body having a plurality of convex, dome-shaped indicia bearing members upon its outer surface used in combination with a chute to form a chance readout device. The chute has an entry opening for receiving the body. Indexing elements in the chute position the body with one dome-shaped member positioned in front of a readout window consisting of a movable magnifying lens having a detent centered thereon, which when moved, depresses the facing dome-shaped member by means of the detent so as to cause the dome-shaped member to be depressed into the spherical body. A light in the chute illuminates the body and a hinged door at the bottom of the chute cooperates with the movable magnifying lens to permit discharge of the indexed body from the chute.

3,522,947
GOLF GREEN
Robert I. Anderson, Spring Lake, and Jack A. Russell and Bradford J. Baldwin, Muskegon, Mich., assignors to Brunswick Corporation, a corporation of Delaware
Filed Oct. 5, 1966, Ser. No. 584,396
Int. Cl. A63b *67/02, 69/36*
U.S. Cl. 273—176 15 Claims



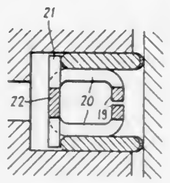
A contourable golf green including a pair of spaced beams, each comprised of a pair of pivotally interconnected beam sections, a rigid but distortable platform supported by said beams, springs yieldably securing the platform to the beam sections, a plurality of jacks, at least one for each beam, for moving the same to thereby cause the platform to be distorted, the jacks being independently operable, and control means for the jacks.

3,522,948
VARIABLE FLOW PATH SEAL
Archie N. MacCrum, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 16, 1968, Ser. No. 729,644
Int. Cl. F16j *15/40, 15/54*
U.S. Cl. 277—27 **10 Claims**



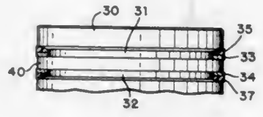
In a controlled leakage face type shaft seal the face plate is made from a corrosion-erosion resistant material and clamped to a holder with an O-ring seal disposed between the interfaces. The O.D. of the face plate extends beyond an O.D. of the holder so that the clamping action exerts a cantilever effect on the plate. The face plate is deformed with the O.D. of the holder acting as a fulcrum. Thus, at low pressures a flow path between the face plate and a seal runner is obtained which produces a desired leakage rate. As the pressure increases, the face plate is forced against the holder, thereby decreasing the flow path so that the desired leakage rate exists at high pressures as well as low pressures.

3,522,949
ANNULAR SEALING MEANS
Alan Wells, Bradford, England, assignor to Hepworth & Grandage Limited, Bradford, England, a British company
Continuation-in-part of application Ser. No. 445,654, Apr. 5, 1965. This application Aug. 8, 1966, Ser. No. 571,118
Claims priority, application Great Britain, Apr. 8, 1964, 14,584/64
Int. Cl. F02f *5/00;* **F16j** *9/06*
U.S. Cl. 277—140 **4 Claims**



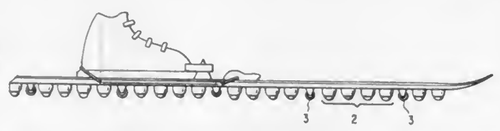
The disclosure relates to annular sealing means having a split sealing ring and a split spacer element, adapted to be assembled and located in an annular groove in one of a pair of relatively movable generally circular-section co-axial members to form a seal, with the spacer element having its free split ends in abutment so as to be virtually circumferentially incompressible without bottoming in the groove. The sealing means includes a plurality of springs integral with the spacer element and operable independently of each other to engage the sealing ring and urge the latter into engagement with a surface with which it is to cooperate.

3,522,950
PISTON AND PTFE RING ASSEMBLY FOR INTERNAL COMBUSTION ENGINES
Robert C. Schneck, Jr., Dayton, Ohio, assignor to The Duriron Company, Inc., Dayton, Ohio, a corporation of New York
Filed Nov. 13, 1967, Ser. No. 682,156
Int. Cl. F16j *9/00*
U.S. Cl. 277—170 **6 Claims**



A continuous compression seal ring of filled polytetrafluoroethylene is used in conjunction with a standard metallic piston ring for conformationally engaging the cylinder to reduce blowby. The seal ring is triangular or trapezoidal in cross-section and urged into sealing engagement with the piston and cylinder by the standard metallic piston ring during reciprocating movement of the piston.

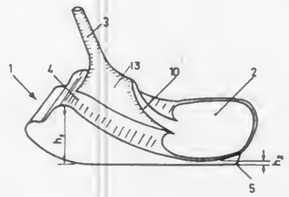
3,522,951
METHOD FOR MODIFYING CONVENTIONAL SNOW SKIIS TO PERMIT DOWNHILL SKIING ON SMOOTH GRASSY SLOPES DURING NON-WINTER PERIODS
Charles M. Tyson, 1300 Army-Navy Drive, Apt. 529, Arlington, Va. 22202
Filed Sept. 16, 1968, Ser. No. 759,891
Int. Cl. A63c *17/04*
U.S. Cl. 280—11.1 **3 Claims**



A modification of conventional downhill snow skiis in such a manner as to permit the wearer to engage in the sport of skiing during non-winter periods, on grassy slopes. The modification comprises an array of lightweight ball type rollers, roller-bearings and skate wheels affixed to the running surface of the skiis, said roller-bearings facilitating multi-directional skidding or side-slipping, and said skate wheels permitting controlled movement in a desired direction.

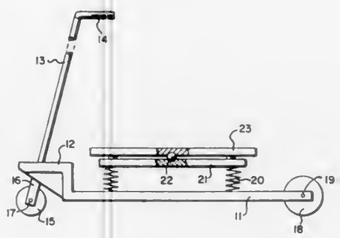
3,522,952
TOBOGGAN OR SLED
Johann Uttenthaler, 22 Georgen Schweigstr., 8 Munich 13, Germany
Filed Mar. 19, 1969, Ser. No. 808,504
Int. Cl. B62b *15/00*
U.S. Cl. 280—12 **15 Claims**

A toboggan or sled having a bottom gliding surface which terminates, at its trailing end, in a relatively sharp edge. The operator sits on the trailing end of the sled above the trailing edge. The sled may be braked, during a downhill run, by pivoting its forward end upwardly and about the sharp trailing edge to cause the edge to bite into the snow or ice. Pivoting of the sled by the operator



is facilitated by a lever secured to the forward end of the sled and which extends upwardly between the operator forwardly extending legs. Steering of the sled is facilitated by lateral pressure applied to the lever.

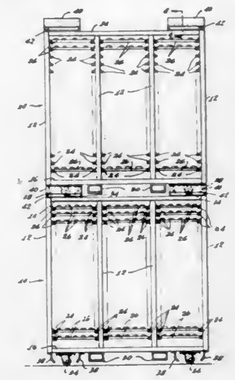
3,522,953
EXERCISING APPARATUS
Louis Gold and George J. Yevick, Leonia, N.J., assignors to Dynamic Conversion Incorporated, Sparkill, N.Y.
Filed Oct. 29, 1968, Ser. No. 771,393
Int. Cl. B62b *13/02*
U.S. Cl. 280—21 **6 Claims**



An exercising apparatus has a platform spacedly mounted above a base by means of at least one helical spring. If a single strong spring is used, it permits angular displacement of the platform on the base about the spring axis and axial oscillation of the platform. If several springs are employed, a turntable is interposed between the platform and the springs. Wheels or runner rails may be mounted on the underside of the base, and at least one wheel may be steered by means of an upright control rod pivotally mounted in the base and carrying the axle assembly of the steered wheel.

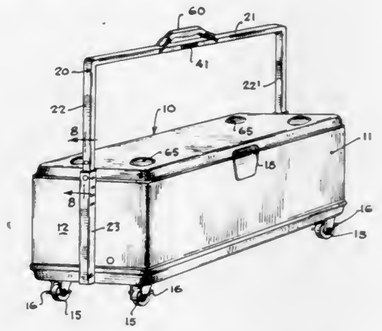
3,522,954
STACKABLE TRUCK CONSTRUCTION
John A. Locke, Glendale, Calif., assignor to General Host Corporation, New York, N.Y., a corporation of New York
Filed May 1, 1968, Ser. No. 725,656
Int. Cl. B60r *27/00*
U.S. Cl. 280—33.99 **4 Claims**

An upright container has spaced pairs of caster wheels located between pairs of downwardly extending and converging guide plates. Mounted on top of each container are spaced open top receptacles to receive the pairs of guide elements of another such container. Intermediate the pairs of guide elements are spaced tubes to receive the forks of a lift truck. The containers shown have vertically and horizontally spaced rails to support trays for foodstuffs and the like. The front ends of such rails



are bent upwardly to prevent trays thereon from being dislodged when the container is tilted.

3,522,955
EXTENDABLE HANDLE ASSEMBLY
John W. Warner, Jr., Waukegan, Ill., assignor to Hideaway Handles, Inc., Waukegan, Ill., a corporation of Illinois
Filed Jan. 16, 1969, Ser. No. 791,623
Int. Cl. B62b *3/02*
U.S. Cl. 280—47.37 **12 Claims**

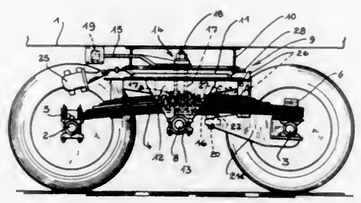


An extendable handle assembly adapted for use with movable container or support structure which has roller means on the lower surface thereof and wherein the handle assembly has a rigid tubular handle bail extending transversely with the bail having depending end sections telescopically adjustably mounted in handle brackets fixedly or pivotally secured to opposite lateral walls of the container or support structure for vertical reciprocable adjustment of the handle bail relative to the container or support structure to facilitate rolling the container along a supporting surface.

3,522,956
TWIN AXLE BOGIE
Roman P. Sauer, Felix Gössel, and Gerhard Rollfinke, Keilberg, Germany, assignors to Firma Otto Sauer Achsenfabrik, Keilberg, Aschaffenburg, Germany
Filed June 10, 1968, Ser. No. 735,799
Claims priority, application Germany, June 24, 1967, S 110,497; Feb. 23, 1968, S 114,292
Int. Cl. B60g *9/02*
U.S. Cl. 280—81 **8 Claims**

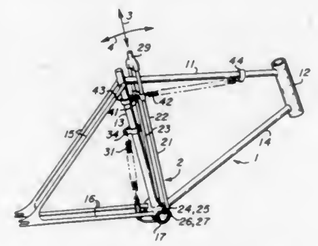
The rear axle of a twin axle bogie for vehicles, such as large trucks or trailers, is adapted to be shifted out of

parallelism with respect to the front axle when the bogie swivels with respect to the vehicle chassis during turns. The shift of the rear axle is effected by a linkage assembly comprising a steering member rigidly affixed to the rear axle and extending forwardly and two horizontal lever



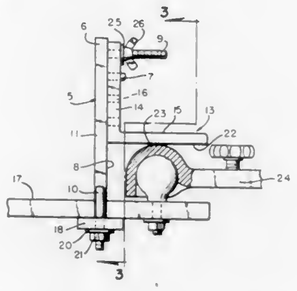
arms extending in opposite directions and rigidly connected to one another by means of a vertical pin rotatably held in a sleeve secured to the bogie; one lever arm is attached to the chassis, while the other lever arm is hingedly connected to said steering member.

3,522,957
SADDLE MOUNTING ARRANGEMENT
Frank Topor, 4117 Goebel Ave., Palo Alto, Calif. 94306
Filed Nov. 12, 1968, Ser. No. 774,741
Int. Cl. B62k *19/36*
U.S. Cl. 280—283 **2 Claims**



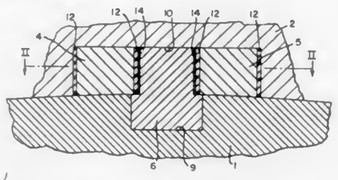
A cycle saddle mounting arrangement having a saddle support mast resiliently supported from a rigid cycle frame.

3,522,958
GUARD FOR TRAILER HITCH
Delmar J. Lusignan, 955 Sunnyside Drive, Bridge City, Tex. 77611
Filed Dec. 8, 1967, Ser. No. 689,114
Int. Cl. B60d *1/12*
U.S. Cl. 280—511 **3 Claims**



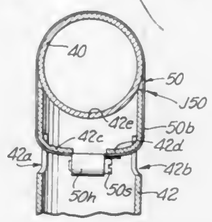
This invention consists of a vertically disposed rectangular member that is secured to the vehicle portion of a ball type trailer hitch by means of a rectangular locking bar that is firmly held in place by means of two spaced and fixed screws having lock-washers and nuts thereon. An L-shaped member, having a plurality of spaced openings in the vertically disposed leg thereof, is placed with its vertically disposed leg up against the rearward face of the aforesaid rectangular member which is provided with a horizontally disposed pin and a horizontally disposed stud that will project through two of the openings in the vertically disposed leg of the L-shaped member. A wing nut that is placed on the stud will firmly lock the two just described parts of this invention together after the two parts of the trailer hitch have been connected together. The horizontally disposed leg of the aforesaid L-shaped member rests on top of the trailer portion of the hitch, thus preventing the two parts of the trailer hitch from becoming accidentally separated.

3,522,959
FITTED KEY MEANS USING A MOLDED LINER
Andrew J. Spisak, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 30, 1968, Ser. No. 701,709
Int. Cl. B60b *27/06*
U.S. Cl. 287—52.05 **4 Claims**



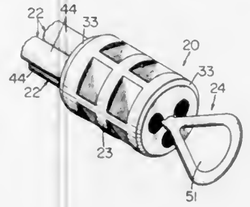
A method of fitting a tapered key in a mating slot by providing a space between the surfaces of the key and the walls of the slot, and filling the space with a high strength, curable laminate, the laminate then being cured with the key in place in the slot. The key is then removed and a drive strip of suitable material is inserted in the slot or disposed along the key surfaces to alter the relative dimensions of the slot and key. The key is then driven tightly into the slot and into the position it occupied when the laminate was cured.

3,522,960
STRUCTURAL TUBING JUNCTURE
Howard W. Moore, San Jacinto, Calif., assignor of twenty percent to Fritz B. Peterson and twenty percent to Wallace M. Todd, both of San Jacinto, Calif., five percent to William D. Sellers, Pasadena, Calif., and five percent to George A. Brace, Altadena, Calif.
Filed Oct. 26, 1967, Ser. No. 678,366
Int. Cl. F16b *7/04*
U.S. Cl. 287—54 **13 Claims**



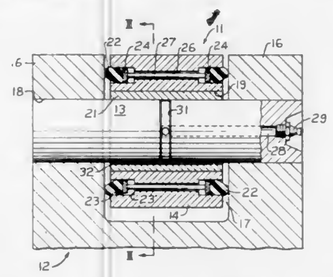
A structural tubing juncture comprising in combination with two or more sections of tubing to be joined in a demountable structural joint of any of several configurations such as end-to-end, end-to-intermediate butting, and corner-post, a strong tensionable flexible band device disposed through inwardly lanced opposed apertures in at least a first one of the tubing sections and disposed in flat tensioned engagement with inwardly-extending curved tongues produced in the latter section by the lancing, the band device further extending about a portion of at least another of the tubing sections and drawing the latter section into secure engagement with the first tubing section. End portions of the band of the band device are engaged by tensioning means which are self-locking and reversible in operation to permit release of the first tubing section one from the other or others, and further the band device is such as to maintain band tension following formation of a tubing juncture.

3,522,961
CABLE GRIPPING MEANS
Boyd D. Cave, Sr., Chesterfield County, Va., and Warren M. Higgins, Louisville, Ky., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Oct. 26, 1967, Ser. No. 678,283
Int. Cl. F16g *11/02*
U.S. Cl. 287—82 **10 Claims**



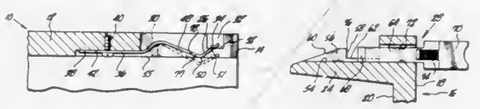
This disclosure relates to means for gripping the terminal end portion of one or more cables which is particularly adapted to enable easy pulling of electrical cables, for example, through an associated conduit. The assembly comprises a swageable body having a series of closely positioned channels receiving cable portions and an eyebolt therethrough. The body is swaged thereon.

3,522,962
SEALED PIVOT JOINT
Lowell P. Iverson, Aurora, and John M. Poker, Jr., Oswego, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed May 15, 1969, Ser. No. 824,865
Int. Cl. B25g *3/38*
U.S. Cl. 287—100 **6 Claims**



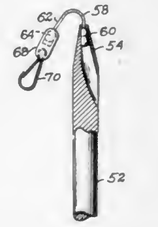
A center lug on one of two members is received between a pair of spaced outer lugs on the other member and all three lugs are transpierced by a hinge pin to form a pivot coupling between the two members. Resilient annular seals are disposed in grooves at each side of the center lug in coaxial relation to the hinge pin and a plurality of dowels extend from one groove to the other, through passages in the center lug, to compress each seal against the adjacent outer lug. Thus, a fixed load force on the seals is maintained in the presence of axial play of the center lug relative to outer lugs and the lugs need not be manufactured to close tolerances.

3,522,963
LATCHING MECHANISM
Robert W. Farnden, Sepulveda, Calif., assignor to Industrial Electronic Engineers, Inc., Van Nuys, Calif., a corporation of California
Filed Oct. 13, 1967, Ser. No. 675,160
Int. Cl. E05c *19/06*
U.S. Cl. 292—83 **1 Claim**



A latching mechanism for releasably securing a first member to a second member. A keeper extends from the first towards the second member. A cross bar is secured to the second member and is spring biased towards the keeper into engagement with an undercut of the keeper. A push bar is disposed adjacent the keeper and the cross bar and is movable in a direction parallel to the direction in which the keeper extends. Movement of the push bar into a space intermediate the keeper and the cross bar disengages the cross bar from the undercut in the keeper and releases the first and the second member.

3,522,964
ZIPPER LOCKING BAR
Zvonimir Posavec, 4 Jersey Ave., Brampton, Ontario, Canada
Filed Mar. 15, 1968, Ser. No. 713,338
Int. Cl. A44b *19/26;* **B65g** *9/00*
U.S. Cl. 294—1 **1 Claim**



A zipper pulling device for use by ladies to pull the zipper on the back of the dress upwardly when it is out of full reach by the hands of the wearer. It includes a long handle, with a hook at one end to be attached to the zipper locking rider for then pulling it upwards to locked position at the top of the dress. In a modified form, there is a flexible cable at the upper end of the handle, to which is attached a pulling hook which engages the locking rider of the zipper. The device may be made of plastic, and in one form may also have teeth at one end to serve as a back scratcher.

3,522,965
LAWN CONDITIONING TOOL
Harry Indzeoski, 729 Scotland Ave., Winnipeg, Manitoba, Canada
Filed June 6, 1968, Ser. No. 734,997
Claims priority, application Great Britain, June 9, 1967, 26,669/67
Int. Cl. A01b *1/16*
U.S. Cl. 294—50.7 **2 Claims**

An edge sharpened ring on the lower end of a handle for aerating lawns including a portion of the wall of a

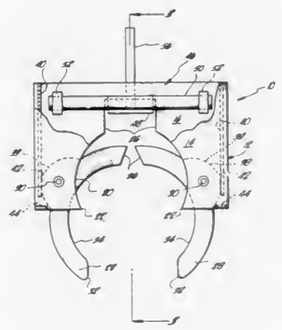
tube being ground away to form the ring. The remaining wall above the ring is then curved so that the longitudinal axis of the ring diverges from the longitudinal axis of the tube so that earth plugs are ejected freely.



3,522,966
PIPE STABBER HEAD

Leonard J. Wood, Pasadena, Tex., assignor to Global Marine Inc., Los Angeles, Calif., a corporation of Delaware

Filed Mar. 18, 1968, Ser. No. 713,793
Int. Cl. B66c *1/62*
U.S. Cl. 294—110 **3 Claims**



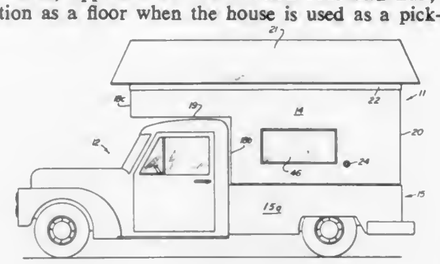
A jaw assembly for handling pendulously supported lengths of pipe, drilling casing and the like in which pivotal jaws are mounted in a body and are configured to substantially encircle a length of pipe to maintain it steady relative to a supporting structure which mounts the body for controlled movement in a desired manner. A simple jamming latch is provided for locking the jaws in pipe encircling relation, the latch mechanism being gravitationally biased into jaw jamming operation.

3,522,967
COMBINATION CAMPER AND BOAT

Gerald R. Platt, 5909 Emigration Canyon, Salt Lake City, Utah 84108

Filed Mar. 15, 1968, Ser. No. 713,355
Int. Cl. B60p *3/42*
U.S. Cl. 296—23 **8 Claims**

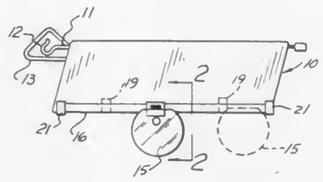
A transportable house, suitable for use as either a pick-up camper or a boat. Side and end walls are connected to form an enclosure shaped and dimensioned for emplacement in the box of a pick-up truck. The walls are also connected by a combination camper roof and boat hull. When the house is orientated for use as a pick-up camper, the combination roof and hull functions as a roof for the house. When the house is tipped over and oriented for use as a boat, the combination functions as a boat hull. The house may also include a combination camper floor and cabin roof, opposite the combination roof and hull, to function as a floor when the house is used as a pick-up camper and as a roof when the house is used as a boat. The interior of the house may be furnished with various cabinets and utilities which are adapted for use both when the house is oriented as a camper and when it is tipped over for use as a boat.



3,522,968
GLARE SHIELD ATTACHMENT FOR AUTOMOBILE SUN VISORS

Murel E. Honor, Sr., 11721 Woodward Ave., Detroit, Mich. 48203

Filed Nov. 18, 1968, Ser. No. 776,598
Int. Cl. B60j *3/02*
U.S. Cl. 296—97 **3 Claims**

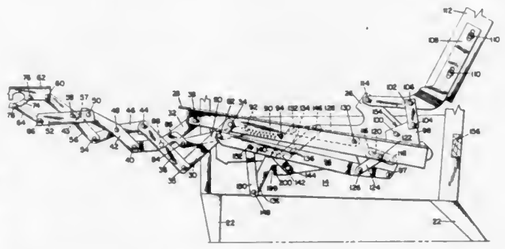


For adjustably securing a glare shield to a conventional automobile sun visor, a long, narrow strip fastened to the lower edge of the visor, with a U-shaped clip gripping the upper and lower edges of the strip and slidably mounted upon the strip, and a glare shield hingedly fastened to the clip.

3,522,969
T-CUSHION RECLINING CHAIR

Frank M. Ré, Holyoke, Mass., assignor to Dual Manufacturing & Engineering, Incorporated, Holyoke, Mass.

Filed Mar. 28, 1968, Ser. No. 716,814
Int. Cl. A47c *1/02*
U.S. Cl. 297—85 **3 Claims**

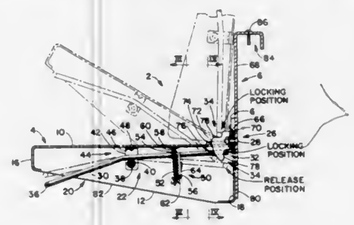


Mechanism for effecting automatic, synchronized, reclining movement of a seat and back rest relative to the chassis of a reclining chair coincident with the extension of a leg rest relative to the chassis, without the use of a separate external handle or lever means to extend the leg rest, the seat being of the T-cushion type and the mechanism moving it forwardly relative to the chassis during reclining movements to preclude binding of the T-cushion relative to the chair arms.

3,522,970
LATCH MECHANISM FOR FOLDING SEAT

William A. Francis, Farmington, Mich., assignor to LTV Aerospace Corporation, Dallas, Tex., a corporation of Delaware

Filed June 21, 1968, Ser. No. 738,981
Int. Cl. A47c *4/00*
U.S. Cl. 297—335 **7 Claims**

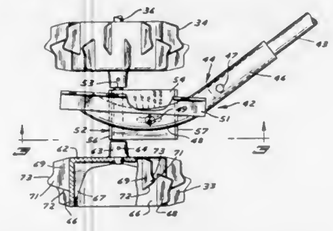


A vehicle seat structure comprising a movable latch assembly which is carried by a bottom seat structure that is adapted to pivot between at least two positions relative to a fixed backrest structure which has a rigid keeper assembly fixedly secured thereto. The movable latch assembly is constructed and arranged for coacting with the keeper assembly to releasably lock the bottom seat structure against pivotal movement relative to the backrest structure when the bottom seat structure is moved to at least one of a plurality of positions.

3,522,971
DRIVE WHEEL

Floyd E. Buschbom, Long Lake, Minn., assignor to Van Dale Corporation, Long Lake, Minn., a corporation of Minnesota

Original application Nov. 15, 1967, Ser. No. 683,273, now Patent No. 3,460,688. Divided and this application Dec. 30, 1968, Ser. No. 787,774
Int. Cl. B60b *15/02*
U.S. Cl. 301—43 **9 Claims**

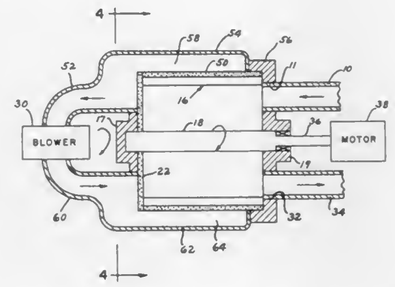


A top unloading silo unloader having a pair of drive hubs for moving a collector arm around the silo. A tie rod extended from the outer end of the collector arm is attached to the drive shaft between the drive hubs by a connector assembly having an arcuate arm cooperating with a guide having a pair of spaced grooves receiving the arm to hold the drive hubs in an adjusted angular position with reference to the collector arm. Each of the drive hubs has circumferentially spaced oppositely directed pairs of radial lugs. Removably and reversibly mounted on the outer ends of the collector arm augers are wall cleaners having forwardly projected teeth.

3,522,972
GRANULAR MATERIAL SEPARATOR AND CONVEYOR

Willard E. Kemp, Bridgeton, Mo., assignor to ACF Industries Incorporated, New York, N.Y., a corporation of New Jersey

Filed May 13, 1968, Ser. No. 728,584
Int. Cl. B65g *29/00*
U.S. Cl. 302—49 **3 Claims**

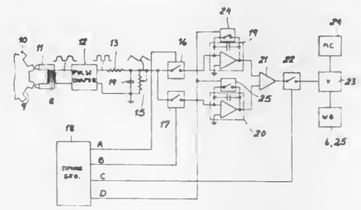


A motor-driven star shaped rotary airlock valve is mounted in a tightly fitting housing. One or more walls of the valve are covered by a screen. Granular material is conveyed to the top of the valve by a vacuum air line or conduit and there filtered out by the screen, and thereafter removed from the bottom of the rotary valve by air under pressure forced through the screen by a blower. Since the screen rotates with the valve, it is cleaned constantly by the air blown through it.

3,522,973
METHOD OF AND APPARATUS FOR METERING ANGULAR ACCELERATION

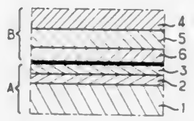
Hans-Christof Klein, Hattersheim (Main), and Gunther Werner, Oberstedten, Taunus, Germany, assignors to Alfred Teves G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany

Filed Sept. 25, 1968, Ser. No. 762,402
Claims priority, application Germany, Sept. 26, 1967, T 34,887
Int. Cl. B60t *8/08*
U.S. Cl. 303—21 **8 Claims**



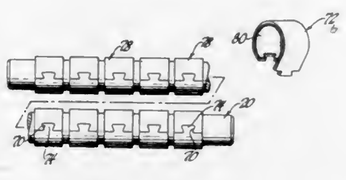
In order to control the brakes of a vehicle to prevent a skid, a rotating vehicle wheel has its brake disk formed with peripheral notches or magnetic regions. As the disk turns these are scanned by a pickup coil, thereby producing a pulse train for which a pulse shaper ensures pulses of equal duration and amplitude, the frequency being proportional to angular velocity. The signal is then averaged. The average is integrated in two consecutive equal time periods and the difference of the two resulting integrals is obtained by an algebraically operating summing amplifier, the difference being equal to the angular acceleration. The output is fed into a vehicle antiskid brake-control system.

3,522,974
FRICTION PAIR ADAPTED TO OPERATE WITHOUT LUBRICATION
Jean Loup Polti, Chambon-Feugerolle, France, assignor to Centre Stephanois de Recherche Mecanique Hydromecanique et Frottement, Saint Etienne, Loire, France, a corporation of France
Filed June 20, 1968, Ser. No. 738,632
Int. Cl. F16c *17/00, 33/12*
U.S. Cl. 308—3 **6 Claims**



A pair of metallic members adapted to work in rubbing contact without lubrication, being resistant to wear and to corosion, in which one of the rubbing parts of said pair is constituted by metallic gold of 3 to 20 microns in thickness, the other rubbing part being formed by a mixture of chromium and chromium oxide. The metals in rubbing contact may be separated from the base metal by one or several metals which are soluble in each other.

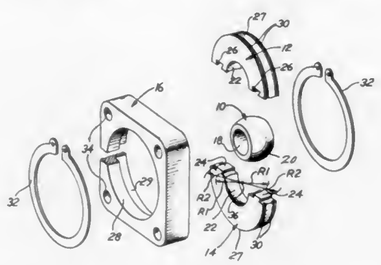
3,522,975
BEARING
Charles S. White, 35826 41st St., Palmdale, Calif. 93550
Application Sept. 25, 1967, Ser. No. 676,000, now Patent No. 3,418,706, which is a continuation-in-part of application Ser. No. 472,956, July 19, 1965. Divided and this application Aug. 19, 1968, Ser. No. 753,671
Int. Cl. F16c *33/04*
U.S. Cl. 308—72 **7 Claims**



The bearings of this invention comprise an inner bearing element of compound curvature, such as a ball, having wrapped therearound an elongated metal strip with complementary locking means at the opposed ends thereof which are locked together to form a compound curved annulus around and in mated sliding engagement with the inner bearing element. The strip is preferably provided with a facing of low friction material to enable low friction sliding movement of the inner bearing element.

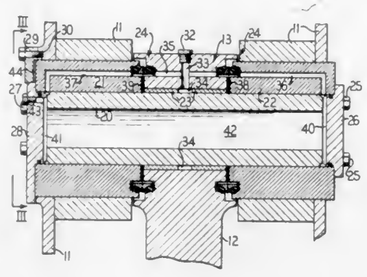
3,522,976
SELF-ALIGNING BEARING UNIT
Rudolf A. Spyra, 5344 N. Paulina, Chicago, Ill. 60640
Filed Oct. 8, 1968, Ser. No. 765,865
Int. Cl. F16c *9/06, 23/00*
U.S. Cl. 308—72 **6 Claims**

A self-aligning bearing unit comprising a bearing member held in a two-part bearing receiving member, the two members having mating spherical surfaces for self-aligning purposes, and the two parts of the bearing receiving member being assembled by means of dove tail joints which are generated about the center point of the sphere. The two-part bearing member may then be mounted in a frame and held therein by suitable means such as C-ring retainers. Assembly of the two parts of the bearing receiving member involves simply the coaction of their spherical surfaces with the spherical surface of the bearing member while the two parts are out



of alignment, and then rotation into alignment whereupon the dove tail connections coact with each other to prevent subsequent spreading apart of the two parts of the bearing member relative to each other.

3,522,977
REPLACEABLE AND SELF-LUBRICATING BEARING ASSEMBLY
Emil B. Lee, Morton, and Gerald F. Molloy, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed July 8, 1968, Ser. No. 743,237
Int. Cl. F16c *33/66*
U.S. Cl. 308—78 **21 Claims**

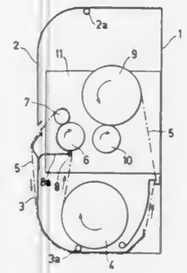


A replaceable and self-lubricating bearing assembly comprises a tubular pin having a closed chamber formed therein for lubricating a bearing pivotally mounting first and second members of an integrated pivot assembly together. A removable filler plug is attached to the pivot assembly to permit a lubricant to be supplied to the chamber via passage means formed therein.

3,522,978
HAND TOWEL DISPENSING APPLIANCE
Conrad W. Schnyder, Triesenberg, Liechtenstein
Filed Aug. 30, 1968, Ser. No. 756,474
Int. Cl. B65b *19/00*
U.S. Cl. 312—38 **5 Claims**

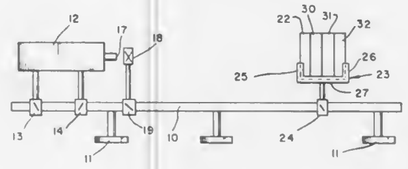
A hand towel dispensing appliance is disclosed in which a hand towel in strip form can be withdrawn from a supply and over a measuring roller. A driving roller for winding the used towel on a roll is coupled to the measuring roller by gearing means including a spring power storing means. While the hand towel is being withdrawn over the measuring roller a pawl engages a ratchet wheel coupled to the driving roller to prevent rotation of the latter so that the spring power storing means is tensioned. When a predetermined length of the hand

towel has been withdrawn a ratchet lever is brought into engagement with a ratchet wheel coupled to the measuring roller so that the latter is arrested. The withdrawal of the hand towel also starts operation of a timing mechanism which is adapted to release, after a predetermined period, the said pawl preventing rotation of the driving



roller. After such period, therefore, the tensioned spring power storing means turns the diving roller to wind up the length of towel previously withdrawn. The timing mechanism also releases the ratchet wheel arresting the measuring roller in order to prepare the appliance for a subsequent operation.

3,522,979
COMBINATION OF HOLOGRAMS HAVING AN IMPROVED DIFFRACTED IMAGE AND A METHOD FOR MAKING THE SAME
Ralph F. Wuerker, Palos Verdes Estates, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Feb. 9, 1968, Ser. No. 704,347
Int. Cl. G02b *27/00*
U.S. Cl. 350—3.5 **6 Claims**

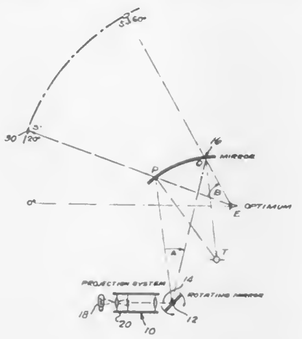


The combination of holograms including an original hologram and second and third holograms secured together, and the second hologram being secured to the original hologram, the second hologram being a copy of the original and the third hologram being a copy of the original and the second holograms.

A method for making the combination of holograms as described in the preceding paragraph.

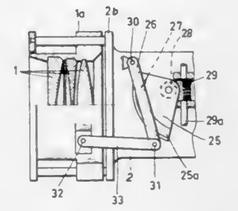
3,522,980
OPTICAL SIGHTING SYSTEM
Joe J. Lones, P.O. Box 6313, San Diego, Calif. 92106
Filed Jan. 21, 1969, Ser. No. 792,331
Int. Cl. G02b *17/00, 27/14*
U.S. Cl. 350—6 **3 Claims**

A concave partially reflective mirror carrying strips of diffuse reflecting screen material forming borders which acts in conjunction with a rotating, cylindrically limited, collimated light beam which sweeps the mirror along its length allowing an astigmatized virtual image of the light source to be viewed only at a position which constitutes



an extension of a line from the virtual image which passes through the point at which the projected light beam strikes the mirror.

3,522,981
FOCUSING CONTROL FOR MOTION-PICTURE OR TELEVISION CAMERA
Lothar Kirstein and Klaus-Udo Teubner, Bad Kreuznach, Germany, assignors to Jos. Schneider & Co., Optische Werke Kreuznach, Bad Kreuznach, Rhineland, Germany, a corporation of Germany
Filed Oct. 15, 1968, Ser. No. 767,620
Claims priority, application Germany, Oct. 17, 1967, 1,597,417
Int. Cl. G02b *7/04, 15/00*
U.S. Cl. 350—44 **1 Claim**

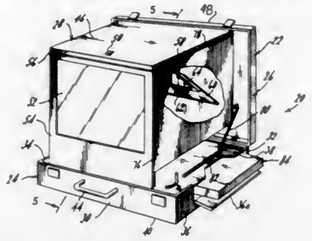


To linearize the focusing action of a motion-picture or television camera during the tracking of objects moving toward or away from the camera, a nonlinear transmission is so interposed between an axially slidable lens support and a rotatable actuator therefor as to translate a given rate of rotation of the actuator into a relatively slow displacement of the lens support during focusing upon remote objects and into a relatively fast displacement of that support during close-ups.

3,522,982
COLLAPSIBLE SCREEN ASSEMBLY FOR PORTABLE MOTION PICTURE PROJECTOR
David C. Hughes, White Plains, N.Y., assignor, by mesne assignments, to Bohn Benton Inc., New York, N.Y., a corporation of New York
Original application Aug. 18, 1965, Ser. No. 480,600, now Patent No. 3,375,055, dated Mar. 26, 1968. Divided and this application Nov. 15, 1967, Ser. No. 683,165
Int. Cl. G03b *21/56*
U.S. Cl. 350—124 **8 Claims**

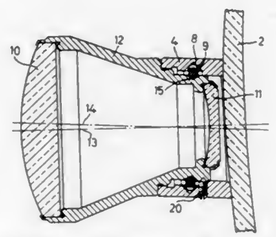
A collapsible screen assembly for a motion picture projector of the portable type wherein the rear screen

assembly and reflecting mirror are collapsible for flat storage within the cover of the case for carriage or front



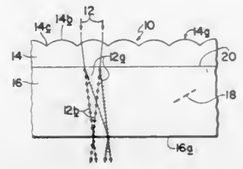
projection and may be instantly erected for rear projection.

3,522,983
MAGNIFYING SPECTACLES
Erwin Daniels, Konigsbronn, Wurttemberg, Germany, assignor to Carl Zeiss Stiftung, doing business as Carl Zeiss, Wurttemberg, Germany, a corporation of Germany
Filed July 5, 1968, Ser. No. 742,656
Claims priority, application Germany, July 6, 1967, Z 12,937
Int. Cl. G02b *7/16, 25/00;* **G02c** *7/08*
U.S. Cl. 350—146 **7 Claims**



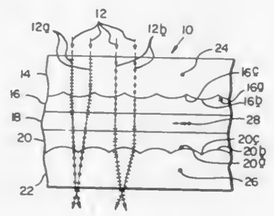
Adjustable magnifying spectacles in which magnifying lens systems are adjustably mounted independently of each other within predetermined angular limits in holding rings which latter are fixedly attached to the front faces of the corrective spectacle lenses.

3,522,984
HIGH-TRANSMISSION LIGHT POLARIZER
Howard G. Rogers, Weston, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 503,015
Int. Cl. G02b *5/30, 27/00*
U.S. Cl. 350—157 **8 Claims**



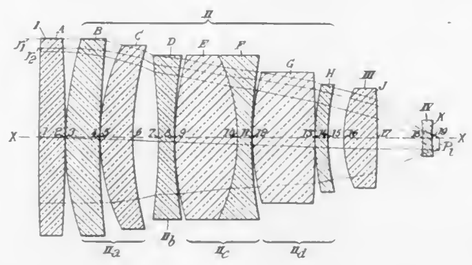
A laminated light polarizing device which transforms unpolarized light into polarized light with negligible loss. A retardation layer with its optic axis at an acute angle to its face is adjacent a lenticulated surface. The lenticulations focus the incident unpolarized light beam into a plurality of pencils. In passing through the retardation layer at an acute angle to its optic axis, each pencil is separated into diverging ordinary and extraordinary components. Subsequent retardation elements and lenticular surface are employed at the exit face to rotate the orthogonal polarizations to a common plane of polarization and recollimate the light.

3,522,985
HIGH-TRANSMISSION LIGHT POLARIZER
Howard G. Rogers, Weston, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 503,016
Int. Cl. G02b *5/30, 27/00*
U.S. Cl. 350—157 **10 Claims**



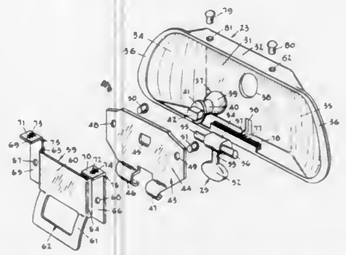
A laminated light polarizing device which transforms unpolarized light into polarized light with negligible loss. A retardation layer rotates the polarization of light after it passes through a first pair of isotropic and birefringent layers having a lenticulated interface and before it passes a second such pair. The lenticulated interfaced layers and the retardation layer are arranged so they work in concert to separate the light into ordinary and extraordinary components. Subsequent retardation elements and a lenticular surface are employed at the exit face to rotate the orthogonal polarizations to a common plane of polarization and recollimate the light.

3,522,986
REPRODUCTION OBJECTIVE
Edgard Alfred Hugues, Courbevoie, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed Jan. 26, 1968, Ser. No. 700,782
Claims priority, application France, Jan. 30, 1967, 93,066
Int. Cl. G02b *3/00, 9/00*
U.S. Cl. 350—214 **2 Claims**



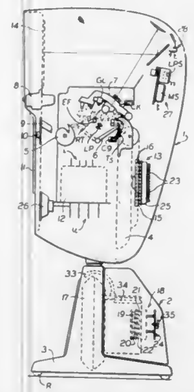
The objective comprises: a first lens group having a lens of low power and a high refractive index; a second lens group, practically afocal, having seven lenses adapted to correct progressively the aberrations introduced by the third lens group; a third lens group whose lens, of high refractive index, determines the power of the objective; and a fourth lens group whose lens, of low refractive index, corrects the curvature of the field and the Petzval curvature.

3,522,987
MULTIPLE POSITION REAR VIEW MIRROR
Walter J. Janosky, Springdale, and Robert W. Pflaum, Pittsburgh, Pa., assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Oct. 9, 1967, Ser. No. 673,695
Int. Cl. G02b *17/00*
U.S. Cl. 350—281 **8 Claims**



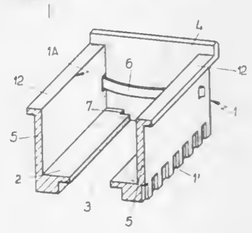
A multiple position rear view mirror for automotive vehicles which can be readily adjusted to provide a high intensity reflection and a lower intensity reflection. The mirror comprises a case carrying a mirror element and a housing at the back of the case in which the actuating mechanism for adjusting the mirror is mounted, said case and housing being formed of a molded plastic material. The actuating mechanism is carried by a support member secured in fixed relation to the vehicle, and comprises spring hinge means secured to the support member and to the housing and manually operable means including a cam and a finger lever for actuating said spring hinge means to move the housing and mirror element as a unit from one reflecting position to another.

3,522,988
AUTOMATIC AUDIO AND AUDIO-VISUAL PROJECTION APPARATUS
Angelo Bottani, Milan, Italy, assignor to Societa Internationale Fonovisione S.p.A., Milan, Italy, a corporation of Italy
Continuation-in-part of application Ser. No. 488,636, Sept. 20, 1965. This application Oct. 19, 1967, Ser. No. 676,439
Claims priority, application Italy, Sept. 22, 1964, 51,460/64; Oct. 26, 1966, 29,290/66
Int. Cl. G03b *31/00*
U.S. Cl. 352—8 **12 Claims**



A coin operated combined sound reproducing apparatus and audio-visual apparatus. The sound apparatus has a plurality of sound recordings and mechanisms for selecting and playing back the recordings. The audio-visual apparatus has a plurality of sound films and mechanisms for selecting and projecting the films. A memory apparatus is provided for storing information in response to actuation of the selecting mechanisms and alternatively actuating the sound reproducing apparatus or the audio-visual apparatus in accord with the stored information.

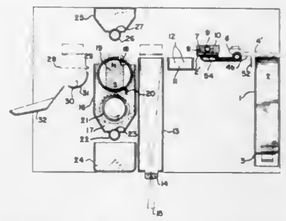
3,522,989
TRAY FOR PHOTOGRAPHIC TRANSPARENCIES
Hans Werner Johannsen, Frankfurt am Main, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany
Filed Nov. 21, 1967, Ser. No. 684,857
Claims priority, application Germany, Nov. 29, 1966, 1,547,186
Int. Cl. G03b *23/04*
U.S. Cl. 353—116 **22 Claims**



A tray for photographic transparencies wherein the housing accommodates removable partitions which are shiftable longitudinally of the internal space in the housing and define compartments for transparencies. The partitions are provided with projections which extend downwardly through a slot in the bottom wall of the housing and can be engaged by a detector in the slide projector to locate successive or selected transparencies in the projection plane. The compartments may accommodate thick and/or thin transparencies including those installed in cardboard or plastic frames as well as those installed between glass panels.

The package of transparencies and partitions is condensed by one or more springs which operate between the housing and one or both outermost partitions. Each partition can be introduced into or withdrawn from the internal space in response to movement to a predetermined position at the one and/or the other end of the housing.

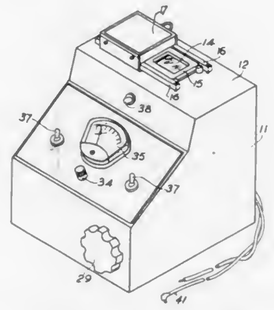
3,522,990
PAPER FEEDING APPARATUS FOR ELECTROPHOTOGRAPHY
Yutaka Koizumi and Tadaaki Kanno, Tokyo, Japan, assignors to Kabushiki Kaisha Ricoh, Tokyo, Japan, a corporation of Japan
Filed Sept. 15, 1967, Ser. No. 668,070
Claims priority, application Japan, Sept. 23, 1966, 41/62,659
Int. Cl. G03g *15/04*
U.S. Cl. 355—3 **1 Claim**



The arrangement of parts in an electrophotographic copying machine, wherein the important elements are arranged in a straight line. At one end is a magazine for copy paper, at the other end is a heating and drying station, in between are elements such as a charging device,

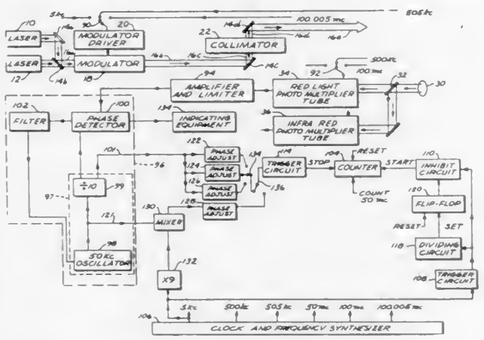
an exposure device, and a powder type of developing station. A vacuum gripping conveyor runs from the printing paper reservoir to the final station, all of which are arranged generally in a straight line in substantially the same plane. In addition a swingable vacuum arm is arranged to lift the topmost printing paper from the reservoir and swing it over until it is underneath the vacuum carriage which will hold the paper in reverse position as it carries it through the various stations mentioned above.

3,522,991
PHOTOGRAPHIC COPYING APPARATUS
Kenneth Samuel Bowen, 9 Gerrard St., London, W. 1, England
Filed Jan. 25, 1967, Ser. No. 611,675
Int. Cl. G03b *27/78*
U.S. Cl. 355—83 **2 Claims**



A photographic copying apparatus with a movable support for a light source having mechanical elements to displace the support and an electrical measuring instrument to indicate the output of a photocell used for measuring film density. First and second mechanical elements are provided to operate said photocell support and a light source also is provided to selectively control the level of illumination during light measurement by said photocell.

3,522,992
GEODETIC SURVEY SYSTEM AND DIGITAL PHASE-METER THEREFOR
Richard M. Jaffe, West Hollywood, Calif., assignor to North American Rockwell Corporation, El Segundo, Calif., a corporation of Delaware
Filed June 28, 1967, Ser. No. 649,689
Int. Cl. G01c *3/08*
U.S. Cl. 356—5 **13 Claims**

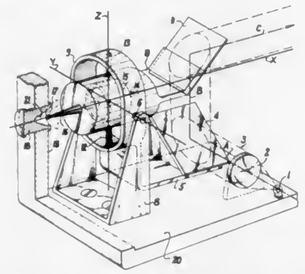


Apparatus for measuring distance and changes thereof by means of measuring the phase of given signals. The phase-measuring circuitry comprises a phase-lock loop having an oscillator therein, for producing a primary comparison-signal and a phase-multiplied secondary comparison-signal; the comparison-signals being used to trigger a digital counter that measures the time-interval (phase-difference) between corresponding portions of said comparison-signals and a gating signal.

ERRATUM

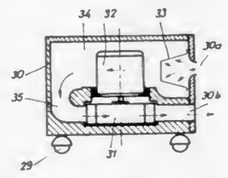
For Class 356—97 see:
Patent No. 3,522,739

3,522,993
STABILIZING DEVICE FOR LIGHT BEAM IN OPTICAL SIMULATORS
Jean Paul Gabriet, Boulogne-Billancourt, France, assignor to Giravions Dorand, Suresnes, Hauts-de-Seine, France
Filed Mar. 22, 1967, Ser. No. 625,223
Claims priority, application France, June 17, 1966, 65,862
Int. Cl. G01c *9/02, 9/12, 9/16*
U.S. Cl. 356—248 **2 Claims**



A device for stabilizing a beam of light projected in a predetermined direction onto an optical system of a firing trainer for guided missiles for producing in the optical system a controllable light spot simulating the path of the guided missile in which the beam issuing from a source is oriented initially perpendicularly to a predetermined direction and reflected both perpendicularly to the initial orientation and to the predetermined direction and finally reflected into an orientation parallel to the predetermined direction while maintaining the angles of reflection constant and gyroscopically stabilizing the final orientation.

3,522,994
VACUUM CLEANER
Kurt Zenkner, Hertzstr. 12, Ettingen, Germany
Filed May 20, 1968, Ser. No. 730,240
Claims priority, application Germany, May 18, 1967, 1,628,428
The portion of the term of the patent subsequent to Aug. 27, 1985, has been disclaimed
Int. Cl. F04b *17/08;* **F04d** *39/00*
U.S. Cl. 415—53 **17 Claims**

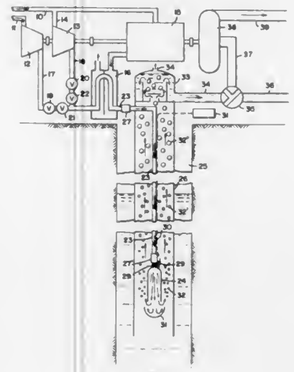


A vacuum cleaner has a casing in which is mounted a blower for feeding air to an outlet duct. The ends of the rotor are closed by end plates. A wall section starting adjacent the periphery of the rotor and diverging therefrom extends around the outside of the rotor for approximately 180°. The tangents to the beginning and end points of this wall section form an angle of less than 90°. A wedge-shaped section of wall positioned on the side of the rotor opposite the first wall section has associated with it an arrangement for producing a return of part of the flow to the rotor periphery. The planes of the walls of the wedge-shaped section on the pressure and suction sides meet in a point close to the periphery of the rotor.

ERRATUM

For Class 415—72 see:
Patent No. 3,522,997

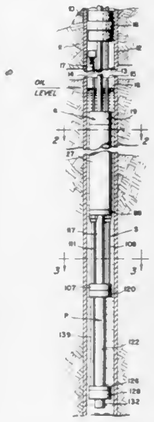
3,522,995
GAS-LIFT FOR LIQUID
Lennart G. Erickson, 2075 Pioneer Court, San Mateo, Calif. 94402
Filed Sept. 5, 1968, Ser. No. 757,590
Int. Cl. F04f *1/16, 1/00;* **F02g** *3/00*
U.S. Cl. 417—55 **14 Claims**



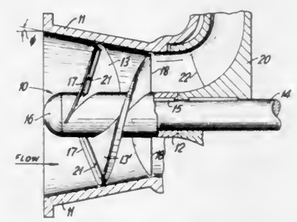
Compressed air and fuel gas are supplied to a combustion chamber mounted below the surface of a liquid column to be lifted such as in a water or oil well. Combustion forms hot gases of expanded volume which provides the gas-lift motive force. Compressed air and fuel gas for the combustion chamber may be provided from the surface by one or more compressors driven by an auxiliary engine. Alternatively, a turbine rotor can be driven by the combustion products for powering at least one compressor that is mounted in direct combination with the combustion chamber below the liquid surface.

3,522,996
BOTTOM HOLE PUMP
Arthur P. Bentley, 5036 Roosevelt Ave., Boerne, Tex. 78214, and David Kane, P.O. Box 139, San Antonio, Tex. 78006
Filed Jan. 2, 1969, Ser. No. 788,545
Int. Cl. F04b *47/00, 21/04*
U.S. Cl. 417—404 **12 Claims**

This specification discloses a pump designed for operation in the bottom of an oil well under the influence of air or gas delivered thereto from the earth's surface. The pump consists essentially of an actuating cylinder and piston assembly that is located in the well bore above the bottom. The pistons of this assembly are connected to a tubular pump rod which extends downwardly into a pumping cylinder in which it is connected to a pump piston. The actuating assembly comprises a fixed partition on the opposite sides of which are a pair of pistons. The latter reciprocate on a pair of tubular strain rods. An air inlet is positioned in one strain rod and terminates in the partition. An inlet valve is operatively installed in the partition and directs air to one side or the other of said partition to render the air under pressure effective on the piston at that side. The bore of the other strain rod functions as an exhaust and an exhaust valve in the partition establishes communication between the exhaust and one side or the other of the partition. The pump piston reciprocates in the pumping cylinder and has an axial passage communicating with the tubular pump rod. Radial passages extend from the axial passage to the outer cylindrical surface of the pump piston and O rings floating in annular grooves function as check valves controlling the flow of oil from the pumping cylinder into the axial passage therein.



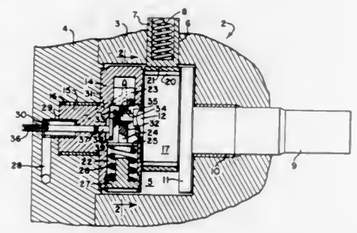
3,522,997
INDUCER
Eugeniusz M. Rylewski, 44 Oakland Road, Maplewood, N.J. 07040
Filed July 1, 1968, Ser. No. 741,791
Int. Cl. F04d *13/12, 3/02*
U.S. Cl. 415—72 **9 Claims**



An inducer having at least one blade extending about a hub member which is located within a conical chamber having a converging taper from the inlet to the outlet thereof, and wherein the external extremity of the blade defines a cone whose angle of conicity is substantially equal to that of the conical chamber housing the inducer and whose diameter is slightly less than that of the chamber. The blade may be of either constant or variable pitch and may have either a constant thickness or an aerodynamic profile. In preferred embodiments, the blade is swept back at its leading edge and is additionally provided with either at least one aerodynamic slot, or an

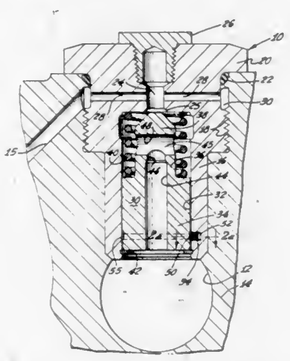
aerodynamic slat, or a leading edge aerodynamic flap, or a trailing edge aerodynamic flap, or various combinations thereof.

3,522,998
CONSTANT PRESSURE RADIAL PISTON PUMP
Bruce L. Johnson, Ames, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Feb. 26, 1968, Ser. No. 708,414
Int. Cl. G05g *1/10;* **F04b** *1/10, 49/08*
U.S. Cl. 417—221 **9 Claims**



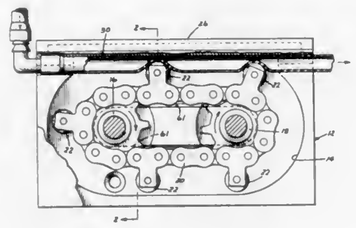
A piston actuating circular cam is mounted for rotation with a drive shaft with provision to vary the eccentricity of the center axis of the cam with respect to the axis of rotation of driven shaft from zero to a maximum value. The cam is normally spring urged to its maximum eccentricity, but a piston which is acted upon by the output pressure of the pump exerts a force on the cam which is opposed to the force provided by the spring so that as the pump pressure builds up, the cam is moved toward a position of zero eccentricity with the result that the stroke of the pump pistons is shortened.

3,522,999
PUMP UNLOADING VALVE
Clarence E. Liles, Los Angeles, Calif., assignor to White Motor Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 8, 1968, Ser. No. 774,309
Int. Cl. F04b *17/00, 49/00;* **F04d** *15/00*
U.S. Cl. 417—282 **10 Claims**



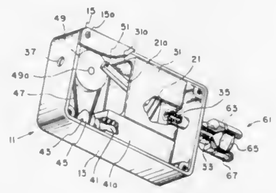
In an arrangement wherein a starter cranks an internal combustion engine to a given starting speed below the idling speed of the engine and the engine drives a pressure-compensated pump to maintain a given normal pressure in a hydraulic system, a bypass valve for diverting the discharge of the pump to the low pressure side of the system is initially held open by spring pressure and is responsive to the rate of fluid flow therethrough to close only after the engine is accelerated past its starting speed thereby avoiding imposing the burden of the fully loaded pump on the starter.

3,523,000
PUMP
Eldon S. Miller, Fort Wayne, Ind.
(6645 SW. 129 Terrace, Miami, Fla. 33156)
Filed Sept. 19, 1968, Ser. No. 760,869
Int. Cl. F04b *43/00, 43/08*
U.S. Cl. 417—477 **8 Claims**



This invention relates to a pump comprising a housing having an opening in one side, a closure for the opening which is removably fitted to the housing, a straight length of flexible tubing, said closure having an inner surface engaged by a length section of the tubing, and said tubing being removably retained between portions of the housing and the closure. Means are contained within the housing for squeezing in one direction a localized portion of the tube section, this squeezing action moving progressively along the length of said section closing the localized portion against the inner surface of said closure. The closure and housing are locked against separation in the direction of the squeezing force by means of mating projection and recess portions in the closure and housing. The closure and housing further have abutting surfaces separable in the direction of the squeezing action and latching means for releasably locking the abutting surfaces together, thereby locking the closure onto the housing. The closure is removable for convenient access to the section of tubing, making it convenient to remove the latter from the housing and replacing it with a new or clean section.

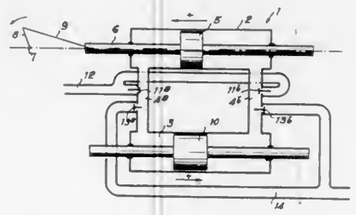
3,523,001
AEROSOL SAMPLER ARRANGEMENT AND PUMP THEREFOR
David Sylvester, Phoenix, Barron W. Mouring, Timonium, and Henry J. Ulrich, Jr., Baltimore, Md., assignors to AAI Corporation, Cockeysville, Md., a corporation of Maryland
Filed July 30, 1968, Ser. No. 757,177
Int. Cl. F04b *39/00;* **F16j** *9/00, 1/00*
U.S. Cl. 417—489 **11 Claims**



An aerosol sampler arrangement is provided, having a valveless air pump with a removable contaminant-collecting filter connected to its intake side, the air pump having a disc piston which is tilted to make an effective seal with

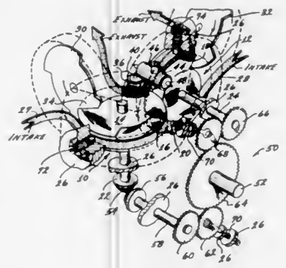
a cylinder bore in the exhaust stroke direction and is tilted to form a bypass about the piston during the return piston stroke, this being effected by a crank arm having its axis of rotation off-center from the piston bore axis. Effective seal and bypass operation of the disc piston is materially enhanced by a flexible piston skirt having gas ports formed therein and which are alternately substantially blocked and opened by the tilting motion of the piston.

3,523,002
PUMPS
Raymond Ravenel, Sceaux, France, assignor to Societe Anonyme André Citroën, Paris, France, a corporation of France
Filed June 14, 1968, Ser. No. 737,043
Claims priority, application France, June 20, 1967, 3,371
Int. Cl. F04b *9/10, 19/22, 7/00*
U.S. Cl. 417—534 **2 Claims**



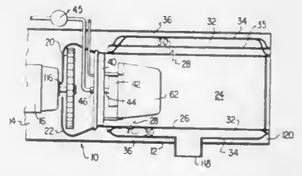
A pump assembly includes a shaft-power driven piston operating in a first cylinder and a free piston operable in a second cylinder. A pair of ducts provide intercommunication between the cylinders at opposite ends thereof and each duct has an intake valve and an outlet valve. In a modification the intake and outlet valves are replaced by ports in the second cylinder which co-operate with passages and ports in the free piston.

3,523,003
GEARING SYSTEM FOR ROTARY ENGINE
James C. Hambric, Los Angeles, Calif., assignor to K.M.F. Development Corporation, a corporation of California
Filed June 20, 1968, Ser. No. 738,533
Int. Cl. F02b *53/00;* **F16h** *55/18, 37/06*
U.S. Cl. 418—195 **4 Claims**



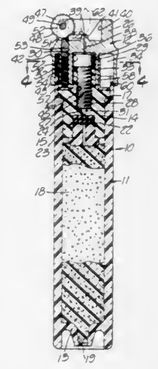
A gearing system is disclosed for a rotary engine of the type in which a pair of intermeshed, segmented-disk rotors are perpendicularly mounted to revolve and develop spaces of compression and expansion therebetween so as to be useable as an internal combustion engine, compressor or the like. The perpendicular disks are carried on transversely-related shafts and include radially-extending lobes between which the intermeshed relationships are developed within a housing. The shafts are then interconnected as to provide an output drive when the system is employed as an internal combustion engine. The gearing system for interconnecting the two rotor shafts includes a pair of radially-movable idler gear wheels which may be employed to eliminate backlash in the gear train. The system also includes a reference structure for preserving a pre-established relationship between the rotary disks, with adjustments in the gear train, so that adjustment of the gear train does not vary the critical relationship between the rotors.

3,523,004
RECIRCULATING FUEL BURNER
Jesse B. Mellett, Zionsville, and Tilford W. Sutterfield, Indianapolis, Ind., assignors to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed July 1, 1968, Ser. No. 741,738
Int. Cl. F23l *1/00, 7/00*
U.S. Cl. 431—116 **14 Claims**



The use of paired, concentric, axially spaced and nested coaxial cup-shaped members downstream of an apertured plate carrying a porous conical fuel wick to promote recirculation of the forced combustion air within the combustion chamber.

3,523,005
GAS LIGHTER CONSTRUCTION
Rodney S. Piffath, Los Angeles, and John J. Cole, Beverly Hills, Calif., assignors to Butane Match Corporation of America, Beverly Hills, Calif., a corporation of Delaware
Filed May 20, 1968, Ser. No. 730,308
Int. Cl. F23d *15/02*
U.S. Cl. 431—344 **10 Claims**

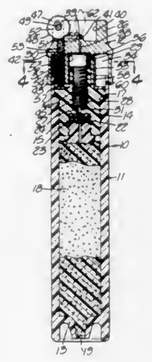


A gas lighter has a cartridge containing fuel under pressure, and has a head assembly provided with a screw

with a tapered end. Turning movement of the head assembly relative to the cartridge drives the end of the screw into the cartridge to permit escape of pressurized fuel along the helix path of the threads and out through a flame port in the head assembly. The height of the flame is regulated by turning of the head assembly along the threads.

3,523,006
GAS FLOW REGULATOR FOR LIGHTER
Rodney S. Piffath, Los Angeles, and John J. Cole, Beverly Hills, Calif., assignors to Butane Match Corporation of America, Beverly Hills, Calif., a corporation of Delaware
Filed May 20, 1968, Ser. No. 730,309
Int. Cl. F23d *15/02*
U.S. Cl. 431—344 **9 Claims**

A gas lighter with a disposable fuel cartridge has a pressure regulator assembly which determines the maximum height of the flame, the assembly being mounted in the disposable fuel cartridge and comprising a series of disks mounted in a recess of fixed dimensions, one of the disks comprising a non-porous elastomer, and an adjacent disk being formed of porous material and positioned so that gas flow occurs radially through the latter disk. A screw connects the head assembly to the fuel cartridge, and relative turning movement along the screw threads causes the screw to pierce the cartridge to permit



gas flow through the regulator assembly and to the flame port.

CHEMICAL

3,523,007
PROCESS FOR PREVENTING JUTE STAINING IN THE PIECE DYEING OF CARPETS
Julian J. Hirshfeld, Decatur, Ala., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed May 15, 1967, Ser. No. 638,644
Int. Cl. D06p *5/00;* **D01c** *1/00*
U.S. Cl. 8—19 **6 Claims**

This invention relates to a novel process of preventing jute staining in the piece dyeing at a pH below about 7 of a carpet containing jute fiber and synthetic carpet fiber (especially nylon), the process comprising contacting before dyeing and for at least about 15 minutes at a temperature of at least about 75° F., the carpet with an aqueous solution consisting essentially of from about 0.5 up to about 50 gms./liter of a fermented milk, e.g. buttermilk and cultured buttermilk. Thereafter, the carpet can be piece dyed without the problem of jute staining, especially at a pH lower than 7.0 where the problem is critical.

3,523,008
METHOD FOR PREPARING AN ION EXCHANGER AND ION EXCHANGER PREPARED ACCORDING TO THIS METHOD
Leon Henri Baetsle, Mol, Belgium, assignor to Studiecentrum voor Kernenergie, Brussels, Belgium
Continuation-in-part of application Ser. No. 301,374, Aug. 12, 1963. This application Oct. 3, 1967, Ser. No. 672,632
Claims priority, application Netherlands, Aug. 20, 1962, 282,279
Int. Cl. C22b *59/00*
U.S. Cl. 23—23 **6 Claims**

A method for preparing an ion exchanger as follows. Admixing to form a precipitate (A) an aqueous solution of $H_4Fe(CN)_6$ with (B) an aqueous mineral acid solution of at least one member of the group consisting of Na_2MoO_4 and Na_2WO_4 the amounts of (A) and (B) being chosen to form a medium having a pH below 7 and having a concentration of molybdate or tungstate or mixture thereof below 0.5 M and a ratio of Mo or W/Fe of from 2/1 to 8/1 and a ratio of H^+/Mo of from 2/1 to 3/1; then washing the thus obtained precipitate with a strong mineral acid; and drying the precipitate.

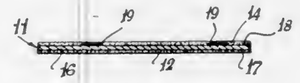
3,523,009
RECOVERY OF ALUMINUM CHLORIDE FROM SPENT ALUMINUM CHLORIDE ALKYLATION CATALYST SLUDGE
Charles M. Weiss, Baltimore, Md., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Mar. 10, 1969, Ser. No. 805,876
Int. Cl. C01b *7/08;* **C01f** *7/56*
U.S. Cl. 23—92 **9 Claims**

A method for recovering aluminum chloride from spent aluminum chloride alkylation catalyst sludge is provided wherein the sludge is first contacted with an inert gas at elevated temperatures and reduced pressures for a period of time effective to remove a portion of dissolved HCl gas present in the sludge. The HCl-stripped sludge is then hydrolyzed, and the water layer containing the aluminum chloride is separated by gravity settling from the organic phase and subjected to a series of purification steps. These purification steps include sand or charcoal filtration, percolation for absorption of the dissolved organics and ion exchange resin treatment for eliminating iron and residual hydrogen chloride.

3,523,010
THERMAL CARBON BLACK PROCESS
John H. Horn and William R. Morehead, Pampa, Tex., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware
No Drawing. Filed Nov. 29, 1967, Ser. No. 686,720
Int. Cl. C09c *1/54*
U.S. Cl. 23—209.4 **5 Claims**

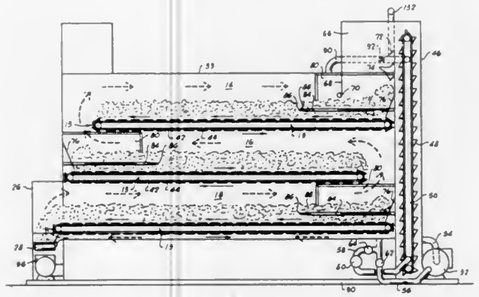
The present invention comprises an improvement in the production of thermal carbon blacks which results in increased throughput, yield and superior product properties. Broadly, said improvement comprises selectivity reducing the rate at which hydrocarbon make fuel is charged into the hydrocarbon dissociation zone in response to decreasing available heat therein.

3,523,011
STERILIZATION INDICATOR MATERIAL AND TAPE CONTAINING THE SAME
Nutan C. Bhiwandker, St. Laurent, Quebec, Canada, and Harvey Wacks, Bronx, N.Y., assignors to Canadian Technical Tape Ltd., Montreal, Quebec, Canada, a corporation of Canada
Filed May 7, 1968, Ser. No. 727,285
Int. Cl. C09k *3/00;* **G01k** *11/12;* **G01n** *31/22*
U.S. Cl. 23—253 **8 Claims**



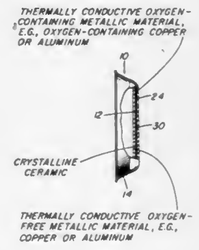
An indicator material for determining whether steam sterilization has been applied consists of calcium sulfide and lead carbonate. A sterilization indicator tape includes a flexible base having a pair of opposed faces. On one face of the base a pressure-sensitive adhesive is disposed while on the opposite face of the base an indicating material consisting of calcium sulfide and lead carbonate is disposed in spaced diagonal strips. A back size material selected from the class consisting of methacrylate resins and urea-formaldehyde resins overlies the indicating material.

3,523,012
APPARATUS FOR COMPOSTING WASTE MATERIAL
Norman A. Pierson, Norman, Okla., assignor to Naturizer, Inc., Norman, Okla., a corporation of Oklahoma
Original application Mar. 26, 1964, Ser. No. 357,344, now Patent No. 3,298,821, dated Aug. 18, 1966. Divided and this application July 21, 1966, Ser. No. 581,673
Int. Cl. C05f *9/02*
U.S. Cl. 23—259.1 **27 Claims**



Composting apparatus including a series of vertically tiered composting cells each containing horizontal conveyors for moving refuse to be composted through the cells. The cells are horizontally staggered so that refuse may fall from one cell to another. Forming and cracking of the refuse beds in the composting cells is effected by inset wall sections at the upstream end of each cell, and by a vertical plate located between the inset wall sections and extending from the top of each cell down into the refuse bed therein to exert a drag on the moving refuse. Horizontally extending pipes are also provided in each cell for honeycombing the refuse beds and for injecting air into the refuse beds to promote aerobic decomposition.

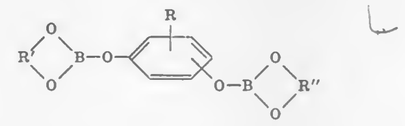
3,523,013
CRYSTALLINE GLASS CONTAINER WITH A CERMET COAT AND A METAL COAT
Owen M. Small, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Continuation of application Ser. No. 418,393, Dec. 15, 1964. This application Nov. 22, 1968, Ser. No. 778,922
Int. Cl. B32b *15/00*
U.S. Cl. 29—195 **8 Claims**



Crystalline ceramic articles especially useful as top-of-the-stove cooking receptacles are modified to improve their thermal conductivity by applying particular coating treatments to the surface of the receptacle that is brought into contact with a direct source of heat. A first coating is a layer comprised of sprayed, molten, thermally conductive, oxygen-containing metallic material, e.g., an oxygen-containing copper or aluminum substance.

3,523,014
BORATED MONOALKYL DIHYDROXYBENZENES
Richard J. De Gray, South Euclid, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Nov. 13, 1967, Ser. No. 682,492
Int. Cl. C10l *1/30*
U.S. Cl. 44—76 **2 Claims**

Herein are diclosed novel compounds having the following structural formula:

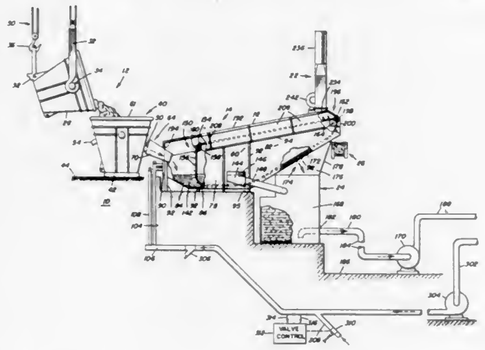


where:

R is selected from the group consisting of hydrogen and straight or branched chain alkyl radicals containing from 1 to 7 carbon atoms; and R′ and R″ are same or different alpha or beta alkylene radicals containing from 3 to 20 carbon atoms.

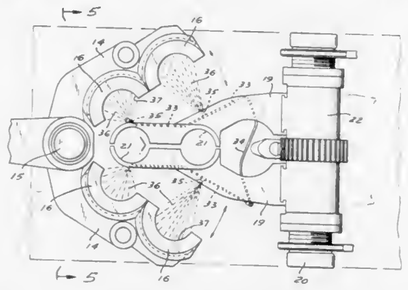
These compounds, the borated alkyl dihydroxybenzenes, find utility as microbiocides and as gasoline additives. Additionally, it has been discovered that boration of the dihydroxybenzenes increases their solubility in gasoline to a level not previously possible.

3,523,015
MOLTEN STEEL SLAG HANDLING PROCESS AND APPARATUS
John J. Grady, New Florence, Pa., assignor to International Steel Slag Corporation, Washington, D.C., a corporation of the District of Columbia
Continuation-in-part of applications Ser. No. 428,519, Jan. 27, 1965, and Ser. No. 535,143, Mar. 17, 1966, which are the continuations-in-part of application Ser. No. 126,792, June 21, 1961. This application Apr. 21, 1967, Ser. No. 632,822
The portion of the term of the patent subsequent to Apr. 25, 1984, has been disclaimed
Int. Cl. C03b *5/18*
U.S. Cl. 65—19 **17 Claims**



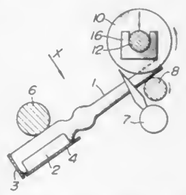
A system is described for improved processing and disposal of molten steel slag formed during steel furnace operation. A "closed" hydraulic system includes a hydraulic transport arrangement for conveying the granulated and cooled steel slag away from the granulator in the form of a water-slag slurry. The "closed" hydraulic system also includes water recovery and slag drying apparatus including one or more slag separators and water filters, water cooling and storage apparatus, and recirculating apparatus for supplying water to the granulator water jet nozzles, including suitable pump means and make-up water supply control means to replace water lost from the system due to steam generation or incomplete slag dewatering.

3,523,016
MOLD LUBRICATING MEANS FOR GLASSWARE MAKING MACHINES
Arthur Mattos, Woodbridge, N.J., assignor to Production Specialties Company, a corporation of New Jersey
Filed Dec. 27, 1967, Ser. No. 693,992
Int. Cl. C03b *39/00*
U.S. Cl. 65—170 **8 Claims**



For machine having blank and blow molds and member for transferring parison from blank to blow mold, transfer member moving between separated sections of blank mold: nozzle carried by transfer member for directing airless spray of lubricant substantially laterally from the transfer member on interior blank mold surfaces as transfer member moves. Spray may be effected only when transfer member is between mold sections. Control of spray may be electrical or pneumatic.

3,523,017
APPARATUS FOR AUTOMATICALLY FUSION SEALING GLASS AMPULES
Hideo Tatibana, 3–5 Nakano-6-chome, Nakano-ku, Tokyo, Japan
Filed Mar. 20, 1968, Ser. No. 714,674
Claims priority, application Japan, Apr. 25, 1967, 42/26,029
Int. Cl. C03b *23/00*
U.S. Cl. 65—270 **2 Claims**



A succession of glass ampules positioned on an inclined running conveyor means are heated when they are carried past a gas burner means. The free end portions of the ampules are frictionally engaged by a rotatable cone member and a rotatable propelling rod from the time before or immediately after the neck portions of said ampules are fused or softened by heating. The neck portions as fused or softened are stretched out simultaneously with the fusion or softening thereof until the free end portions thereof are separated from the body portions thereof, and then the separated portions of the ampules are fusion sealed. The cone member is provided with means positioned above the ampules without contacting the ampules for supporting the cone member movably upward and downward to continuously press down the ampules under the weight of the cone member.

3,523,018
UREASE INHIBITORS
Paul R. Geissler, Metuchen, Kamil Sor, Linden, and Theodore M. Rosenblatt, Plainfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Continuation of application Ser. No. 543,792, Apr. 20, 1966. This application Jan. 8, 1969, Ser. No. 791,871
Int. Cl. C05c *9/00*
U.S. Cl. 71—28 **6 Claims**

Improved urea fertilizer compositions are obtained through incorporation of small amounts of a urease inhibitor such as borax and/or copper sulfate, into a urea melt prior to its subsequent formation into pellets, e.g., by prilling.

3,523,019
FERTILIZERS CONTAINING MICRO- AND MACRONUTRIENTS
Otis D. Philen, Jr., Raleigh, N.C., and Julius Silverberg, Florence, and Melvin M. Norton, Sheffield, Ala., assignors to Tennessee Valley Authority, a corporation of the United States
No Drawing. Application June 28, 1968, Ser. No. 741,208, which is a division of application Ser. No. 491,464, Sept. 29, 1965. Divided and this application Sept. 4, 1969, Ser. No. 855,358
Int. Cl. C05b *11/10*
U.S. Cl. 71—36 **3 Claims**

Granules of hygroscopic fertilizer salts are coated with micronutrient powders which, when wetted with water and/or steam, react with the fertilizer constituents to form in situ stable compounds such as

$$Zn_3(NH_4)_2(P_2O_7)_2 \cdot 2H_2O, \quad M(NH_4)_2(P_2O_7)_2 \cdot 2H_2O$$

or complex zinc ammonium hydroxy nitrates. The complex fertilizer compounds maintained good physical properties of the fertilizers and also act as available sources of micronutrient fertilizer elements.

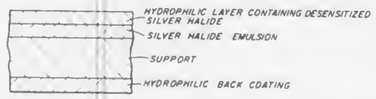
3,523,020
CONTINUOUS PHOSPHORUS REMOVAL IN ELECTRIC-ARC STEELMAKING
Roy Littlewood and Gordon A. Roeder, Burlington, Ontario, Canada, assignors to The Steel Company of Canada, Limited, Hamilton, Ontario, Canada, a company of Canada; Metallgesellschaft A.G., Frankfurt am Main, Germany, a company of Germany; and Pickands Mather & Co., Cleveland, Ohio, a company of Delaware
Filed June 2, 1967, Ser. No. 643,143
Claims priority, application Canada, May 15, 1967, 990,466
Int. Cl. C21c *5/52;* **C21b** *3/02*
U.S. Cl. 75—11 **13 Claims**

This disclosure relates to a method of dephosphorizing iron in an electric-arc steelmaking process. As phosphorus-containing iron-bearing material is being fed continuously into a furnace, slagging ingredients, principally lime, are fed substantially continuously into the furnace while melting the same. The feeding rate of lime is increased during the continuous charging of iron-bearing material such that the ratio of calcium oxide to silicon dioxide of the slag rises. In this manner, phosphorus is removed from the metal bath at a substantially constant and higher rate than it is being added through the continuous charging of iron-bearing material.

3,523,021
METHOD OF REFINING FERROCHROME
Spiridon Iosipovich Khitrik, Ulitsa Lagernaya 2a, kv. 12; Mikhail Ivanovich Gasik, Zaporozhskoe shosse 3, kv. 9; and Alexei Pavlovich Em, Ulitsa Kirova 8, kv. 23, all of Dnepropetrovsk, U.S.S.R.
No Drawing. Filed May 23, 1967, Ser. No. 640,499
Int. Cl. C22c *1/06, 39/14*
U.S. Cl. 75—28 **4 Claims**

A method of refining silicothermic and converter ferrochrome from carbon, gases and non-metallic inclusions, wherein the ferrochrome is subjected to a thermal treatment at a temperature of 1250 to 1500° C. (preferably 1500° C). and at a residual pressure which is lower than 1 mm. Hg. The method provides superrefined ferrochrome (70% chromium) containing less than 0.015% of carbon, 0.02% of nitrogen, $(5–8) \cdot 10^{-4}$% of hydrogen and 0.04% of oxide inclusions.

3,523,022
PHOTOGRAPHIC ELEMENT CONTAINING A PROTECTIVE MATTE LAYER
Bernard Leonard I. Byerley, Peter Davis, and Guy W. W. Stevens, Harrow, England, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 24, 1965, Ser. No. 461,594
Int. Cl. G03c *1/76, 3/00, 1/36*
U.S. Cl. 96—74 **7 Claims**



Photographic elements containing a desensitized silver halide matte layer resist deterioration. Silver halide grains which are insensitive to visible radiation and silver halide emulsions containing such grains are useful in a matte layer.

3,523,023
CHEMICALLY SENSITIZING PHOTOGRAPHIC SILVER HALIDE EMULSIONS WITH PHOSPHONIUM COMPOUNDS
Wesley G. Lowe and Arthur H. Herz, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Mar. 10, 1967, Ser. No. 622,044
Int. Cl. G03c *1/28*
U.S. Cl. 96—107 **15 Claims**

Sensitizing photographic silver halide emulsions with phosphonium salts of the formula

$$(ROH)_4P^+Z^-$$

wherein R is an alkyl group and wherein Z is an anion.

3,523,024
MALIC ACID AND PROCESS OF MAKING THE SAME
Glenn A. Nesty, Morristown, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed July 21, 1966, Ser. No. 566,773
Int. Cl. C07c *59/12*
U.S. Cl. 99—78 **12 Claims**

A food acidulant consisting essentially of malic acid with a minor amount of succinic acid. The acidulant is produced by subjecting a solution of malic acid containing maleic and/or fumaric acid to convert the unsaturated carboxylic acids to succinic acid.

3,523,025
RICE PROCESSING
Flann A. McGinley, Dublin, Ireland, assignor to Irish Sugar Company, Limited, Dublin, Ireland, an Irish company
No Drawing. Filed Apr. 27, 1967, Ser. No. 634,087
Claims priority, application Great Britain, June 29, 1966, 29,102/66
Int. Cl. A23l *1/10*
U.S. Cl. 99—83 **4 Claims**

Preparation of cooked rice having substantially no free starch content and having improved color by the addition of a starch complexing agent and a chelating agent to the rice during the cooking process.

3,523,026
NURSER PACKAGE
William J. Emerson, Bartlesville, Okla., and William C. Linam, Chicago, Ill., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 11, 1967, Ser. No. 674,618
Int. Cl. A61j *9/00*
U.S. Cl. 99—171 **6 Claims**

An infant nurser has an annular ring with a supporting structure, for instance, a depending loop integrally attached thereto; an open mouth plastic bag is sealed at the opening thereof to said annular ring; the bag is filled with a consumable liquid and a nipple is affixed over the annular ring, a plastic film, for example, across the nipple

or over the opening at the annular ring seals the liquid in the nurser. In one embodiment, means are also provid-



ed for breaking the thermoplastic film across the annular ring when access to the contents of the bag is desired.

3,523,027
COLLAGEN CASINGS STRENGTHENED BY TREATMENT WITH THE DIALDEHYDE OF A POLYSACCHARIDE CONTAINING CARBOXYL GROUPS
David Neville Hall, Wollaston, Wellingborough, England, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
No Drawing. Continuation of application Ser. No. 484,761, Sept. 2, 1965. This application Feb. 3, 1969, Ser. No. 800,339
Claims priority, application Great Britain, Sept. 8, 1964, 36,781/64
Int. Cl. A23j *1/10;* **A22c** *13/100;* **C08h** *7/06*
U.S. Cl. 99—176 **8 Claims**

Collagen products, especially sausage casings, are strengthened by treatment with the dialdehyde of a polysaccharide containing carboxyl groups, e.g., alginic acid.

3,523,028
PLURAL PHASE CERAMIC BODY
Thomas Ignatius Prokopowicz, North Adams, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
No Drawing. Filed Oct. 27, 1964, Ser. No. 406,921
Int. Cl. C04b *35/00*
U.S. Cl. 106—39 **2 Claims**

A fine-grained, dense polycrystalline ceramic body has grain regions and grain boundary regions. The grain regions consist essentially of two immisible phases. One of said phases consists essentially of a barium titanate-calcium zirconate solid solution, the other of said phases consists essentially of magnesium niobium oxide. An impurity concentration of a lower oxide of uranium is located in the grain boundary regions.

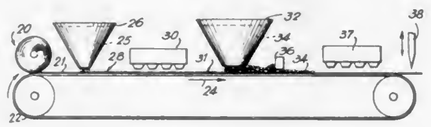
3,523,029
HOT MELT HIGHWAY MARKING COMPOSITION
Charles Edwin Searight and John Robert Ryan, Jackson, Miss., assignors to Cataphote Corporation, Jackson, Miss., a corporation of Ohio
No Drawing. Filed Aug. 21, 1967, Ser. No. 661,833
Int. Cl. C08h *11/04, 17/34*
U.S. Cl. 106—237 **3 Claims**

A thermoplastic composition suitable for use as a hot melt highway marking composition comprising a mixture of a high molecular primary alcohol, an acidic rosin derivative, and glass beads or pigments or fillers or mixtures thereof. The high molecular weight alcohol, is hydroabietyl alcohol, stearyl alcohol, cetyl-stearyl alcohol, cetyl alcohol, n-hexacosyl alcohol, n-octacosyl alcohol or n-triacontyl alcohol. The rosin derivative is abietic acid, the maleic acid adduct of abietic acid, hydrogenated rosin, dehydrogenated rosin, rosin ester gums, maleic anhydride modifications of rosin ester gums, phenol-formaldehyde condensate modifications of ester gum or metal resinates.

3,523,030
PIGMENT TREATMENT
David Frederick Malin, Heywood, England, and Robert Langley, Paisley, Scotland, assignors to J. R. Geigy A.G., Basel, Switzerland
No Drawing. Filed Feb. 13, 1967, Ser. No. 615,368
Claims priority, application Great Britain, Feb. 22, 1966, 7,751/66
Int. Cl. C08h *17/14*
U.S. Cl. 106—288 **6 Claims**

A process of treating a phthalocyanine blue pigment to improve the properties thereof, which process comprises mixing the phthalocyanine blue pigment, in dry pigmentary form, with a polar aliphatic solvent which is at least partially water-miscible and separating the solvent from the treated pigment, and phthalocyanine blue pigment obtained thereby.

3,523,031
PROCESS FOR MAKING ORNAMENTAL PLASTIC SHEETING
Ben Walters, Miami Beach, Fla. (4600 E. 11th Ave., Hialeah, Fla. 33013)
Filed Mar. 1, 1967, Ser. No. 619,846
Int. Cl. B44d *1/094*
U.S. Cl. 117—21 **5 Claims**



An ornamental plastic sheet is produced by placing a layer of plastic powder on the upper surface of a strip of material containing a design, heating the powder on the strip until the powder becomes tacky, distributing a layer of pellets of a competible plastic material over the tacky layer of powder, and heating the pellets until they become soft, cooling the sheet, so that the pellets adhere to each other and to the strip containing the design.

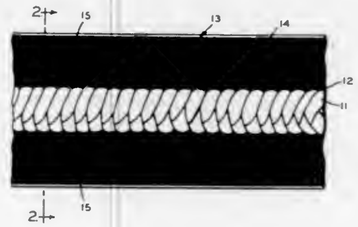
3,523,032
POLYEPOXIDE WITH IMIDAZOLE PRE-CATALYZED REINFORCEMENT MATERIAL
Erich F. Kujas, Philadelphia, Pa., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed July 26, 1967, Ser. No. 656,049
Int. Cl. B44d *1/092*
U.S. Cl. 117—47 **6 Claims**

Reinforcement material, such as glass fibers, for use in epoxy resin compositions is surface-coated with an imidazole which serves as heat-activable catalyst capable of promoting the curing of curable epoxy resin. The pre-catalyzed reinforcement material is combined with appropriate curable epoxy resin and, without further addition of curing agent, is heat cured to reinforced polyepoxide.

3,523,033
PRESSURE WET-FIXATION OF RESINS IN CELLULOSIC FABRICS BY THE ACTION OF HEAT AND PRESSURE
Gerald B. Verburg and Alvin H. P. Young, Metairie, and Frank W. Snowden and Sidney L. Vail, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Mar. 12, 1968, Ser. No. 712,392
Int. Cl. B44d *1/44;* **D06c** *29/00*
U.S. Cl. 117—65.2 **2 Claims**

The purpose of this invention is to wet-fix N-methylol resins in cellulosic fabrics by the action of heat and pressure to produce fabrics capable of resisting wrinkling or mussing throughout a reasonable wear life. Pressure wet-fixation is accomplished by either of two methods, a one-step or alternatively a two-step process. The advantage of the two-step padding method over that known in the prior art as wet-fixation is a reduction in the time required to wet-fix the N-methylol resins in the cellulosic fabrics. The other simpler method, the one-step padding method, has the advantage that it eliminates one of the padding, washing and drying steps.

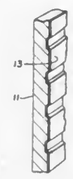
3,523,034
FLY FISHING LINE WITH WATER-REPELLENT PRESERVATIVE DRESSING
Arthur M. Howald, Perrysburg, Ohio, assignor to Soo Valley Company, Columbia, S.C., a corporation of South Carolina
Filed Feb. 5, 1968, Ser. No. 703,146
Int. Cl. A01k *91/00;* **B32b** *27/12*
U.S. Cl. 117—76 **3 Claims**



A fly fishing line having a surface layer of plasticized polyvinyl chloride, and a water-repellent preservative dressing on the surface layer, consisting essentially of a primary plasticizer for the polyvinyl chloride, paraffin wax and a metal soap of the class consisting of aluminum, calcium and magnesium soaps to inhibit crystallization of the paraffin wax.

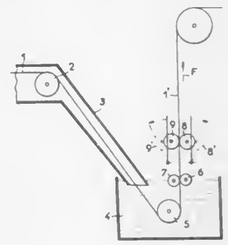
3,523,035
INTERNALLY COATED GUN BARRELS
Bailey Duane Whitlow, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 21, 1966, Ser. No. 603,501
Int. Cl. F41c *21/02*
U.S. Cl. 117—97 **4 Claims**

A barrel through which projectiles are to be fired comprised of a metal barrel shaped substrate upon at least the inner surface of which is coated a relatively thin layer of a dense, hard, wear and corrosion resistant vapor deposited material having a Mohs' scale hardness of



about 8 to 9. The coating is preferably titanium carbide having a ductile metal, such as cobalt, dispersed therein.

3,523,036
METHOD OF PREVENTING SPANGLE FORMATION ON HOT-DIP GALVANIZED STEEL STRIP
Denis Hubert and Jean Bourand, Carignan, and Henri Jean Tuzet, Ville-d'Avray, France, assignors to S.A. des Hauts-Fourneaux de la Chiers and Prometo, both of Paris, France, both French companies
Filed Mar. 3, 1967, Ser. No. 620,330
Claims priority, application France, Mar. 9, 1966, 52,721
Int. Cl. C23c *1/02*
U.S. Cl. 117—114 **2 Claims**

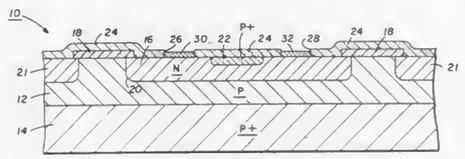


In a process of galvanizing steel strips, the formation of a "frost flower" or "spangled" crystalline structure is prevented by subjecting the galvanized strip to a dry cold treatment by means of a set of water-cooled cylinders capable of being adjusted both in the vertical and horizontal directions.

3,523,037
EPOXY RESIN COMPOSITION CONTAINING BROMINATED POLYGLYCIDYL ETHER OF BISPHENOL A AND A POLYGLYCIDYL ETHER OF TETRAKIS(HYDROXYPHENYL) ETHANE
Leroy N. Chellis, Endwell, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 12, 1967, Ser. No. 645,314
Int. Cl. B44d *1/48;* **B32b** *27/38*
U.S. Cl. 117—119.6 **5 Claims**

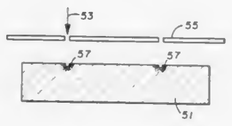
An epoxy resin system comprising a tetrafunctional epoxy resin, having an average functionality of about 4, an epoxy resin have a functionality of about 2, a curing agent and a tertiary amine in suitable solvent is provided. The epoxy resin system is used to impregnate glass fabrics from which multilayer laminates are prepared for use as printed circuit boards. The epoxy resin system contains 70–90 parts of brominated polyglycidyl ether of bisphenol A and 10–30 parts of tetrakis(hydroxyphenyl) ethane tetraglycidyl ether cured with 3 to 4 parts of dicyandiamide, and 0.2 to 0.4 part of a tertiary amine, all parts being parts by weight per 100 parts of resin solids.

3,523,038
PROCESS FOR MAKING OHMIC CONTACT TO PLANAR GERMANIUM SEMICONDUCTOR DEVICES
Donald P. Sanders, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed June 2, 1965, Ser. No. 460,727
Int. Cl. H05k *1/02, 3/02, 2/04*
U.S. Cl. 117—212 **4 Claims**



Disclosed is a method of electrolessly depositing a layer of metal onto the surface of a semiconductor substrate exposed by an opening in an insulating layer on the substrate surface without depositing metal on the insulating layer itself.

3,523,039
TRANSITION METAL OXIDE BODIES HAVING SELECTIVELY FORMED CONDUCTIVE OR METALLIC PORTIONS AND METHODS OF MAKING SAME
Thomas H. Ramsey, Jr., Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Continuation of application Ser. No. 422,584, Dec. 31, 1964. This application July 29, 1968, Ser. No. 749,919
Int. Cl. H05k *1/16*
U.S. Cl. 117—212 **26 Claims**



Disclosed is a method of treating transition metal oxide bodies to form conductive paths and the resulting article. A titanium dioxide body is subjected to the action of an electron beam in a reducing atmosphere. The beam traces out the desired pattern on the surface of the oxide body to form conductive paths within the surface. Metal may be attached by plating or otherwise to increase the conductivity of the article.

3,523,040
METHOD OF SEALING A MAGNETIC CORE
John T. Lee, Valencia, Pa., assignor to Magnetics, Inc., a corporation of Pennsylvania
Filed Feb. 24, 1967, Ser. No. 618,432
Int. Cl. H01f *1/18, 3/00*
U.S. Cl. 117—234 **6 Claims**

An electrical insulating material combining resin and a solid particulate filler to obtain thixotropic properties providing more uniform coating coverage in particular at product corner surfaces. In a specific embodiment, the material provides a resilient, matte-finish for non-slip application of coil windings. The electrical insulation material is prepared with a volatile liquid vehicle for spray-on application. In a method for sealing and insulating magnetic cores, the cores are heated above about 225° F. but not above about 425° F. to expand gases within the cores and/or within core encasements and permit gas escape before sealing. Sealing is completed while the magnetic core, and encasement if any, are at an elevated temperature Curing of the coating is carried out by heating.

3,523,041
BATTERY PASTE EXPANDER MATERIAL
Jack L. Limbert, Daleville, Harry G. Proctor, Muncie, and David T. Poe, Gaston, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 29, 1968, Ser. No. 780,067
Int. Cl. H01m *15/06, 39/00, 41/00*
U.S. Cl. 136—26 **5 Claims**

A battery paste expander material for the negative plate of a lead-acid storage battery including lignosulfonic acid in the molecular weight range of about 20,000 to 30,000 g./g.-mole, less than about 1% carbohydrates and about 3–8% combined sulfur.

3,523,042
METHOD OF MAKING BIPOLAR TRANSISTOR DEVICES
Robert W. Bower, Palos Verdes, and Gordon A. Shifrin, Malibu, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Dec. 26, 1967, Ser. No. 693,352
Int. Cl. H01l *7/00, 7/54*
U.S. Cl. 148—1.5 **4 Claims**

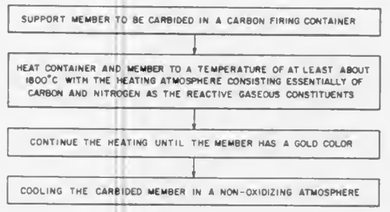
Method of making bipolar (junction) transistor devices wherein the base and emitter regions are formed simultaneously by coating the surface of a semiconductor body of a first-conductivity type with a layer of dopant material of the first conductivity type and then bombarding this dopant layer with ions of the opposite conductivity type to drive the atoms from the dopant layer into surface and near-surface portions of the semiconductor body to form an emitter region while the dopant ions themselves travel more deeply within the semiconductor body and are implanted below the emitter region to form a base region.

3,523,043
PHOSPHATING BATH AND PROCESS
Isaac Laird Newell, Wethersfield, Conn., and Ernest A. Walen, deceased, late of Longmeadow, Mass., by Isabel L. Walen, executrix, Longmeadow, Mass., assignors to Heatbath Corporation, Springfield, Mass., a corporation of Massachusetts
No Drawing. Continuation-in-part of application Ser. No. 510,947, Dec. 1, 1965. This application Mar. 11, 1969, Ser. No. 806,322
Int. Cl. C23f *7/14, 7/12*
U.S. Cl. 148—6.15 **8 Claims**

The invention provides for a composition to form a bath for the production of corrosion resistant phosphate coatings on ferrous zinc and aluminum parts. The bath comprises an aqueous solution of phosphoric and nitric acids, zinc and nickel salts and a small amount of a β-ketonic ester, e.g. methyl or ethyl acetoacetate.

3,523,044
METHOD OF CARBIDING TANTALUM OR TANTALUM ALLOY AND FILAMENT
Herman A. Johansen, Monroeville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 18, 1968, Ser. No. 698,962
Int. Cl. C22c *29/00;* **H01k** *1/04*
U.S. Cl. 148—13.1 **6 Claims**

To rapidly carbide a member of tantalum, or an alloy principally comprising tantalum, the member is supported in a firing container consisting essentially of carbon as the only container component which will react with tantalum. For forming a filamentary member, the firing container is heated to heat the filamentary member to a temperature of from about 1800° C. to 2500° C. with the heating atmosphere being carbon, nitrogen and inert gas wherein the volume ratio of nitrogen to inert gas is from about 10/90 to 60/40. The heating is continued until the member displays the gold color of substantially stoichiometric tantalum carbide, and the carbided member is then cooled in a non-oxidizing atmosphere. The carbided filament contains a small amount of chemically combined nitrogen. The general carbiding procedure can be used to carbide and join thin refractory metal members, or to join relatively massive refractory metal carbide members.



3,523,045
COHERENT RADIATION DEVICE
Clarence K. Suzuki and Roy H. Harada, Costa Mesa, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Mar. 1, 1965, Ser. No. 436,066
Int. Cl. H01l *3/20, 3/22;* **H05b** *33/00*
U.S. Cl. 148—33.1 **5 Claims**

A gallium arsenide injection laser diode comprising a GaAs substrate doped with zinc and having a net acceptor impurity concentration of at least about 3×10^{19} zinc atoms per cc. of substrate material, a tellurium doped gallium arsenide epitaxial layer disposed on the substrate, the layer forming a p-n junction having a donor impurity concentration and an acceptor impurity concentration of from about 1 to about 3×10^{19} atoms per cc. of epitaxial layer.

3,523,046
METHOD OF EPITAXIALLY DEPOSITING SINGLE-CRYSTAL LAYER AND STRUCTURE RESULTING THEREFROM
Edward G. Grochowski, Wappingers Falls, and Vincent J. Lyons, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 14, 1964, Ser. No. 396,267
Int. Cl. H01l *7/36*
U.S. Cl. 148—175 **5 Claims**

This disclosure is directed to a technique for epitaxially depositing single-crystalline semiconductor material on a semiconductor member and the resulting structure therefrom. In creating an epitaxial layer, the vapor of a compound which is used to deposit semiconductor material onto a substrate is intermittently introduced into the reaction chamber containing the substrate. In this manner, a substantially constant resistivity material is formed a few microns from the interface between the epitaxial layer and the substrate.

3,523,047
HYDRAZINE AND ALUMINUM CONTAINING EXPLOSIVE COMPOSITIONS
Robert M. Bridgforth, Jr., and George S. Sutherland, Mercer Island, Michel E. Maes, Bellevue, and David L. Laster and Gerald L. Hurst, Issaquah, Wash., assignors to Explosives Corporation of America, Issaquah, Wash., a corporation of Washington
No Drawing. Continuation-in-part of application Ser. No. 340,127, Jan. 27, 1964. This application Dec. 30, 1968, Ser. No. 787,997
Int. Cl. C06b *1/04, 15/00*
U.S. Cl. 149—36 **61 Claims**

Explosive compositions characterized by very high detonation velocities, excellent cratering performance, high blast effect, and useful impact sensitivity characteristics, and comprising hydrazinium nitrate or mixtures of hydrazinium nitrate and ammonium nitrate (with optional minor proportions of alkali metal nitrates and/or alkali metal perchlorates and/or calcium nitrate and/or calcium perchlorate), together with hydrazine or mixtures of hydrazine and ammonia, and with finely divided aluminum as a reducer reactant. The explosive composition can further comprise optional physical property modifying additives, such as desensitizing agents, thickening and gelling agents, freezing point depressants, and waterproofing agents. Also presented are methods of preparation of the compositions, including the preparation of pre-mixed non-explosive components, a first such component being hydrazine or like liquid containing a non-explosive amount of the oxidizer salt(s), and a second such component being essentially the additional oxidizer salt(s). Relative percentages by weight of the significant ingredients are as follows: Aluminum particles, from about 2% to about 45%; NH_3 and NH_4+, from 0% to about 18%; N_2H_4 and N_2H_5+, from about 6% to about 75%; NO_3- or equivalent anion, from about 14% to about 70%. Optionally, minor proportions of the nitrate or equivalent anion can be present in the form of certain metallic and/or perchlorate salts. Various physical property modifiers can also be included in the composition.

3,523,048
BULK DELIVERY OF CROSSLINKABLE AQUEOUS SLURRY EXPLOSIVE WITH CROSSLINKING AGENT IN A SEPARATE FEED
Robert B. Hopler, Jr., Kenvil, N.J., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 661,250, Aug. 17, 1967, which is a continuation of application Ser. No. 528,527, Feb. 18, 1966, which in turn is a continuation of application Ser. No. 386,317, July 30, 1964. This application Nov. 16, 1967, Ser. No. 683,495
Int. Cl. C06b *1/00*
U.S. Cl. 149—109 **10 Claims**

A method for bulk delivery of an aqueous slurry blasting agent to the packaging unit of an explosive plant or into the borehole of a blasting operation by pumping through a conduit. A suspension is injected into a moving stream of pumpable aqueous slurry blasting mixture containing guar gum under controlled conditions of pH whereby the end product emerging from the conduit is crosslinked to a desired degree of firmness.

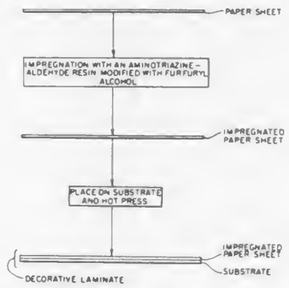
3,523,049
PROCESS FOR HIGH-FREQUENCY BONDING OF WOOD SECTIONS HAVING IMPREGNATED PRESERVATIVE
Randolph B. Putman, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
No Drawing. Filed Dec. 12, 1967, Ser. No. 689,796
Int. Cl. B29c *19/04*
U.S. Cl. 156—273 **5 Claims**

Laminated wood products are produced which contain a preservative that renders the wood resistant to attack by bacteria, fungi, and termites, by a process in which the wood product is bonded by high-frequency curing of an adhesive. The high-frequency curing of preserved wood products is made possible by the use of a non-electrolyte containing chromated copper arsenate solution, the solution acting as a preservative in the finished wood product without interfering with the high-frequency adhesive cure.

3,523,050
PROCESS FOR PREPARING ENVELOPE STRUCTURES
John E. Campbell, Needham, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Mar. 10, 1967, Ser. No. 622,305
Int. Cl. C09j *5/02*
U.S. Cl. 156—289 6 Claims

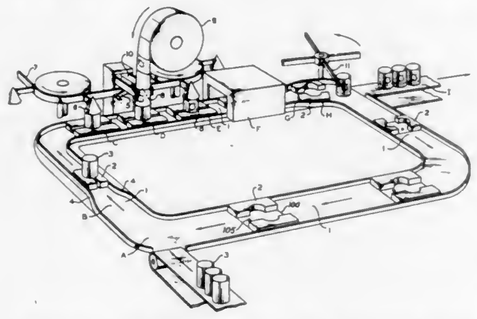
Process of sealing two embossable vinyl sheet-like panels together only at predetermined areas thereof wherein a resist coating comprising cellulose acetate butyrate is employed to prevent adhesion in the other areas.

3,523,051
METHOD OF MANUFACTURING DECORATIVE BOARDS BY USE OF THERMOSETTING RESINS
Wakichiro Yasutake, Aichi-ken, Japan, assignor to Shouei Chemical Products Co., Ltd., Aichi-ken, Japan
Filed Aug. 17, 1966, Ser. No. 572,892
Claims priority, application Japan, Nov. 11, 1965, 40/69,350; Mar. 19, 1966, 41/17,087
Int. Cl. C09j *5/06*
U.S. Cl. 156—331 5 Claims



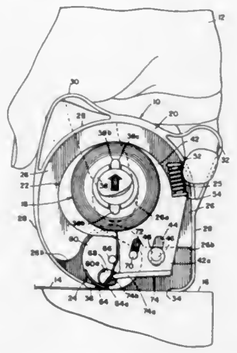
A thermosetting resin comprising an aminotriazine-aldehyde resin modified with furfuryl alcohol and containing a latent curing agent is used at a pH of 7–11 to impregnate one or more sheets of paper, the impregnated paper or papers being pressed against a substrate at a temperature of 100° to 200° C. and a pressure of 5 to 20 kg./cm.^{2} to form a decorative laminate.

3,523,052
CONTINUOUS APPLICATION OF HEAT SHRINKABLE LABELS
Kenneth E. Bolen, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Continuation-in-part of application Ser. No. 401,186, Oct. 2, 1964. This application May 5, 1969, Ser. No. 824,363
Int. Cl. B32b *31/00*
U.S. Cl. 156—521 3 Claims



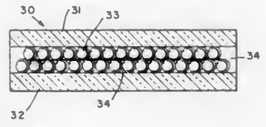
Apparatus for applying tubular heat shrinkable labels to containers which includes movable blocks for holding the containers and positioning the labels and guides which are placed on the top portion of and are carried by containers as the label is being placed thereon.

3,523,053
TAPE APPLICATOR DISPENSER
James Zbinden, 1214 5th Ave., Sterling, Ill. 61081, and Robert E. Dodd, R.R. 1, Rock Falls, Ill. 61071
Filed May 14, 1968, Ser. No. 729,083
Int. Cl. B32b *31/20*; B44c *3/02, 7/02*
U.S. Cl. 156—523 20 Claims



An applicator dispenser for holding and applying adhesive tape supplied from a roll onto an external surface. Tape carrier means rotatably supporting the tape roll in the body and movable toward and away from the dispensing opening is provided with clamping means thereon having a forward edge for contacting the adhesive side of the tape remote from the tape roll and movable between a downward position adjacent the pressure surface and upward position remote therefrom towards the roll. Fixed snubbing post means are provided on the body between the tape roll and the pressure means for supporting the nonadhesive side of the tape remote from the roll when the clamping means is moved into said upward clamping position, with the forward edge thereof forcing the tape against the snubbing post in clamped relation. Cutter means is mounted on the body and is operatively interconnected with the carrier for cutting the tape from the nonadhesive side thereof between the snubbing post and the pressure means upon movement of the carrier to said upward position.

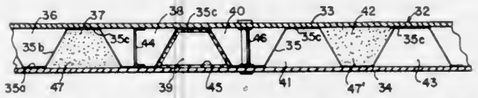
3,523,054
DIFFUSING SCREEN FOR HOLOGRAPHIC CAMERA
Lee O. Heflinger, Torrance, and Robert E. Brooks, Redondo Beach, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Feb. 9, 1968, Ser. No. 704,348
Int. Cl. B44f *1/04*
U.S. Cl. 161—3.5 10 Claims



A diffusing screen having refracting means for casting light passing therethrough into individual cells from a scene beam to correspond to cells from a reference beam on the photographic plate.

An improved holographic camera in combination with the diffusing screen described above.

3,523,055
COMPOSITE MATERIAL, APPARATUS AND METHOD FOR PRODUCING SAME
Jerome H. Lemelson, 85 Rector St., Metuchen, N.J. 08840
Continuation-in-part of application Ser. No. 609,455, Jan. 16, 1967. This application Aug. 19, 1968, Ser. No. 753,620
Int. Cl. B65d *85/00*; E04c *2/10*
U.S. Cl. 161—43 17 Claims



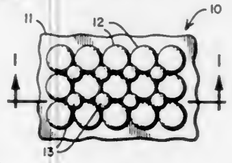
Improved structures in composite packaging materials are provided as well as an apparatus and method for producing same. The materials are in the form of expanded sheets or panels containing air cells arranged to maintain wall portions apart from each other. In a preferred form, the composite material is made at least in part of plastic film which is sealed or bonded to one or more capping sheets and arranged to define a plurality of enclosed cells containing air under pressure. In another form, capping sheets of a composite panel are maintained apart by spacers and are held in assembly with each other by a thin sheet member or members disposed therebetween.

3,523,056
STRETCHABLE SILICONE BONDED, COMPACTED GLASS FABRIC-POLYIMIDE LAMINATE TAPE AND METHOD FOR MAKING THE SAME
Albert E. Horning, Troy, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 13, 1967, Ser. No. 690,111
Int. Cl. B32b *3/30*; D03d *1/00, 3/08*
U.S. Cl. 161—93 6 Claims



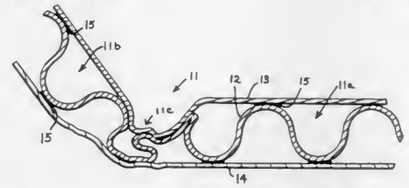
A stretchable, conformable, electrically insulating tape contains a long narrow strip of a woven glass fabric, the fibers of which are compacted in the warp direction, adhesively secured to a polyimide film backing with a silicone adhesive. The tape is made by elongating the polyimide backing, coating the backing with a curable silicone adhesive, applying a long narrow strip of woven glass fabric to the backing, curing the silicone adhesive and removing the tension on the polyimide film, thus allowing the polyimide film to relax and to crinkle the glass fibers of the cloth in the warp direction. The tape is used to wrap field windings of electric motors.

3,523,057
BALL AND PLASTIC ARMOUR PLATE
Norman R. Buck, Northfield, Minn., assignor to G. T. Schjeldahl Company, Northfield, Minn., a corporation of Minnesota
Filed Oct. 24, 1965, Ser. No. 504,324
Int. Cl. B32b *3/00*
U.S. Cl. 161—116 3 Claims



Flexible armour plate means comprising a flexible matrix film having first and second substantially parallel surfaces with a certain predetermined cross-sectional thickness, a plurality of outwardly contoured rigid members, preferably spherical, in edge-to-edge contact with each of its neighbors and being retained in the flexible matrix material, the surfaces of the rigid members being essentially entirely anti-parallel to the major surfaces of the flexible matrix, the rigid members having a dimension in a plane normal to the plane of the flexible matrix exceeding the thickness of the matrix by a factor of between about 2 and 4.

3,523,058
FABRICATABLE STIFF-WHEN-WET CORRUGATED PAPERBOARD
Philip E. Shick, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Continuation-in-part of application Ser. No. 421,295, Dec. 28, 1964. This application Apr. 5, 1968, Ser. No. 733,199
Int. Cl. B32b *3/28, 3/30*
U.S. Cl. 161—133 9 Claims



This application discloses a type of corrugated paperboard having a convoluted paper medium ply, with a relatively high concentration of a rigidifying resin, and a pair of spaced-apart facing paper liner sheets bonded to opposite sides of the medium ply by means of a water-insoluble adhesive, with one of the liner sheets comprising an outwardly-facing sheet of substantially greater flexibility than the medium sheet by incorporating a rigidifying resin concentration in the range from zero to an amount substantially less than the content of the medium sheet.

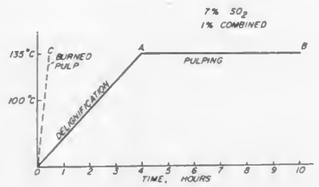
3,523,059
NEEDLED FIBROUS BATTING AND METHOD OF MAKING THE SAME
Herbert W. Coates, Charlotte, N.C., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 325,254, Nov. 21, 1963. This application Aug. 23, 1967, Ser. No. 662,633
Int. Cl. B32b *5/12*; D04h *1/46*
U.S. Cl. 161—141 22 Claims

A nonwoven needle punched batting produced from continuous filament fibers wherein the continuous filament fibers are in the form of a web of deregistered, crimped, laterally-spread tow. In a preferred embodiment, staple fibers are positioned on at least one side and preferably both sides of the continuous filament web and intimately entangled therewith by needle punching. The produced batting is particularly useful as a substrate for poromeric materials, carpet materials, blankets and the like.

3,523,060
WOOD PULPING-DELIGNIFICATION IN THE PRESENCE OF HIGH SULFUR DIOXIDE CONCENTRATIONS
Lloyd E. Herdle, Alexander Walker, Jr., and Frank L. Wells, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Oct. 16, 1967, Ser. No. 675,607
Int. Cl. D21c *3/20*
U.S. Cl. 162—76 17 Claims

This invention relates to acid sulfite processes for delignifying and pulping wood. More particularly, the pres-

ent invention is directed to processes involving the delignification and pulping of wood in the presence of sulfur



dioxide concentrations of from 30 to about 80 weight percent of sulfur dioxide and at temperatures within the range of from about 120° C. to about 145° C.

3,523,061
POROUS SHEET MATERIALS OF MICA AND UNFUSED STAPLE FIBERS

Robert J. Purvis, Des Moines, Iowa, assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

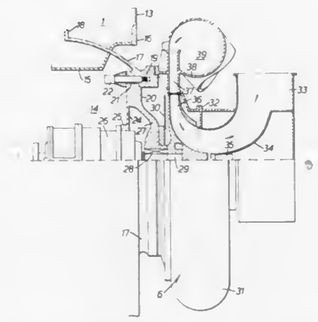
No Drawing. Continuation of application Ser. No. 479,642, Aug. 13, 1965. This application June 20, 1969, Ser. No. 838,027
Int. Cl. D21f *11/00;* **D21h** *5/12*
U.S. Cl. 162—157 **13 Claims**

Porous self-supporting mica containing sheet materials and method of making are disclosed, said sheets having excellent electrical properties resulting from a high mica content and physical properties permitting such sheets to conform to irregular surfaces and also to being impregnated with a variety of resinous materials. The mica flakes of the sheets are physically constrained within a continuous network of fibers of at least one heat fusible thermoplastic polymer, said fibers being bonded to each other at their crossing points without loss of fiber identity.

3,523,062
METAL-LINED CONCRETE PRESSURE VESSEL OF A NUCLEAR REACTOR

Brian David Brown, Bexley, Kent, England, assignor to Atomic Power Constructions Limited, Sutton, Surrey, England, a British company

Filed Nov. 24, 1967, Ser. No. 685,676
Claims priority, application Great Britain, Nov. 30, 1966, 53,555/66
Int. Cl. G21c *19/28*
U.S. Cl. 176—58 **9 Claims**

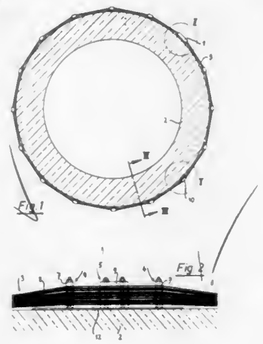


A mounting for a circulator for circulating coolant through the core of a gas-cooled nuclear reactor comprising a flexible sleeve fixed at one end to the reactor pressure vessel wall and at the other end to the housing of the circulator.

3,523,063
PRESTRESSED CONCRETE PRESSURE VESSEL FOR NUCLEAR REACTOR

Wolfgang Zerna, Hannover, Germany, assignor to Philipp Holzmann AG, Frankfurt am Main, Germany, a company of Germany

Filed Aug. 11, 1967, Ser. No. 659,950
Claims priority, application Germany, Aug. 26, 1966, Z 12,398
Int. Cl. G21c *13/08*
U.S. Cl. 176—87 **10 Claims**



The specification discloses apparatus and a method for prestressing concrete vessels to a value of compressive stress on the order of several thousand tons per meter of vessel height. Bundles of prestressing cables entirely encircle the vessel, whether cylindrical or spherical, but are not anchored thereto at intermediate points, and the cable ends are joined by a coupling device of material somewhat softer than the cables themselves. Temporary anchors near the ends of the cables are jacked together to apply the desired prestressing tension. Alternatively, the cable ends having the anchors thereon may overlap and the anchors are jacked apart before the clamping device is fastened thereto. In one embodiment, the cables are spaced from the surface of the vessel by bearing boxes spaced along the vessel periphery so that the cable path is polygonal. The bearing boxes slide on a steel sliding plate attached to the vessel wall and interposed therebetween is a sliding sheet of material such as "Teflon." The coupling device and anchors may also bear on such sliding sheets and plates. In a still further embodiment, an auxiliary concrete shell is spaced exteriorly and concentrically from the vessel wall and hot air blown therebetween to reduce the interior-exterior temperature differential and to provide corrosion protection for the prestressing cables.

3,523,064
PROTEIN CONCENTRATES FROM CYCLOHEXANE OXIDATION BY-PRODUCTS

Wolfgang Griehl, Chur, Grisons, and Christine Suter-Homuth, Domat-Ems, Grisons, Switzerland, assignors to Inventa A.G. für Forschung und Patentverwertung, Zurich, Switzerland

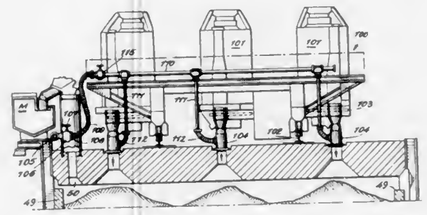
No Drawing. Filed Aug. 29, 1967, Ser. No. 663,990
Claims priority, application Switzerland, Aug. 31, 1966, 12,630/66
Int. Cl. C12b *1/00*
U.S. Cl. 195—28 **13 Claims**

A process for the production of cellular protein from the waste liquors obtained in the cyclohexane oxidation. Microorganisms of the family of Pseudomonadaceae convert these waste products to proteins in alkaline medium at ambient temperatures at 24°–30° C. and pH levels of substantially 6.7 to 9.2 within 50 to 90 hours. The process has the twofold advantage of manufacturing a useful product from wastes and to prevent water pollution.

3,523,065
CHARGING OF PREHEATED COAL INTO THE COKING CHAMBERS OF A COKE OVEN BATTERY

Lawrence D. Schmidt, New York, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Original application July 20, 1964, Ser. No. 383,750. Divided and this application Jan. 14, 1969, Ser. No. 810,061
Int. Cl. C10b *31/04*
U.S. Cl. 201—40 **2 Claims**



A method of charging the coking chambers of a coke oven battery equipped with a larry car having charging hoppers, each of which are provided with drop sleeves for communication with respective charging holes in each coking chamber of the battery. Coarsely comminuted coal particles are preheated to a temperature within the range of from 250° to 700° F. and fed into the charging hoppers of the larry in an amount equal to a desired charge for a coking chamber. The larry is then moved into position to charge a coking chamber whereupon the preheated coal from the charging hoppers is discharged through the drop sleeves into the coking chamber at a rate to produce the desired charge within said coking chamber in not less than about 5 minutes, while a carrier gas from the group consisting of steam and coke oven gas is introduced into the drop sleeves to prevent aspiration of air into the coal streams falling through said drop sleeves into the coking chamber.

3,523,066
DETERMINATION OF COMBINED CARBON IN METALS

David Rowland Morris, University of New Brunswick, New Brunswick, Canada, and George L. Hawkes, Berlin, Germany, assignors to United Kingdom Atomic Energy Authority, London, England

Filed June 23, 1967, Ser. No. 648,387
Claims priority, application Great Britain, June 23, 1966, 28,239/66
Int. Cl. G01n *27/26, 27/46*
U.S. Cl. 204—1 **3 Claims**

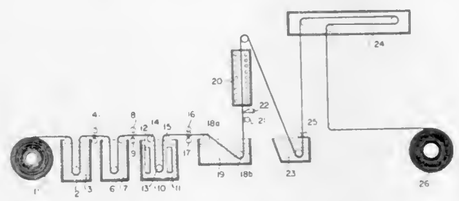
A method of and apparatus for measuring the dissolved carbon in metals, e.g. steels, comprises setting up the electrochemical cell: metal specimen/salt electrolyte/graphite and measuring the E.M.F. The temperature is such that the metal specimen is solid but the electrolyte (which contains ionised carbon, e.g. calcium carbide) is preferably fused.

3,523,067
SELECTIVE GALVANIZING OF STEEL STRIP

Richard G. Baird-Kerr and Robert F. Hunter, Burlington, Ontario, Canada, assignors to The Steel Company of Canada, Limited

Filed May 27, 1968, Ser. No. 732,160
Int. Cl. C23b *5/48;* **C23f** *17/00;* **B44d** *1/52*
U.S. Cl. 204—15 **10 Claims**

Galvanizing of only selected areas of ferrous strip or sheet is achieved by providing the surface area where no galvanizing is desired with a coating which will not be wetted by molten zinc. The coating is a composite of chromium metal and hydrated chromium oxide and is formed by electrodeposition. After passage through the



galvanizing bath there is no need to remove the barrier coating. The coating provides a clean surface which is amenable to painting.

3,523,068
PROCESS FOR ELECTROLYTIC PREPARATION OF QUATERNARY AMMONIUM COMPOUNDS

Roy J. Eisenhauer, Pensacola, Fla., and Larry D. Gilmartin, Decatur, Ala., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 19, 1966, Ser. No. 602,592
Int. Cl. B01k *1/00*
U.S. Cl. 204—72 **7 Claims**

Economical process for preparing quaternary ammonium hydroxide by electrolytic process from aqueous solution of tetraalkyl ammonium salts containing non-electrolyzable anions selected from the group consisting of sulfate, bisulfate, alkylsulfate, nitrate, carbonate, and bicarbonate.

3,523,069
PROCESS FOR THE PRODUCTION OF DITHIONITES

Colin W. Oloman, Vancouver, British Columbia, Canada, assignor to British Columbia Research Council, University of British Columbia, Vancouver, British Columbia, Canada

Filed Jan. 29, 1969, Ser. No. 795,110
Int. Cl. B01k *1/00;* **C01b** *17/98*
U.S. Cl. 204—92 **12 Claims**

There is described a process for the production of dithionites by electrolysis. A solution of sulphur dioxide in water is passed through an electrochemical reactor in which it is converted at a cathode in a cathode chamber to an acidic solution of dithionite. An appropriate anolyte is supplied to the anode. In the process, the catholyte temperature, cathode material, concentration of sulphur dioxide in the catholyte, pH of the catholyte, catholyte turbulence, current density on the cathode, surface area of the cathode, and the ratio of cathode surface area to cathode chamber volume are all carefully controlled.

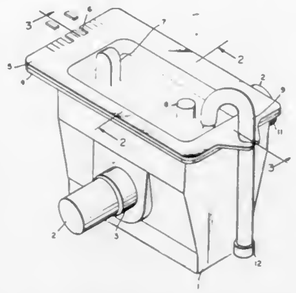
3,523,070
DISPOSABLE TEST CELL

Herbert P. Silverman and Harold A. Price, Orange, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio

Filed May 5, 1967, Ser. No. 636,534
Int. Cl. G01n *27/00, 27/28*
U.S. Cl. 204—195 **3 Claims**

This invention relates to a disposable test cell including disposable electrodes for analyzing electrochemical reactions, for use in fully automated testing instruments. The test cell comprises two electrodes spaced apart so that the ends are separated by a thin film of the liquid to be

analyzed. A comparison of the change of current or potential vs. time or after a fixed period of time across the



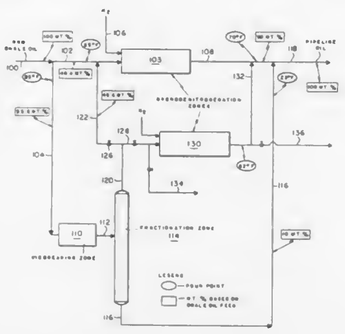
thin film with a standard characterizes the rate of chemical reaction occurring in the cell.

3,523,071

PROCESS FOR REDUCING THE POUR POINT OF SHALE OIL

Emerson Knapp, Lake Hopatcong, N.J., and George B. Irving, Baytown, Tex., assignors to Esso Research and Engineering Company

Filed Aug. 1, 1968, Ser. No. 749,550
Int. Cl. C10g *1/00, 23/00*
U.S. Cl. 208—14 **10 Claims**



A raw shale oil is pretreated to lower the pour point and reduce the nitrogen content by separating the shale oil into two portions, hydrodenitrogenating the first portion and visbreaking the second portion. The heavy portion of the visbroken shale oil (1000° F.+) is an effective pour point reducer when blended with the hydrodenitrogenated shale oil or with hydrodenitrogenated light (1000° F.—) visbroken shale oil. The light visbroken shale oil may be hydrodenitrogenated (separately or along with the total shale oil) and made a part of the hydrodenitrogenated shale oil to which is added the heavy visbroken shale oil pour point reducing agent. The heavy visbroken oil should be used in quantities of from about 2 weight percent to about 30 weight percent of the final product.

Preferably, the hydrodenitrogenated first portion of the shale oil will compirse about 45 weight percent, the hydrodenitrogenated light visbroken shale oil will comprise about 45 weight percent, and the heavy visbroken shale oil will comprise about 10 weight percent of the final product.

Both the process and the blended final product are claimed.

3,523,072

ISOMERIZATION OF PARAFFINS

Abraham Schneider, Philadelphia, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Dec. 24, 1968, Ser. No. 786,739
Int. Cl. C07c *5/28*
U.S. Cl. 208—27 **8 Claims**

Straight and branched chain paraffins having at least seven carbon atoms, and particularly higher molecular weight waxes, are converted into branched or more highly brunched chain paraffins by contacting the starting materials with aluminum chloride in the presence of inert halogenated hydrocarbon solvents under conditions whereby conversion is limited to not more than a certain percentage per pass depending on the nature of the hydrocarbon in order to avoid cracking. The reaction should be carried out in the substantial absence of those organic compounds which form complexes with the aluminum chloride.

3,523,073

SOLVENT DEWAXING OR DEOILING PROCESS

Hallard C. Moyer, Homewood, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 5, 1968, Ser. No. 742,511
Int. Cl. C10g *43/06, 43/08*
U.S. Cl. 208—33 **10 Claims**

The present invention provides an improved solvent treating process for separating wax and petroleum oil through treatment with a wax-precipitating solvent. The operation involves providing as a dispersed liquid in the wax-petroleum oil mixture, a dewaxing solvent and small amounts, sufficient to facilitate separation of oil and wax, of a normally solid polyethylene and a wax alkylated naphthalene. The mixture is chilled and passed to a filter whereby solid wax is separated from the oil. The procedure can be employed in either dewaxing or deoiling systems.

3,523,074

NOVEL LUBRICATING OIL SYSTEM AND OIL FILTER FOR INTERNAL COMBUSTION ENGINES

Jerome Geyer, Elizabeth, and Shih-En Hu, Roselle, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 665,249, Sept. 5, 1967. This application Dec. 16, 1968, Ser. No. 784,179
Int. Cl. C10m *11/00;* **F01m** *9/00;* **B01d** *39/00*
U.S. Cl. 208—179 **14 Claims**

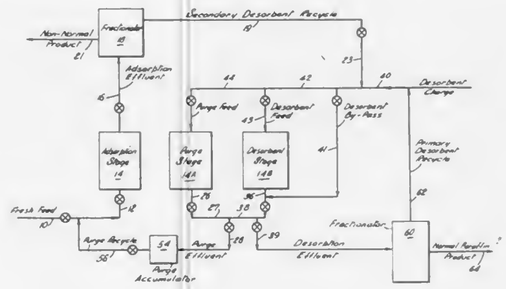
Lubricating oil treatment for internal combustion engines involves the circulation of oil from the engine through an oil filter or a solids-oil contacting chamber and returning the oil to the engine. The system contains a filter cartridge within the filter or it contains a solids-oil contacting chamber. An additional solids-oil contacting chamber may be used either before or after the filter. The filter and/or contacting chamber contains at least one relatively oil-insoluble solid inorganic compound having a metal-containing cation moiety and an anion moiety, wherein the cation metal is selected from Groups III-A, IV-A or V-A of the Periodic Table, which metal may be combined with or complexed in either its reduced state or its fully oxidized state, with anionic ligands, neutral ligands or mixed ligands, the metal complex being the cation, or the cation may be the metal alone.

3,523,075

CONTROL OF PURGE VELOCITY AND VOLUME IN MOLECULAR SIEVE SEPARATION OF HYDROCARBONS

Richard W. Stokeld, Jr., Groves, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 11, 1968, Ser. No. 712,166
Int. Cl. C10g *25/04*
U.S. Cl. 208—310 **7 Claims**



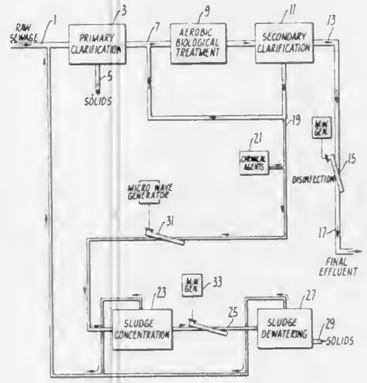
An improved straight chain hydrocarbon separation process using a molecular sieve selective adsorbent wherein after the adsorption step, the purge medium vapor hourly space velocity is maintained between 50 and 1000 and the ratio of the purge medium rate to the purge volume is at least 40/1 to provide improved production and improved product purity.

3,523,076

MICROWAVE IRRADIATION OF SEWAGE AND SEWAGE SLUDGE

David J. Goerz, Jr., Menlo Park, and Byron H. Leonard, Jr., Atherton, Calif., assignors to Bechtel International Corporation, a corporation of Delaware

Filed July 30, 1968, Ser. No. 748,765
Int. Cl. C02c *3/00, 1/06*
U.S. Cl. 210—10 **3 Claims**



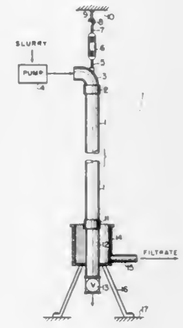
The settlement rate of sewage or sewage sludge is increased at any stage of processing by exposing the same to microwave electormagnetic energy.

3,523,077

UNI-FLOW FILTER AND METHOD

Wayne M. Camirand, Albany, and Karel Popper, Danville, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

Filed Oct. 11, 1968, Ser. No. 766,696
Int. Cl. B01d *29/14, 29/30, 37/04*
U.S. Cl. 210—65 **11 Claims**



Apparatus for filtration which utilizes a vertically-positioned, foraminous, flexible hose as a filter chamber. Means are provided for receiving filtrate which passes through the wall of the hose and for discharging accumulated thickened material from the base of the hose.

3,523,078

ANTIFRICTION MATERIALS

Vasily Vladimirovich Korshak, Grigory Lvovich Slonimsky, Svetlana Vasilievna Vinogradova, Irina Alexandrovna Gribova, Alexandr Petrovich Krasnov, Anna Nikolaevna Chumaevskaya, Petr Maximilianovich Valetsky, Sergei Nikolaevich Salazkin, Anri Alexandrovich Askadsky, and Anatoly Nikolaevich Baskakov, Moscow, U.S.S.R., assignors to Institut Elementoorganicheskikh, Moscow, U.S.S.R.

No Drawing. Filed Dec. 8, 1967, Ser. No. 688,978
Int. Cl. C10m *7/06, 7/24, 7/34*
U.S. Cl. 252—12 **8 Claims**

An antifriction plastic material comprising a polyarylate resin selected from the group consisting of isophthalic acid-phenolphthalein resin and terephthalic acid-2,2'-bis(3 - methyl - 4 - oxiphenyl) propane resin having fibrillar structure, and powdered molybdenum disulfide and metal powders as fillers.

3,523,079

ELECTRICALLY CONDUCTIVE SOLID LUBRICANT MEMBERS AND PROCESS AND APPARATUS EMPLOYING THEM

David J. Boes, Monroeville, and William Dwight Johnston and Lawrence E. Moberly, Penn Hills, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 605,430, Dec. 28, 1966, which is a division of application Ser. No. 321,312, Nov. 4, 1963. This application Sept. 11, 1969, Ser. No. 860,156
Int. Cl. C10m *5/02*
U.S. Cl. 252—12 **14 Claims**

Niobium diselenide is employed as a solid lubricant in bearings. Heat treatment of niobium diselenide 400° C. and higher in a vacuum or at 900° C. and higher in a non-reactive atmosphere improves its properties. Powdered niobium diselenide can be incorporated in metal or resin matrix to provide self-lubricating composites.

3,523,080
FRICTION ELEMENTS, IN PARTICULAR FOR HINGES AND BEARINGS
Paul René Delaplace, 37 Rue de Chateaudun, Paris, France
Filed Nov. 18, 1965, Ser. No. 512,260
Claims priority, application France, Nov. 20, 1964, 995,771
Int. Cl. C10m *5/00*
U.S. Cl. 252—12.4 15 Claims

The friction element comprises a mass of fibrous material impregnated both with a polymerized resin and with a lubricant of melting point higher than 70° C. and preferably higher than 80° C. The lubricant contains derivatives or mixtures of higher fatty acids and higher fatty alcohols. Preferably the fibrous material comprises asbestos and the lubricant comprises carnauba wax.

3,523,081
HIGH METAL CONTENT ADDITIVES FOR FLUID COMPOSITIONS
Milton Braid, Barrington, N.J., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Feb. 1, 1967, Ser. No. 613,135
Int. Cl. C10m *1/48, 3/42;* C09k *3/02*
U.S. Cl. 252—32.7 20 Claims

Polyvalent metal diorganophosphorodithioates or the metal oxide-, hydroxide-, or carbonate-complex thereof are reacted with polyvalent metal carboxylates in the presence of highly aromatic petroleum oils. The reaction produces novel stable complex products having extremely higher metal-to-phosphorus ratios than hitherto obtained.

3,523,082
LUBRICATING OIL COMPOSITION
Paul C. Vienna, Calumet City, Ill., and John J. Plemich, Whiting, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Jan. 26, 1968, Ser. No. 700,735
Int. Cl. C10m *1/40, 1/48, 1/50*
U.S. Cl. 252—32.7 3 Claims

Lubricating oil compositions having improved water tolerance and rust inhibiting properties are obtained by incorporating in a petroleum lubricating oil a combination of (1) a calcium salt of a preferentially oil-soluble sulfonic acid, (2) a sodium salt of a preferentially oil-soluble sulfonic acid, and (3) butyl Cellosolve.

3,523,083
STABILIZATION OF WHITE OILS
William G. De Pierri, Jr., Baytown, Tex., assignor to Esso Research and Engineering Company
No Drawing. Filed May 27, 1968, Ser. No. 732,050
Int. Cl. C10l *1/24;* C10m *1/20, 1/38*
U.S. Cl. 252—48.6 10 Claims

A synergistic mixture of a butylated, styrenated cresol and certain esters of thiodipropionic acid provides an effective stabilizer for preventing oxidative color degradation in white mineral oils. The white oil may contain from 0.03 to 0.5 weight percent of the mixture, which in turn contains 1 part by weight of the butylated styrenated cresol and from 0.1 to 2 parts by weight of an ester of thiodipropionic acid.

The preferred mixture is made up of 1 part by weight of styrenated, butylated cresol and 0.3 part by weight of the distearyl ester of thiodipropionic acid. It is preferably used in the white oil at a concentration of about 0.13 weight percent.

3,523,084
LUBRICATING OIL ESTER BASE COMPOSITION CONTAINING LIQUID ESTERS OF NEOALKYL POLYOLS AND NEOALKYL FATTY ACIDS
Tai S. Chao, Homewood, Ill., Manley Kjonaas, Hammond, Ind., and William D. Hoffman, Park Forest, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Original application June 16, 1966, Ser. No. 557,898, now Patent No. 3,441,600, dated Apr. 29, 1969. Divided and this application Nov. 14, 1968, Ser. No. 791,828
Int. Cl. C10m *1/26*
U.S. Cl. 252—56 7 Claims

Lubricating oil ester base compositions are obtained consisting essentially of a blend of (a) a minor amount of a normally liquid ester of certain neoalkyl polyols having at least three hydroxyl groups which are esterified with a selected neoalkyl fatty acid and (b) a major amount of a different ester of an alkanol and an alkane carboxylic acid. The neoalkyl polyol is pentaerythritol or a 1,1,1-trimethyolalkane of 5 to 7 carbon atoms. The neoalkyl fatty acid is 4,4-dimethylhexanoic acid, 5,5-dimethylhexanoic acid, 3,3-dimethylpentanoic acid, 3,3,4-trimethylpentanoic acid or 4,4,5-trimethylhexanoic acid. These lubricant blends of esters remain liquid at low temperatures and have improved high temperature viscosity characteristics.

3,523,085
CALCIUM SILICATE CORROSION INHIBITING INSULATION MATERIAL CONTAINING ALKALI METAL SILICATE GLASS
Richard F. Shannon, Lancaster, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
No Drawing. Filed May 9, 1967, Ser. No. 637,059
Int. Cl. C04b *43/04;* E04b *1/92*
U.S. Cl. 252—62 10 Claims

A calcium silicate crystalline hydrate binder material having particles of alkali metal silicate dispersed throughout, with the crystals of calcium silicate being generally devoid of strength reducing alkali metal oxides.

3,523,086
MAGNETIC RECORDING MATERIAL
Johann Heinrich Bisschops, Berchem, and Willy Karel Van Landeghem, Saint-Gilles-Waas, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a company of Belgium
No Drawing. Filed May 16, 1967, Ser. No. 638,734
Claims priority, application Great Britain, May 16, 1966, 21,545/66
Int. Cl. H01f *1/26*
U.S. Cl. 252—62.54 6 Claims

In a magnetic recording material, a recording layer consisting essentially of about 65–85% by weight of powdered magnetic material dispersed in an organic polymeric binder and as a lubricant, about 3–6% by weight of the magnetic material of a compound according to the following general structure:

$$Cl—(CF_2—CFCl)_n—Cl$$

wherein n is an integer of at least 5, the polymeric binder being characterized by the presence of an isocyanate modified polyester or polyester amide.

3,523,087
WASHING PROCESS AND COMPOSITIONS THEREFOR
Walter R. Trent, Menlo Park, N.J., assignor to Staph Phree Products Limited, Paterson, N.J., a corporation of New York
No Drawing. Filed Apr. 19, 1966, Ser. No. 543,523
Int. Cl. C11d *3/48*
U.S. Cl. 252—106 4 Claims

A method for cleansing sheepskins employed for medical purposes which comprises washing said sheepskins

with an aqueous medium at elevated temperatures, which aqueous medium has incorporated therein a detergent composition comprising a combination of:

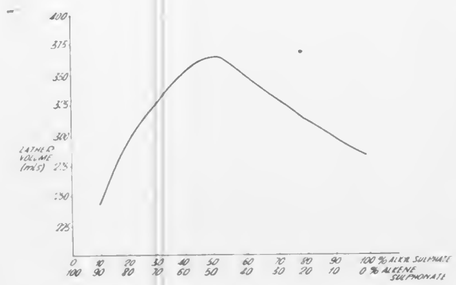
(a) a germicidal mixture of dihalo- and trihalosalicylanilides;
(b) oxyethylated alcohols; and
(c) a suitable filler;

said detergent composition being incorporated in said aqueous medium in an amount sufficient to impart thereto a pH of about 7, and compositions useful for such purposes.

3,523,088
NOVEL ANTIREDEPOSITION AGENT AND BUILT DETERGENT COMPOSITIONS CONTAINING SAID ANTIREDEPOSITION AGENT
Walter L. Dean and George N. Ferguson, Memphis, Tenn., assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 13, 1966, Ser. No. 601,441
Int. Cl. C11d *3/065, 3/08*
U.S. Cl. 252—138 2 Claims

An antiredeposition agent having special utility in the washing of synthetic fabrics, synthetic-cotton blends, cotton fabrics, and mixtures thereof, which consist essentially of (a) from about 40% to about 95% alkali metal carboxymethylcellulose having a DS within the range of from about 0.4 to about 1.5 and a DP within the range of from about 200 to about 4000; and (b) from about 5% to about 60% hydroxypropylcellulose having an MS within the range of from about 2 to about 5 and a DP within the range of from about 100 to about 1200.

3,523,089
TOILET BAR
Horace Edward Garrett, Birkenhead, England, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed Mar. 7, 1967, Ser. No. 621,206
Claims priority, application Great Britain, Mar. 18, 1966, 11,958/66; Dec. 30, 1966, 58,380/66
Int. Cl. C11d *7/06*
U.S. Cl. 252—161 4 Claims



A synthetic detergent toilet bar which consists essentially of (a) a mixture of an alkene sulfonate and a hydroxy alkane sulphonate, said hydroxyalkane sulphonate being a mixture of alkene-3-hydroxy-1-sulphonate, alkane-4-hydroxy sulphonate, and alkane-2-hydroxy-1-sulfonate, and having no more than 2% by weight of the alkane-2-hydroxy-1-sulphonate, and (b) a fatty alcohol sulfate.

3,523,090
POLYURETHANE PLASTIC FROM RESIN ACID DIOLS
Bernard A. Parkin, Jr., Lake City, Fla., Hugh B. Summers, Jr., Savannah, Ga., and Glen W. Hedrick, Lake City, Fla., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Original application June 11, 1968, Ser. No. 562,951. Divided and this application Apr. 11, 1968, Ser. No. 738,749
Int. Cl. C09k *3/00;* H05b *33/00*
U.S. Cl. 252—182 1 Claim

A saturated diol prepared by the hydrolysis and the subsequent double bond and functional group reduction of the formaldehyde adduct of levopimaric acid. The diol is a useful glycol extender for the production of polyurethane foams and rubbers.

3,523,091
LANTHANUM, YTTRIUM SILICATE PHOSPHORS
William A. McAllister, Convent Station, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Oct. 27, 1967, Ser. No. 678,510
Int. Cl. C09k *1/54*
U.S. Cl. 252—301.4 10 Claims

Phosphor compositions are lanthanum silicate, yttrium silicate, or lanthanum-yttrium silicate activated by terbium, europium, or mixtures thereof. The lanthanum or yttrium may be substituted for in part by the alkaline earth metals and selected metals. The phosphors radiate efficiently at particular visible regions of the spectrum when excited by ultraviolet radiation.

3,523,092
METHOD OF PREPARING SUPPORTED CRYSTALLINE ALUMINO-SILICATE ZEOLITES
Kenneth K. Kearby, Watchung, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Nov. 14, 1967, Ser. No. 682,997
Int. Cl. B01j *11/40*
U.S. Cl. 252—455 15 Claims

This disclosure relates to a process for preparing supported crystalline alumino-silicate zeolites. The reagents used to prepare the crystalline zeolites are combined in the presence of a suitable support, and the zeolite is crystallized onto the surface of the support. In combining the reagents, the silica source is first dry-mixed with the inert support and the silica-support mixture is then combined with a solution or suspension containing a source of alumina and a source of an alkali metal oxide. High yields of the crystalline alumino-silicate zeolite are obtained.

3,523,093
METHOD OF PRODUCING POLYURETHANES BY REACTING POLYISOCYANATE WITH A PREFORMED POLYMER RESULTING FROM POLYMERIZATION OF ETHYLENICALLY UNSATURATED MONOMERS
Paul Stamberger, 552 W. University Parkway, Baltimore, Md. 21210
No Drawing. Continuation-in-part of application Ser. No. 256,531, Feb. 6, 1963, which is a continuation-in-part of application Ser. No. 155,467, Nov. 28, 1961. This application Sept. 3, 1964, Ser. No. 394,356
Int. Cl. C08c *17/08;* C08g *22/08, 41/04*
U.S. Cl. 260—2.5 22 Claims

Polyurethanes are produced by reacting a mixture of a polyol solvent medium and a preformed normally solid

film-forming polymeric material obtained by polymerization of ethylenically unsaturated monomers with a polyisocyanate. The method readily incorporates the normally solid, film-forming polymer into the polyurethane and provides a variety of cellular or nonporous polyurethanes.

3,523,094

FOUNDRY CORES COMPRISING CEREAL BINDER AND A CRITICAL AMOUNT OF WATER

Hugh J. Roberts, Milwaukee, and Ernest L. Wimmer, Elm Grove, Wis., and Roderick J. Cowles, Needham, Mass., assignors to Krause Milling Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Feb. 19, 1969, Ser. No. 800,446

Int. Cl. C08g *37/14*

U.S. Cl. 260—17.2 **6 Claims**

In the hot box process for producing foundry cores, a cereal binder and a critical amount of water are incorporated into the sand-resin-catalyst mix to obtain improvement in collapsibility and shake-out and a reduction in gas and odor formation.

3,523,095

EXTENDER RESIN FOR VINYL TILE FORMULATIONS, COMPOSITIONS CONTAINING IT AND PROCESS FOR MAKING IT

James J. Laurito, Coraopolis, and Harvey B. Wheeler, Pittsburgh, Pa., assignors to Neville Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 9, 1967, Ser. No. 621,778

Int. Cl. C08f *19/04, 19/06*

U.S. Cl. 260—23.7 **3 Claims**

An extender resin particularly useful in vinyl asbestos tile formulations is obtained by polymerizing a hydrocarbon feed which is rich in or consists essentially of a polymerizable monomer such as styrene in the presence of a small amount of unsaturated higher fatty acid such as tall oil acid. In a preferred embodiment the acid-modified polymeric extender resin is further blended with a small amount of a low melting epoxide of low volatility to impart particularly desirable properties to it. A minor amount of a separately prepared hydrocarbon resin may also be blended with the acid-modified polymeric resin.

3,523,096

ELASTOMER-SILICA PIGMENT WET MASTERBATCHING AND WET MASTERBATCHES

Oliver W. Burke, Jr., Fort Lauderdale, Fla. (1510 SW. 13th Court, Pompano Beach, Fla. 33060)

No Drawing. Continuation-in-part of application Ser. No. 458,420, May 24, 1965. This application Jan. 24, 1967, Ser. No. 611,250

Int. Cl. C08d *7/04*

U.S. Cl. 260—29.7 **9 Claims**

The chemistry and mechanics employed in producing wet masterbatches by combining rubbery materials with or without processing oil as aqueous dispersions and/or solvent solutions with aqueous slurries of wet silica pigment that has a content of bound alkali and contents of bound and retained water, are concerned. The chemical procedures prepare aqueous silica pigment-elastomer masterbatches having serum essentially free of silica pigment. The mechanical processes reduce the amount of serum retained in the wet co-coagulated masterbatch, thus reducing the drying load. Processes combining such chemical and mechanical procedures are disclosed as are the improved masterbatches including those from polar-grafted hydrocarbon elastomers.

3,523,097

ADHESIVE COMPOSITION COMPRISING A MONOMERIC ESTER OF METHYLENEMALONIC ACID

Harry W. Coover, Jr., and Newton H. Shearer, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 63,463, Oct. 19, 1960. This application Mar. 31, 1964, Ser. No. 356,031

Int. Cl. C08f *45/00, 45/50, 3/50*

U.S. Cl. 260—30.6 **9 Claims**

An adhesive composition comprising a monomeric ester of methylenemalonic acid and an acidic polymerization inhibitor, a polymeric thickener and/or a plasticizer are useful for bonding together a wide variety of materials.

3,523,098

POLYAMIC ACID COMPOSITIONS CONTAINING SMOOTHNESS ADDITIVES

Fred F. Holub, Scotia, and Donald L. Reinhard, Albany, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 547,772, May 5, 1966. This application May 26, 1969, Ser. No. 828,005

Int. Cl. C08g *51/44, 51/34*

U.S. Cl. 260—33.4 **7 Claims**

Polyamic acid coating compositions which provide smooth, cured coatings are prepared by adding to the composition from about 1 to 15% of particular tertiary amine type additives based on the weight of the wire enamel solvent.

3,523,099

PRIMARY PHOSPHITES AS STABILIZERS FOR METAL-CONTAMINATED MATERIALS

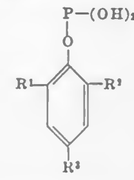
Alvin F. Shepard and Bobby F. Dannels, Grand Island, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 423,593, Jan. 5, 1965. This application Oct. 4, 1967, Ser. No. 672,719

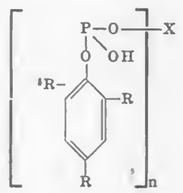
Int. Cl. C10m *1/44;* **C08f** *45/58, 45/62*

U.S. Cl. 260—45.75 **28 Claims**

A method for the deactivation of metal-containing compositions comprising adding a minor proportion of a primary phosphite having the formula:



or a salt of a primary phosphite having the formula:



wherein R^1, R^2, R^4 and R^5 are organic radicals having from 4 to 12 carbon atoms, R^3 and R^6 are selected from the group consisting of hydrogen, halogen and organic radicals having from 1 to 12 carbon atoms, X is selected from the group consisting of ammonium, substituted ammonium and metal radical, and *n* is an integer from 1 to

4, representing the valence of X, to an organic substance which is reasonably stable under normal conditions, but which deteriorates when exposed to an oxygen-containing gas in the presence of a metal or metal compound.

3,523,100

NOVEL COMPOSITIONS FOR POLYURETHANE COATINGS

Werner Stein, Erkrath-Unterbach, Joachim Barnstorf, Hilden, Rhineland, and Uwe Ploog, Dusseldorf, Germany, assignors to Henkel & Cie, G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany

No Drawing. Filed Oct. 12, 1967, Ser. No. 674,733

Claims priority, application Germany, Oct. 21, 1966, H 60,824

Int. Cl. C08g *22/04, 22/08*

U.S. Cl. 260—47 **6 Claims**

Novel compositions for preparing flexible polyurethane coatings having a high chemical and mechanical resistance comprised of a polyisocyanate and a hydroxyl containing component formed by addition of a phenol compound to a compound selected from the group consisting of an unsaturated alcohol having 10 to 48 carbon atoms and adducts thereof with ethylene oxide or propylene oxide and the polyurethane coatings produced therewith.

3,523,101

THERMOPLASTIC POLYCAPROLACTONE POLYURETHANES

Franz Gottfried Reuter, Hannover, Germany, assignor to Elastomer AG, Chur, Switzerland, a corporation of Switzerland

Continuation of application Ser. No. 814,538, Apr. 9, 1969, which is a continuation-in-part of application Ser. No. 764,519, Oct. 2, 1968, which in turn is a continuation-in-part of applications Ser. No. 545,526, Apr. 21, 1966, and Ser. No. 570,061, Aug. 3, 1966; said application Ser. No. 814,538 is also a continuation-in-part of application Ser. No. 701,218, Jan. 29, 1968, and also in turn is a continuation-in-part of application Ser. No. 722,514, Mar. 18, 1968, which are the continuations of application Ser. No. 701,219, Jan. 29, 1968, and is also in turn is a continuation-in-part of application Ser. No. 710,739, Mar. 6, 1968, which is a continuation-in-part of applications Ser. No. 701,218 and Ser. No. 701,219, both of Jan. 29, 1968. This application Aug. 14, 1969, Ser. No. 850,065

Claims priority, application Germany, May 15, 1965, 1,570,508; Aug. 30, 1965, E 29,996; Jan. 30, 1967, 1,720,575; Mar. 31, 1967, 1,720,581

Int. Cl. C08g *22/10*

U.S. Cl. 260—47 **22 Claims**

A thermoplastic polyurethane useful in making microprous leather substitutes, shoe lifts, bearings, and the like prepared from a hydroxyl polycaprolactone, a low molecular weight glycol and an organic diisocyanate is provided.

3,523,102

POLYOXYMETHYLENES HAVING LATERAL AMINO GROUPS AND PROCESS FOR PREPARING THEM

Karl-Heinz Häfner, Bad Orb, and Harald Cherdron, Wiesbaden, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Nov. 24, 1967, Ser. No. 685,271

Claims priority, application Germany, Dec. 14, 1966, F 50,937

Int. Cl. C08g *1/04, 1/14, 1/16*

U.S. Cl. 260—67 **6 Claims**

Polyoxymethylenes having free amino groups are prepared by copolymerizing trioxane or formaldehyde with polymerizable nitro compounds and, if desired, cyclic ethers or cyclic acetals, and then reducing the nitro groups of the copolymer.

3,523,103

PROCESS FOR POLYURETHANE FORMATION AND CATALYSTS THEREFOR

John C. Zemlin, Reading, Mass., assignor to Liner Technology Inc., Burlington, Mass., a corporation of Massachusetts

No Drawing. Filed June 8, 1965, Ser. No. 462,438

Int. Cl. C08g *22/42*

U.S. Cl. 260—75 **2 Claims**

A process of making a cured polymer such as polyurethane by forming a mixture of a polyisocyanate and an active hydrogen-containing compound, e.g., a polyol, which is reactive therewith on curing, which comprises incorporating into said mixture a latent catalyst which is ineffective to cure said mixture at room temperature, the latent catalyst being an organotin compound, and then heating said curable mixture to a temperature of at least 100° C. to activate said catalyst and cure said mixture.

3,523,104

YTTRIUM COMPOUNDS AS CATALYSTS IN THE PRODUCTION OF POLYESTERS

Frank Dobinson, Chapel Hill, N.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 21, 1966, Ser. No. 603,450

Int. Cl. C08g *17/003, 17/015;* **C07c** *67/02*

U.S. Cl. 260—75 **3 Claims**

This invention relates to an improved method for the preparation of high molecular weight polyesters wherein a dicarboxylic acid or an ester-forming derivative thereof is reacted with a glycol under polyesterification conditions and in the presence of a yttrium-containing compound which acts as a catalyst for the polyesterification reaction.

3,523,105

PROCESS OF CONDENSING POLYALKYLENE TEREPHTHALATES USING ZINC SULPHIDE AS A CONDENSATION CATALYST

William L. Hergenrother, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 431,193, Feb. 8, 1965. This application Apr. 1, 1968, Ser. No. 718,008

Int. Cl. C08g *17/015*

U.S. Cl. 260—75 **2 Claims**

There is provided an improvement in the process of making high molecular weight poly(alkylene terephthalates) which involves the inclusion of trace amounts of zinc sulfide in the polymerizable body as a condensation catalyst, and effecting condensation at an elevated temperature.

3,523,106

METHYLENEBIS(CYCLOHEXYL ISOCYANATE) HAVING INCREASED REACTIVITY

Raymond B. Davison, Fairport, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 11, 1968, Ser. No. 720,477

Int. Cl. C08g *22/18*

U.S. Cl. 260—77.5 **9 Claims**

The reactivity of methylenebis(cyclohexyl isocyanate) with polyols is increased by increasing the acidity of the isocyanate with HCl or an acid chloride.

3,523,107
HALOGENATED HYDROCARBON CATALYST CARRIER FOR THE POLYMERIZATION OF ALPHA-OLEFINS

Phillip P. Spiegelman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Nov. 16, 1965, Ser. No. 508,113
Int. Cl. C08f *15/40*
U.S. Cl. 260—80.78 8 Claims

A continuous polymerization process for preparing alpha-olefin polymers in a C_4–C_{10} saturated hydrocarbon reaction medium using a vanadium coordination catalyst system where the vanadium component is supplied to the reactor in a solution of C_1–C_3 halogenated hydrocarbon catalyst carrier.

3,523,108
PROCESS FOR DIRECT ESTERIFICATION OF BUTADIENE POLYMERS AND PRODUCT PRODUCED THEREBY

Stephen P. Boutsicaris, Akron, and Robert A. Hayes, Cuyahoga Falls, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Oct. 31, 1967, Ser. No. 679,511
Int. Cl. C08d *5/04;* C08f *1/88, 27/00*
U.S. Cl. 260—85.1 17 Claims

This invention comprises a process for directly esterifying polymers having repeating units therein derived from butadiene, including copolymers having as little as one butadiene repeating unit per polymer molecule. The esterification is effected in the presence of a mixture of sulfuric acid and saturated aliphatic or aromatic carboxylic acid, preferably acetic acid, the ratio of acetic or other carboxylic acid to sulfuric acid being in the range of 2–25 volumes of carboxylic acid per volume of sulfuric acid. The amount of said acid mixture should be in the range of 0.1 part by weight up to 25 parts by weight of acid mixture per part by weight of polymer. A solvent is advantageously used in which the starting polymer is soluble, preferred solvents being benzene, toluene and hexane, and the amount of solvent is advantageously in the range of 50 to 1,500, preferably about 100 to 1,000 parts per 100 parts by weight of starting polymer. The temperature of esterification can be from room temperature to 150° C. but is advantageously in the range of 70–100° C. preferably about 78–90° C., and a reaction time depending on the temperature used but advantageously at least 30 minutes. The nature of the product depends on the molecular weight of the starting polymer and can range from very viscous liquids to hard thermoplastic resins.

3,523,109
PRODUCTION OF POLYVINYL CHLORIDE OR VINYL CHLORIDE COPOLYMERS HAVING HIGH SOFTENING POINTS

Karl-Heinz Diessel and Gerhard Bier, Troisdorf, Werner Trautvetter, Spich, and Robert Büning, Oberlar, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany, a corporation of Germany

No Drawing. Filed Feb. 18, 1966, Ser. No. 528,367
Claims priority, application Germany, Feb. 20, 1965, D 46,576
Int. Cl. C08f *1/62, 3/30, 15/24*
U.S. Cl. 260—87.1 8 Claims

Polymers and copolymers of vinylchloride characterized by high Vicat values prepared by polymerizing vinylchloride with water soluble redox systems in the presence of an aliphatic alcohol in an amount of 8 to 20% the weight of the vinylchloride and in the additional presence of an ether and/or ketone, the total quantity of which amounts to 5 to 50% of the weight of the alcohol used.

3,523,110
PURIFICATION OF 1-OLEFIN RECYCLE TO POLYMERIZATION

Raymond Eichenbaum, Spotswood, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Dec. 4, 1967, Ser. No. 687,482
Int. Cl. C08f *1/34, 3/12*
U.S. Cl. 260—88.2 2 Claims

In the continuous stereospecific polymerization and copolymerization of C_4–C_{10} 1-olefins in liquid monomer solution, liquid monomer recycle containing impurities that inhibit polymerization is treated with 0.01 to 1.0 weight percent of anhydrous aluminum chloride for 5–40 minutes at 48–93° C., monomer is vaporized and filtered, and recondensed to a purified liquid monomer recycle. The treated recycle will produce up to as much as three times the amount of polymer per catalyst unit as can be produced using untreated recycle.

3,523,111
EMULSION POLYMERIZATION OF VINYL CHLORIDE WITH REDOX INITIATOR SYSTEM COMPONENTS AND EMULSIFIER PREPARED BEFORE MONOMER ADDITION

Alexander A. Bibeau and Orlando L. Marcheschi, Wilbraham, and Yorke P. Phillips, Hampden, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Aug. 18, 1967, Ser. No. 661,554
Int. Cl. C08f *1/13, 1/62, 3/30*
U.S. Cl. 260—92.8 12 Claims

There is disclosed a method for polymerizing vinyl chloride monomers which is highly reproducible from run to run, and which yields relatively small polymer particles of relatively predetermined size distribution. In the method, a polymerization medium is first prepared by admixing in water an emulsifying agent and components providing a redox catalyst system comprising sulfate and sulfite radicals and an activating metal ion. After permitting interaction of the reactive components of the polymerization medium to occur for a period of time, vinyl chloride monomer is introduced and dispersed. The resulting dispersion is then subjected to polymerization conditions for a period of time sufficient to polymerize at least a major portion of the vinyl chloride monomer present, after which vinyl chloride polymer is recovered from the polymerization medium.

3,523,112
METHOD OF PURIFYING HYDROCARBON STREAM PRIOR TO POLYMERIZATION

Marlyn J. Brock, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Jan. 16, 1968, Ser. No. 698,257
Int. Cl. C08d *3/06, 3/10;* C08f *3/16*
U.S. Cl. 260—94.2 13 Claims

Polymerization reactions involving lithium catalysts tend to be quite sensitive to catalyst concentration. Even slight variations in catalyst concentration can significantly alter the nature of the final product obtained. In the polymerization of diolefins, both oxygen-containing impurities and acetylenic impurities in the monomer stream tend to tie up a significant amount of the catalyst in catalytically inactive lithium compounds. To maintain any given concentration of active catalyst, it is critical to compensate for such impurities.

If the impurities are reacted with excess lithium catalysts, e.g. butyl lithium and the resulting mixture reacted with certain dye intermediates, e.g., Michler's ketone, dye precursors are obtained which can be hydrolyzed and oxidized to diphenyl methane type dyes having a quinoid structure. The intensities of these dyes are proportional to the acetylenic impurity concentration and the free alkyl lithium catalyst concentration, and may be correlated therewith and/or converted to a signal which will control the supply of catalyst to the polymerization system. A fluctuating impurity level can be continuously compensated for to provide a continuously operable process for polymerization of diolefins with carefully controlled molecular weight.

3,523,113
PRODUCTS OF POLYMERIZATION UTILIZING ALKYLIDENEHYDROXYHYDROPEROXIDE

Oliver W. Burke, Jr., 506 Intracoastal Drive, Fort Lauderdale, Fla. 33304, and Eldon E. Stahly, Ellicott City, Md.; said Stahly assignor to said Burke

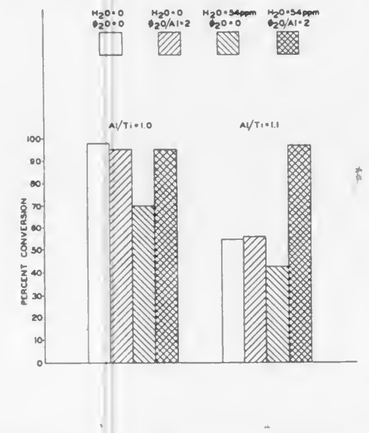
No Drawing. Continuation of application Ser. No. 640,406, May 22, 1967. This application July 10, 1969, Ser. No. 845,657
Int. Cl. C08d *3/04, 3/06, 3/16*
U.S. Cl. 260—94.2 6 Claims

A new class of polymers of ethylenically unsaturated monomer material is provided which polymers comprise, in addition to the polymerized monomer material therein, substituent functional groups derived from alkylidenehydroxyhydroperoxide, part of which group are hydroxyalkylidenoxy groups, and part of which groups are hydroxy groups. The disclosure also sets forth processes for producing such new polymers.

3,523,114
POLYMERIZATION OF ISOPRENE

Morris Gippin, Fairlawn Village, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed June 7, 1968, Ser. No. 735,403
Int. Cl. C08d *3/10*
U.S. Cl. 260—94.3 5 Claims



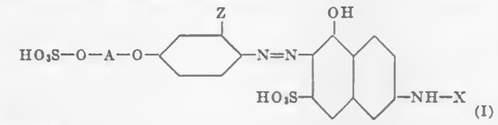
In the polymerization of isoprene with trialkylaluminum-titanium chloride catalyst at the mole ratio of 1.0, the ether adduct of the trialkylaluminum compensates for the deleterious effect upon the catalyst of water present in the isoprene solution in hydrocarbon. At the trialkylaluminum-titanium chloride ratio in excess of 1 up to 1.5, both ether and water act synergistically to give a catalyst capable of high conversion power.

3,523,115
REACTIVE MONOAZO DYES

Philippe Grandjean, Basel, Switzerland, assignor to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

No Drawing. Filed Mar. 13, 1967, Ser. No. 622,454
Claims priority, application Switzerland, Mar. 28, 1966, 4,447/66
Int. Cl. C09b *29/30;* D06p *1/02*
U.S. Cl. 260—153 6 Claims

Reactive dyes of the formula



(I)

wherein

A is a lower alkylene or a lower hydroxyalkylene radical,
Z is hydrogen, chlorine, bromine, lower alkyl or —COOH, and
X is a reactive radical.

3,523,116
METHOD OF PRODUCING 1,2-DIHYDRO-3H-1,4-BENZODIAZEPIN-2-ONES

Pasquale Domenico Sorrentino, Kastrup, Denmark, assignor to A/S Dumex (Dumex Ltd.), Copenhagen, Denmark, a firm

No Drawing. Filed Nov. 15, 1967, Ser. No. 683,106
Claims priority, application Denmark, Nov. 23, 1966, 6,057/66
Int. Cl. C07d *53/06*
U.S. Cl. 260—239.3 2 Claims

This invention relates to a method of producing 1,2-dihydro-3H-1,4-benzodiazepin-2-ones in which a dihaloacetamino-benzhydryl phthalimide is reacted with an alkali metal alkoxide in alcoholic solution.

3,523,117
DIOXAZINE DYESTUFFS

André Pugin, Riehen, and Kurt E. Burdeska, Basel, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Continuation of application Ser. No. 378,076, June 25, 1964. This application Aug. 16, 1968, Ser. No. 755,022
Claims priority, application Switzerland, July 2, 1963, 8,255/63, 8,256/63
Int. Cl. C07d *87/30*
U.S. Cl. 260—246 7 Claims

The present invention concerns new, pure dyestuffs of the dioxazine series, their use for the pigmenting of polymeric organic material, especially of lacquers and printing inks as well as, as industrial product, the polymeric organic material pigmented therewith.

3,523,118
PERFLUOROALKYL-s-TRIAZINES

William E. Emerson and Edwin Dorfman, Grand Island, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 570,183, Aug. 4, 1966, which is a continuation-in-part of application Ser. No. 441,331, Mar. 19, 1965. This application May 1, 1967, Ser. No. 634,849
Int. Cl. C07d *55/50*
U.S. Cl. 260—248 6 Claims

Novel compounds are selected from at least one member of the group consisting of (1) a first triazine of the formula:

$$[F(CF_2)_m]_{3-p}[X(CYZ)_n]_p\text{-s-triazine}$$

in which m is 1 to 24, provided m is at least 4 when p is zero, in which substituents X, Y and Z are each a

halogen selected from the group consisting of fluorine, chlorine, bromine and iodine, provided that at least one of said substituents is different from at least one of the remaining halogen substituents, in which n is 2, 3, 5 to 24 inclusive, and in which p is zero to 3; and (2) a second triazine of the formula:

$$[F(CF_2)_m]_{3-p}[F(CF_2)_n]_p\text{-s-triazine}$$

wherein m is 1, 2 or 3, n is 4 through 24 inclusive, and p is 1 or 2; and (3) a nitrile polymer or copolymer in which a perfluoroalkane nitrile selected from the group consisting of perfluoroglutaronitrile, perfluorosuccinonitrile, perfluoroadiponitrile, perfluoromalononitrile, and mixtures thereof is condensed.

The novel triazines are useful as high temperature lubricants and solvents, and the novel nitrile polymers are useful in the preparation of cross-linked highly heat-resistant molded articles.

3,523,119

PROCESS OF PRODUCING PYRIMIDINE-5-CARBOXYLIC ACID WITH A BASIC SUBSTITUENT IN THE 4-POSITION

Christian Jutz, Munich, Germany, and Werner Mueller, Germantown, Pa., assignors to Byk-Gulden Lomberg Chemische Fabrik G.m.b.H., Constance, Germany, a corporation of Germany

No Drawing. Filed Sept. 26, 1967, Ser. No. 674,695
Claims priority, application Germany, June 2, 1967, 1,670,233
Int. Cl. C07d *51/42*
U.S. Cl. 260—256.4 **13 Claims**

An improved process of producing known 5-pyrimidine carboxylic acids which have a basic group in the 4-position using the readily available malonic acid dinitrile or dimethylamino methylene malonic acid dinitrile and dimethyylformamide chloride as starting reactants, reacting said reactants at a temperature between 10° C. and 110° C., preferably in the presence of an inert solvent, to yield 1 - dimethylamino - 3 - chloro-4-cyano-2-azapentadiene-5-dimethyliminium chloride which is preferably purified by conversion into the perchlorate, replacing the chlorine atom in 3-position by an amino group to yield the corresponding 1-amino-1-dimethylamino methylene amino-3-dimethyliminium-2-cyano propene-(1) compound, causing ring closure of the corresponding 4-amino-5-cyano pyrimidine compound by reaction with ammonia, and saponifying the cyano group to the carboxyl group.

Examples of such intermediates and final products are:

(a) 1 - dimethylamino - 3 - chloro-4-cyano-2-azapentadiene - 5 - dimethyliminium perchlorate→1-(3' - trifluoro methyl anilino)-1-dimethylamino methylene amino-3-dimethyliminium-2-cyano propene-(1) perchlorate→4-(3'-trifluoro methyl anilino)-5-cyano pyrimidine→4-(3'-trifluoro methyl anilino) pyrimidine-5-carboxylic acid.

(b) 1 - dimethylamino - 3 - chloro-4-cyano-2-azapentadiene - 5-dimethyliminium perchlorate→1-(2',3'-dimethylanilino)-1-dimethylamino methylene amino-3-dimethyliminium - 2 - cyano propene-(1) perchlorate→4-(2',3'-dimethyl anilino)-5-cyano pyrimidine→4-(2',3'-dimethylanilino)pyrimidine-5-carboxylic acid.

In a similar manner there are obtained 4-dimethylamino-5-cyano pyrimidine→4-dimethylamino pyrimidine-5-carboxylic acid or 1-(N-methylanilino)-1-dimethylamino methylene amino-3-dimethyliminium-2-cyano propene-(1) perchlorate→4-(N-methylanilino)-5-cyano pyrimidine→4-(N-methyl anilino) pyrimidine-5-carboxylic acid.

The process has the advantage over known processes of producing the respective pyrimidine-5-carboxylic acids that the starting materials are readily available, that the reaction steps are carried out in a simple manner and without any considerable expenditures, and that the resulting intermediates are obtained in a pure state and a high yield.

3,523,120

PIPERONYL-PIPERAZINE COMPOUNDS

Laszlo Beregi, Boulogne-sur-Seine, Pierre Hugon, Rueil-Malmaison, and Michel Laubie, Vaucresson, France, assignors to Societe en nom collectif "Science Union et Cie, Societe Francaise de Recherche Medicale," Suresnes, France, a society of France

No Drawing. Filed June 7, 1967, Ser. No. 644,059
Claims priority, application France, June 30, 1966, 67,675
Int. Cl. C07d *51/70*
U.S. Cl. 260—268 **7 Claims**

Piperonyl piperazine compounds substituted, in position 4, by —A —Ar wherein:

—A is a linear or branched polymethylene chain containing a ketone function or a secondary alcohol function, and

—Ar is phenyl, tolyl, xylyl or fluorophenyl.

These compounds possess neuroleptic, vasodilator, adrenolytic and anti-emetic properties.

3,523,121

CERTAIN 2-CARBAMOYL-3-ISOTHIAZOLENES

Sheldon N. Lewis, Willow Grove, George A. Miller, Glenside, and Andrew B. Law, Levittown, Pa., assignors to Rohm and Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 621,780, Mar. 9, 1967. This application Oct. 3, 1967, Ser. No. 672,437
Int. Cl. C07d *91/10*
U.S. Cl. 260—306.7 **7 Claims**

Disclosed herein are certain novel compounds which are most properly designated as 3-isothiazolones. These compounds and compositions thereof exhibit a broad spectrum of biocidal properties and are particularly effective for the control of microorganisms. While the compounds of this application are generically 3-isothiazolones, the majority may be more specifically designated as 2-alkyl-3-isothiazolones, 2-carbamoyl and 2-thiocarbamoyl-3-isothiazolones.

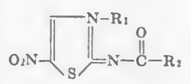
3,523,122

NOVEL 5-NITRO-4-THIAZOLIN-2-YLIDENE COMPOUNDS

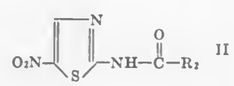
David B. Capps, Ann Arbor, Mich., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Continuation of application Ser. No. 711,835, Mar. 11, 1968. This application Feb. 3, 1969, Ser. No. 796,219
Int. Cl. C07d *91/18*
U.S. Cl. 260—306.7 **10 Claims**

Novel thiazolinylidene compounds (I) having pharmacological activity are provided by reacting 2-thiazolyl carboxamides (II)

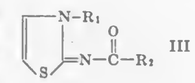


I

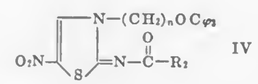


II

with the compound R_1X, by nitration of 5-desnitro thiazolyidene carboxamides (III), and by cleavage of trityl ethers (IV)



III



IV

The compounds can be used as schistosomacidal and trichomonacidal agents.

3,523,123

NOVEL OXAZOLINES AND IMIDAZOLINES AND PROCESS THEREFOR

Herbert L. Wehrmeister, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Continuation of application Ser. No. 614,034, Feb. 6, 1967, which is a continuation-in-part of application Ser. No. 254,010, Jan. 25, 1963. This application Mar. 17, 1969, Ser. No. 808,389
Int. Cl. C07d *85/38*
U.S. Cl. 260—307 **2 Claims**

Compounds, and process for the preparation thereof, of the class of 2-substituted oxazolines and imidazolines useful as pigment wetting agents, surface active agents, corrosion inhibitors and intermediates prepared by condensing oxazolines and imidazolines with an aldehyde. Typical compounds include 2-(1-hydroxyalkyl)-2-oxazolines and imidazolines; 2-[1,1-bis(hydroxymethyl)-methyl-2-oxazolines and imidazolines; and 2-[1,1,1-tris(hydroxymethyl)methyl]-2-oxazolines and imidazolines. A process for oxazoline and imidazoline compounds by reacting oxazolines or imidazolines with an organic carbonyl compound having the formula R''CHO in the absence of an added catalyst at 20–200° C.

3,523,124

ANTIDEPRESSANT AMINO-ALKYL-SUBSTITUTED PHTHALANES, COMPOSITIONS AND METHOD OF TREATING

Povl Viggo Petersen, Virum, Niels Lassen, Gentofte, and Jes Hjortkjer, Hvidovre, Denmark, assignors to Kefalas A/S, Copenhagen-Valby, Denmark

No Drawing. Filed Mar. 10, 1967, Ser. No. 622,035
Claims priority, application Great Britain, Mar. 17, 1966, 11,870/66
Int. Cl. C07d *5/34*
U.S. Cl. 260—346.2 **27 Claims**

Antidepressant 3-aminoalkyl phthalanes, having additional substituent in the 3 position, preferably cyano or carboxanilide, optionally substituted in phenyl ring of phthalane nucleus and optionally substituted in the 1 position of the phthalane nucleus. Have potentiating effect on adrenaline and noradrenaline, strong antireserpine and weak sedative and anticholinergic effects, together with low toxicity; especially useful in treating endogenic depressions.

3,523,125

LIQUID PHASE OXIDATIVE DEHYDROGENATION OF ALDEHYDES AND KETONES

Robert J. Theissen, Westfield, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Apr. 16, 1968, Ser. No. 721,611
Int. Cl. C07c *167/14*
U.S. Cl. 260—397.2 **11 Claims**

Aldehydes and cyclic and acyclic ketones are converted to the corresponding α-β unsaturated derivative by oxidative dehydrogenation. The reaction is carried out at 30–200° C. in the liquid phase and in the presence of a catalyst system comprising a complex or chelate of a metal of the Pt or Pd series and usually a quinone or an inorganic redox system co-catalyst. The unsaturated ketone products can be polymerized and copolymerized to thermoplastic polymers useful for making extruded or molded shapes. The unsaturated aldehydes can be converted to thermosetting polymers for making molded shapes (e.g., British 933,710). The unsaturated ketones of the steroids are produced, e.g., 4-cholesten-3-one which can be reduced to cholesterol by the enol-acetate and sodium borohydride reduction.

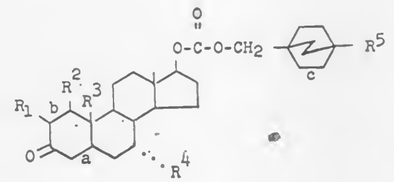
3,523,126

TESTOSTERONE AND 19-NORTESTOSTERONE(4'-METHYLBICYCLO[2.2.2]OCTANE - 1' - METHYL) CARBONATE AND SELECTED DERIVATIVES

George Albert Boswell, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 13, 1967, Ser. No. 690,093
Int. Cl. C07c *169/22*
U.S. Cl. 260—397.4 **12 Claims**

Described and claimed are bicyclo[2.2.2]octane-1'-methyl and 4'-methylbicyclo[2.2.2]octane-1'-methyl carbonates and the corresponding octene carbonates of variously substituted testosterones and 19-nortestosterones as represented by the formula



(I)

where R^1, R^2, R^3, R^4 and R^5 may be either H or CH_3, and a, b, and c may be single or double bonds, all subject to the following provisos:

(1) If R^3 is H, b must be a single bond.
(2) If b is a single bond and R^1 is CH_3, R^1 must be in the α configuration.
(3) If any one of R^1, R^2 and R^4 is CH_3, the others must be H.
(4) If R^2 is CH_3, b must be a double bond.

Also described are two methods by which the compounds of Formula I may be prepared:

(1) Reaction of the steroidal chloro- or fluoroformate with the bicyclooctylmethyl alcohol.
(2) Reaction of the steroidal alcohol with the bicyclooctylmethyl chloroformate.

The compounds of this invention are useful as agents producing prolonged and intense myotrophic or androgenic effects.

3,523,127

PROCESS FOR PREPARING 17α-ACETOXY-6-METHYL-PREGNA-4,6-DIENE-3,20-DIONE AND INTERMEDIATES OBTAINED THEREIN

Sundara Pattabi Raman, Montreal, Quebec, and David J. Marshall, Hampstead, Quebec, Canada, assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 11, 1968, Ser. No. 735,976
Int. Cl. C07c *169/34*
U.S. Cl. 260—397.4 **4 Claims**

There is disclosed herein a process for preparing 17α-acetoxy-6-methylpregna-4,6-diene-3,20 - dione, comprising treating 3β,17α-diacetoxy-5α-hydroxypregnane-6,20-diene with a methyl magnesium halide or methyl lithium to obtain 3β,17α - diacetoxy-5α,6β - dihydroxy-6α-methylpregnan-20-one, selectively hydrolyzing the latter to obtain 17α - acetoxy - 3β,5α-6β-trihydroxy-6α-methylpregnan-20-one, oxidizing the latter with chromic acid to obtain 17α-acetoxy-5α,6β-dihydroxy-6-methylpregna-3,20-dione, and dehydrating said last-named compound by treatment with a mineral acid.

3,523,128

PRODUCTION OF CONCENTRATED AQUEOUS TANTALUM OXALATE SOLUTION

Edwin J. Bielecki, Boyertown, and John F. Markoski, Pottstown, Pa., assignors to Kawecki Chemical Company, New York, N.Y., a corporation of Pennsylvania

No Drawing. Filed June 17, 1968, Ser. No. 737,364

Int. Cl. C07f *9/00*

U.S. Cl. 260—429 2 Claims

This is a method of producing solubilized tantalum in the form of a concentrated aqueous solution of tantalum oxalate, its high concentration being predicated upon (a) the precipitating conditions whereby soluble tantalum in the form of $TaF_7^=$ is precipitated as a form of $Ta(OH)_5$ which is reactive with oxalic acid, (b) how the precipitate is washed to remove entrained fluoride ions, and (c) how soon after its precipitation the $Ta(OH)_5$ is used for conversion to the concentrated oxalate solution.

3,523,129

METHOD OF MAKING ALUMINUM CHLOROHYDROXIDE COMPLEXES

James M. Holbert, Lookout Mountain, and Stewart M. Beekman, Signal Mountain, Tenn., and Horst W. Schmank, Ringgold, Ga., assignors to Chattem Chemicals, Division of Chattem Drug & Chemical Company, Chattanooga, Tenn., a corporation of Tennessee

No Drawing. Continuation-in-part of application Ser. No. 527,077, Feb. 14, 1966. This application Oct. 24, 1967, Ser. No. 677,780

Int. Cl. C07f *5/06;* A61k *7/00;* C01b *7/48*

U.S. Cl. 260—448 6 Claims

Anti-perspirant aerosol composition prepared by reacting an aluminum chlorhydroxide complex with metallic aluminum in controlled amounts of water to produce an anti-perspirant which is less corrosive and more effective than the starting material.

3,523,130

METHOD OF MAKING ALCOHOL-SOLUBLE COMPLEXES OF ALUMINUM

John L. Jones, North Plainfield, and Andrew M. Rubino, New Providence, N.J., assignors to Armour Pharmaceutical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 603,133, Dec. 20, 1966, which is a continuation-in-part of application Ser. No. 472,684, July 16, 1965. This application Oct. 23, 1968, Ser. No. 770,104

The portion of the term of the patent subsequent to Jan. 7, 1986, has been disclaimed

Int. Cl. C07f *5/06*

U.S. Cl. 260—448 9 Claims

The method of preparing an inorganic-organic coordinated complex of aluminum comprising refluxing for from 2 to 6 hours at atmospheric pressure an aqueous solution of basic aluminum chloride having the approximate formulation $Al_2(OH)_5Cl$, with the atomic ratio of aluminum to chlorine being between 1.88 and 1.95 to 1, reacting at a temperature of 50° C. to 120° C. said aluminum compound with a polyhydroxy compound having at least 2 carbon atoms, each of which is linked to a hydroxy group, to form a mixture, and then removing the water from said last-mentioned mixture by spray drying at atmospheric pressure to obtain a product having a water content of from about 1.0 to about 10 weight percent determined by Karl Fischer analysis.

3,523,131

PROCESS FOR THE PRODUCTION OF METHYL PHENYL TRISILOXANES

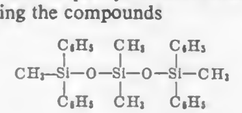
Siegfried Sliwinski, Bergbahnstrasse 5, Dresden, Germany

No Drawing. Continuation-in-part of applications Ser. No. 443,069 and Ser. No. 443,164, Mar. 26, 1965. This application Oct. 15, 1968, Ser. No. 767,816

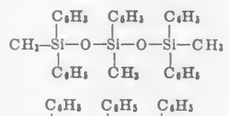
Int. Cl. C07f *7/08*

U.S. Cl. 260—448.2 4 Claims

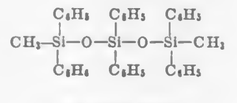
Process for producing 1,3,3,5-tetramethyl-1,1,5,5-tetraphenyl-trisiloxane, 1,3,5 - trimethyl-1,1,3,5,5-pentaphenyl-trisiloxane and 1,5-dimethyl-1,1,3,3,5,5-hexaphenyl trisiloxane, which comprises reacting sodium diphenyl methyl silanolate, obtained by reaction of methyl diphenyl silane with sodium hydroxide in a solution of toluene in the presence of a lower alkyl alcohol, after distilling off azeotropically toluene and traces of water from this solution, directly with dimethyl dichlorosilane, methyl phenyl dichlorosilane or with diphenyl dichlorosilane, respectively, thereby obtaining the compounds



(I)



(II)



(III)

3,523,132

PERFLUOROCARBOXYLIC IMIDATES

Edwin Dorfman, Grand Island, and Claude Thomas Bean, Jr., Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Nov. 25, 1964, Ser. No. 413,981

Int. Cl. C07c *119/00*

U.S. Cl. 260—453 3 Claims

Perfluorocarboxylic imidates, their preparation by the reaction of a perfluoroalkylnitrile or perfluoroalkyldinitrile with an alcohol, and their utility as chemical intermediates.

3,523,133

PREPARATION OF FLUORINATED ESTERS

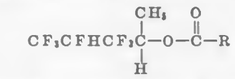
Everett Mailey, Norristown, and Luke Ralph Ocone, Wyndmoor, Pa., assignors to Pennwalt Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Nov. 22, 1967, Ser. No. 684,930

Int. Cl. C07c *67/00, 69/14*

U.S. Cl. 260—491 3 Claims

Fluorinated esters having the formula



where R is an alkyl radical having on to eight carbon atoms, are prepared by reacting hexafluoropropylene with an ethyl ester of a carboxylic acid of the formula



The fluorinated esters can be saponified to yield 3,3,4,5,5,5-hexafluoro-2-pentanol, a known compound which is an intermediate in the preparation of oil and water-resistant polymers.

3,523,134

PHENYLINDANE MONOCARBOXYLIC ACIDS

James O. Knobloch, Hobart, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Aug. 25, 1967, Ser. No. 663,243

Int. Cl. C07c *63/44*

U.S. Cl. 260—515 3 Claims

New compositions of matter are 1,1,3-trimethyl-3 (p-carboxyphenyl) indan; 1,1,3 - trimethyl-3-phenyl-5-carboxy indan, and mixtures thereof.

3,523,135

PROCESS FOR PRODUCING PYROMELLITIC ACID

Taisuke Asano, Kenji Kato, and Kunio Uchimura, Kawasaki, Kanagawa, Japan, assignors to Mitsubishi Petrochemical Co., Ltd., Tokyo, Japan

No Drawing. Filed July 17, 1967, Ser. No. 653,683

Claims priority, application Japan, July 30, 1966, 41/49,791

Int. Cl. C07c *63/02*

U.S. Cl. 260—524 2 Claims

Process for producing pyromellitic acids which comprises subjecting 1,2,4,5-tetraalkylbenzene wherein alkyl groups are methyl, ethyl or isopropyl groups to a gas phase catalytic oxidation in the presence of a combination catalyst consisting of oxides of (1) vanadium, (2) phosphorus and (3) at least a member selected from the group consisting of titanium, tungsten and molybdenum.

3,523,136

PREPARATION OF DIAMIDOADAMANTANE COMPOUNDS

Abraham Schneider, Overbrook Hills, Pa., and Robert E. Moore, Wilmington, Del., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Continuation-in-part of application Ser. No. 450,016, Apr. 22, 1965. This application Apr. 16, 1968, Ser. No. 725,573

Int. Cl. C07c *103/08*

U.S. Cl. 260—558 32 Claims

Dihydroxy derivatives of adamantane or alkyladamantanes are converted in high yield to 1,3-diamidoadamantanes by reaction in a relatively high proportion of strong sulfuric acid of 96–105% H_2SO_4 equivalent with cyano compounds of the group embracing HCN and RCN where R is a C_1–C_{17} hydrocarbyl radical which is alkyl, aryl or aralkyl.

3,523,137

PREPARATION OF DIAMIDOADAMANTANE COMPOUNDS FROM DIHALOADAMANTANES

Robert E. Moore, Wilmington, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 450,169, Apr. 22, 1965. This application Apr. 16, 1968, Ser. No. 721,595

Int. Cl. C07c *103/08*

U.S. Cl. 260—558 20 Claims

Dichloro or dibromo derivatives of adamantane or alkyladamantanes are converted in high yield to 1,3-diamidoadamantanes by reaction in fuming sulfuric acid of 102–120% H_2SO_4 equivalent with cyano compounds of the group embracing HCN and RCN where R is a hydrocarbyl radical having 1–19 carbon atoms.

3,523,138

TREATMENT OF MARIGOLD PETAL MEAL TO OBTAIN A XANTHOPHYLL PRODUCT

Peter M. Grant, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 1, 1965, Ser. No. 436,359

Int. Cl. A23k *1/16;* C07c *35/00*

U.S. Cl. 260—617 3 Claims

A process for making a xanthophyll product of enhanced coloring activity for use in poultry feed which comprises treating either marigold petal meal or a xanthopyll extract from marigold petal meal by contacting it with an aqueous solution containing alkali and an aliphatic alcohol, and then separating a xanthophyll product from the reaction mixture.

Separation can be accomplished in many ways, preferably by solvent extraction followed by distilling off the solvent and drying the product.

When a xanthophyll extract is treated, the extract is first prepared by treating the marigold petal meal with an inert organic solvent for xanthophyll, such as isopropyl ether, hexane or chloroform, and then distilling the solvent from the extract.

The xanthophyll product made by the process is also covered.

3,523,139

DIOLS FROM RESIN ACIDS

Bernard A. Parkin, Jr., Lake City, Fla., Hugh B. Summers, Jr., Savannah, Ga., and Glen W. Hedrick, Lake City, Fla., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed June 30, 1966, Ser. No. 562,951

Int. Cl. C07c *35/42;* C08g *17/08, 22/04*

U.S. Cl. 260—617.5 3 Claims

Levopimaric acid is reacted with formaldehye to form an ether-containing adduct which is then hydrolyzed to form a hydroxy acid. This hydroxy acid is then reduced either by lithium aluminum hydride ($LiAlH_4$), hydrogenation over a palladium-on-carbon catalyst, or hydrogenation over copper chromite to produce a diol. The diol is useful in the preparation of water-resistant polyester coating compositions and the preparation of polyurethane foams and rubbers.

3,523,140

PROCESS FOR THE PRODUCTION OF IODOPENTAFLUOROETHANE

Italo Cammarata, Bollate, Milan, and Martino Vecchio, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Filed Oct. 17, 1967, Ser. No. 675,761

Claims priority, application Italy, Oct. 19, 1966, Patent 782,039

Int. Cl. C07c *17/08*

U.S. Cl. 260—653.6 6 Claims

Iodopentafluoroethane of high purity is obtained in very high yields by reacting HF, PbO_2 and iodine with C_2F_4, at temperatures from 25° to 200° C., under pressures from 5 to 50 ata., the molar ratio HF/C_2F_4 ranging from 2 to 25, the molar ratio PbO_2/C_2F_4 ranging from 0.1 to 2, the molar ratio I_2/C_2F_4 ranging from 0.1 to 2. Iodopentafluoroethane is recovered from the gaseous reaction mixture by condensation at low temperature.

3,523,141

METHOD FOR INHIBITING POLYMERIZATION OF CONJUGATED DIENES

Tatsuo Sakashita, Kamakura-shi, Japan, assignor to The Japanese Geon Co., Ltd.

No Drawing. Filed Apr. 18, 1968, Ser. No. 722,190

Claims priority, application Japan, Apr. 26, 1967, 42/26,243

Int. Cl. C07c *7/08, 7/18;* B01d *3/34*

U.S. Cl. 260—666.5 9 Claims

Inhibitors against polymerization of C_4–C_5 conjugated dienes in polar solvent solution consist of 0.01–10% by weight in the solvent of a compound from the group of tert.-mercaptan, alkyl nitrite, thiodipropionitrile, N-nitroso-N-methyl aniline, and a nitro naphthalene. Isoprene in DMF, tested for 24 hours at 155° C., showed excellent results with any of the single substances listed, and some synergism for combinations of two inhibitors in which the second is another of those listed, or a previously known inhibitor.

3,523,142

ALKANE-OLEFIN ALKYLATION WITH GAMMA-ALUMINA CATALYST ACTIVATED WITH CHLORINE OR BROMINE

Li C. Mih, Beacon, and Edward T. Child, Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 20, 1967, Ser. No. 684,489
Int. Cl. C07c *3/52*
U.S. Cl. 260—683.47 9 Claims

A process for the alkylation of alkane streams composed of normal or isoparaffins with C_2 to C_6 olefins by contacting the alkane and olefin with a catalyst composed of gamma-alumina and chlorine or bromine. The catalyst is prepared by contacting gamma-alumina with chlorine or bromine and an organic compound having at least two carbon atoms.

3,523,143

CURING OF EPOXY RESINS WITH AN ACID TERMINATED POLYESTER AND A POLYCARBOXYLIC ACID ANHYDRIDE

Joseph N. S. Kwong, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 553,695, Dec. 19, 1955. This application Sept. 10, 1959, Ser. No. 839,069
Int. Cl. C08g *45/14*
U.S. Cl. 260—835 8 Claims

Epoxy resins may be cured with acid-terminated polyesters, preferably a diester of polyalkylene glycol and polycarboxylic acid anhydride. An additional amount of polycarobxylic acid anhydride is added to form a three component composition. In an example 100 parts polyethylene glycol (M. Wt.=200) were reacted with 98 parts maleic anhydride to form an acid-terminated diester. 20 grams of the diester were reacted with 40 grams polyglycidyl ether of bisphenol A and 26.8 grams tetrapropenyl succinic anhydride, with 0.2 gram dimethylbenzyl amine catalyst.

3,523,144

BLOCK COPOLYMERS OF TETRAHYDROFURAN AND PROCESS FOR THEIR PREPARATION

Dallas D. Zimmerman, Minneapolis, Samuel Smith, Roseville, and Allen J. Hubin, Ramsey County, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Mar. 1, 1967, Ser. No. 619,608
Int. Cl. C08f *33/08*; C08g *43/02*
U.S. Cl. 260—874 10 Claims

Block copolymers in which at least one block is a tetrahydrofuran polymer and at least two blocks are polymers of a terminally mono-ethylenically unsaturated monomer, such as styrene, the block copolymer having a main carbon chain free of unsaturation. Preparation of these block copolymers utilizes dicationically active polymers.

3,523,145

HIGH IMPACT COMPOSITIONS BASED ON A POLYPENTENAMER AND POLYSTYRENE

Piero Manaresi, Bologna, and Elvino de Fornasari, Ferrara, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed Jan. 24, 1968, Ser. No. 700,026
Claims priority, application Italy, Jan. 25, 1967, 11,834/67
Int. Cl. C08f *19/04*
U.S. Cl. 260—886 4 Claims

Described are polymeric compositions with particular resistance to impact even at low temperatures. The compositions are based on polystyrene and an unsaturated elastomer. A polypentenamer is used as the elastomer, with the compositions containing between 1 and 30% by weight of said polypentenamer.

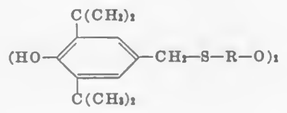
3,523,146

TRI(3,5-DI-t-BUTYL-4-HYDROXYBENZYL-THIOALKYL) PHOSPHITES

Harry Braus, Springdale, and Jay R. Woltermann, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Original application Dec. 27, 1966, Ser. No. 604,531. Divided and this application Sept. 23, 1968, Ser. No. 807,141
Int. Cl. C07f *9/08*; C08f *45/58*; C08q *51/58*
U.S. Cl. 260—948 2 Claims

Compounds having the general formula



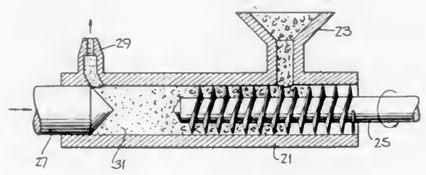
and R is a divalent alkylene group having 2 to 24 carbon atoms, are provided which are useful as stabilizers for polyolefins.

3,523,147

PLASTICATION OF THERMOPLASTIC MATERIALS

Peter Hold, Milford, Dominic A. D'Amato, Cheshire, and Dario J. Ramazzotti, Huntington, Conn., assignors, by mesne assignments, to USM Corporation, Boston, Mass., a corporation of New Jersey

Filed Sept. 28, 1967, Ser. No. 671,407
Int. Cl. B06b *3/00*; B29b *1/04*
U.S. Cl. 264—23 12 Claims



Plastication of thermoplastic materials is effected by applying to the thermoplastic material a rapidly fluctuating pressure sufficient to cause reversible elastic deformation of the thermoplastic material and thereby heat the material.

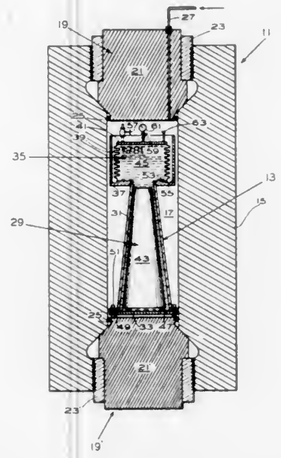
3,523,148

ISOSTATIC PRESSURE TRANSMITTING APPARATUS AND METHOD

Charles B. Boyer and Robert M. Conaway, Columbus, Ohio, assignors to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware

Filed Jan. 4, 1968, Ser. No. 695,781
Int. Cl. B30b *13/00*
U.S. Cl. 264—88 26 Claims

Isostatic pressure transmitting apparatus which comprises a fluid-tight pressure vessel, means for pressurizing the vessel, a fluid-tight enclosure within the vessel having a moveable member comprising a portion of its outer surface whereby the volume of the enclosure may be varied in response to externally applied pressure, and a fluid substantially filling the enclosure. The method of isostatically compacting materials comprising confining the material in a flexible envelope, evacuating and sealing the envelope, placing the envelope in a fluid-tight enclosure having a moveable member comprising a portion of its outer surface, filling the enclosure with a fluid and sealing it, and applying fluid pressure to the enclosure to cause the moveable member to move inwardly to compress the fluid in the enclosure and deform the envelope inwardly so as to compact the materials.



3,523,149

PROCESS FOR MAKING A DEEP-DRAWN COMPOSITE OF PLASTIC FILM AND NON-WOVEN FABRIC

Ludwig Hartmann, Oberflockenbach, Germany, assignor to Carl Freudenberg, Weinheim, Germany, a corporation of Germany

Filed Dec. 15, 1965, Ser. No. 514,026
Claims priority, application Germany, Dec. 23, 1964, F 44,788
Int. Cl. B29c *17/04*
U.S. Cl. 264—90 5 Claims

A deep-drawn composite of plastic film and non-woven fabric is prepared by coating a non-woven fleece of randomly disposed, partially drawn and further drawable continuous monofilaments with a deep drawable plastic followed by deep drawing the coated plastic to thereby deep-draw the plastic and further draw the drawable filaments.

3,523,150

MANUFACTURE OF INDUSTRIAL ACRYLIC FIBERS

Richard E. Vigneault, Raleigh, N.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 12, 1966, Ser. No. 600,722
Int. Cl. D01d *5/12*; D01f *3/10*
U.S. Cl. 264—210 3 Claims

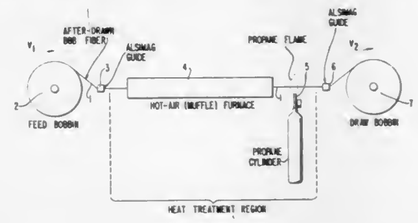
A method for manufacture of an industrial filament of acrylonitrile having a tenacity of at least about 3 grams per denier, an elongation to break off at least about 15% at a linear take-up rate of at least 800 feet per minute which comprises dry jet-wet spinning a solution of an acrylonitrile polymer, washing the filament to substantially remove the solvent and stretching the filament in hot water to from 2 to 5 times, drying the filament and further stretching it to from 2 to 5 times, by passing the filament in contact with a series of rolls wherein the temperature of the rolls is incrementally elevated from less than 100° C. to from 180° to 200° C. and thereafter passing the hot dried filament to a draw roll to effect said stretch, allowing the stretched fiber to shrink at least about 15 percent in a dry heat relaxation zone and thereafter collecting the filament, said total stretch being at least 9 times the coagulated length. Filament manufactured by the above described process has been found useful for sandbags.

3,523,151

ULTRA-STABLE POLYMERS OF BBB TYPE, ARTICLES SUCH AS FIBERS MADE THEREFROM, AND HIGH TEMPERATURE PROCESS FOR FORMING SUCH POLYMERS AND ARTICLES

Jay M. Steinberg, Plainfield, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 7, 1967, Ser. No. 681,136
Int. Cl. B29c *25/00*
U.S. Cl. 264—210 7 Claims



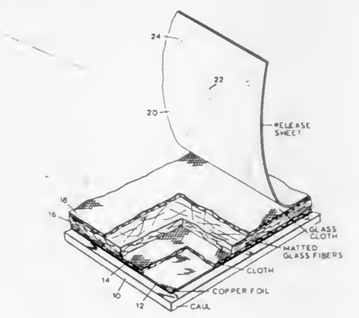
Plastic articles of particularly high thermal stability, such as fibers or other extruded shapes, are made from "BBB" type polymers, i.e., polymers of the polyaroylene-benzimidazole type, or more particularly of the polybis-benzimidazobenzophenanthroline type, by heat treatment of sufficiently oriented polymer at an ultra-high temperature between about 750° and 1500° C. following preheating at an intermediate temperature in the 500° to 700° C. range. As a result of such a high-temperature treatment a new kind of polymer structure is obtained which is attributed to the splitting out of the carbonyl groups from the BBB polymer molecule.

3,523,152

PROCESS FOR MAKING PLASTIC ARTICLES

Robert W. Curtis, Terrace Park, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio

Continuation of application Ser. No. 345,300, Feb. 17, 1964. This application Mar. 24, 1969, Ser. No. 810,033
Int. Cl. B29c *9/00*
U.S. Cl. 264—246 8 Claims



Marking of a metallic foil-clad plastic panel with ink indicia is accomplished by forming a layup including a metallic foil on a supporting member. An uncured flowable heat curable thermosetting resin material is placed over the foil and a reinforcement system assembled over the resin. Thereafter, an indicia bearing release sheet is

assembled over the resin-reinforcement system with the indicia facing the reinforcement system and spaced from the resin thereby. The resin-reinforcement layup and assembled release sheet are placed in a mold and heat and pressure are simultaneously applied to impregnate the resin-reinforcement system, to fill the mold, and to effect substantial curing of the resin while effecting transfer of the indicia to the surface of the panel. Various resins and reinforcement systems are also described.

3,523,153
TRICHLORO HYDROXY ALUMINUM DERIVATIVES IN AEROSOL ANTIPERSPIRANT COMPOSITIONS

James M. Holbert, Lookout Mountain, and Stewart M. Beekman, Signal Mountain, Tenn., and Horst W. Schmank, Ringgold, Ga., assignors to Chattem Drug & Chemical Company, Chattanooga, Tenn., a corporation of Tennessee

No Drawing. Filed Feb. 14, 1966, Ser. No. 527,077
Int. Cl. A67k *7/00*
U.S. Cl. 424—47 **14 Claims**

An aerosol antiperspirant composition in which the effective antiperspirant agent is a trichloro hydroxy aluminum derivative, the antiperspirant material forming a single phase system with anhydrous ethanol and propellant gases, the composition being stable with respect to precipitation and gelling for extended periods.

3,523,154
ORAL HYGIENE WITH DICHLORO-2-QUANIDINO BENZIMIDAZOLES AND SALTS THEREOF

David Huntington Gould, Leonia, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Original application Nov. 12, 1965, Ser. No. 507,536. Divided and this application June 21, 1968, Ser. No. 738,862
The portion of the term of the patent subsequent to Sept. 19, 1984, has been disclaimed and dedicated to the Public
Int. Cl. A61r *7/16*
U.S. Cl. 424—52 **10 Claims**

Improving oral hygiene by reducing incidence of caries by contacting dichloro-2-guanidino benzimidazoles with the oral cavity.

3,523,155
PROCESSES FOR PREPARATION OF THERAPEUTIC SERUMS

Henry E. Meunier, 24 Avenue Alsace Lorraine, Grenoble, Isere, France

No Drawing. Filed Oct. 3, 1967, Ser. No. 672,443
Int. Cl. A61k *23/00*
U.S. Cl. 424—92 **12 Claims**

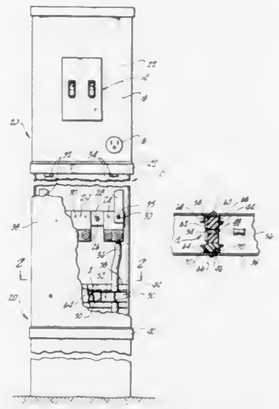
A process for increasing formations of antibodies in animals treated with various antigens by treating the animal during the antibody producing stage with dipropylacetic acid and derivatives thereof.

ELECTRICAL

3,523,156
ELECTRICAL SERVICE CENTER HAVING AN IMPROVED MOISTURE BARRIER

Lawrence Phillips, Jr., 840 Inverness, Pasadena, Calif. 91103

Filed Sept. 18, 1968, Ser. No. 760,575
Int. Cl. H02g *3/08*
U.S. Cl. 174—38 **10 Claims**

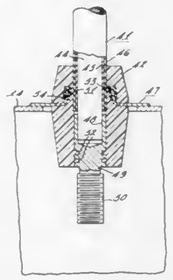


The moisture barrier is fabricated from a readily deformable, rubber-like material and is mounted in the service center's housing between its base and upper portion to prevent ground moisture from entering the upper portion and affecting moisture sensitive electrical elements. The moisture barrier has a plurality of conductor passages which have a generally hourglass-like shape. An hourglass-shaped plug is provided for each of the conductor passages. Small conductors pass through the moisture barrier with the plugs in place. Larger conductors pass through the moisture barrier with the plugs removed. The moisture barrier is compressed to provide a moisture seal against the conductors when a cover plate mounting a compressive member of the moisture barrier is installed on the housing.

3,523,157
CAST INSULATING BUSHING WITH AXIALLY DISPOSED ELECTRICAL CABLE

Raymond A. Bauer, Pittsburgh, Pa., and John G. Holmes, Cincinnati, Ohio, assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Jan. 3, 1969, Ser. No. 788,765
Int. Cl. H01b *17/26*
U.S. Cl. 174—142 **4 Claims**

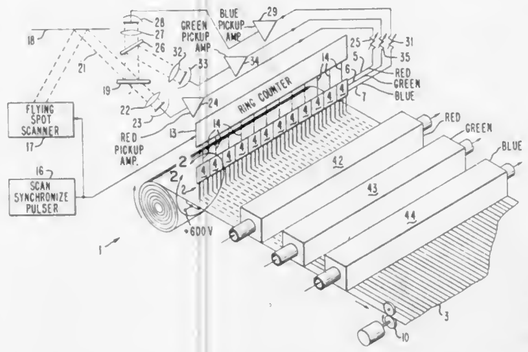


An insulating bushing for submersible electrical apparatus which eliminates exposed high potential terminals and provides continuous, void-free dielectric insulation between bushing and the underground cable to the apparatus, has an insulated electrical cable with its conductor crimped to a connector stud embedded axially within a cylindrical body of castable resin and a metallic mounting member having a tubular portion surrounding the cable embedded in the resin and a circumferential flange extending outward from the cast body. In a high voltage embodiment, the cable has an outer semiconductive jacket, and the tubular portion of the mounting member electrically engages the semiconductive jacket and flares conically outward and forms a stress grading cone.

3,523,158
ELECTROGRAPHIC COLOR IMAGE PRINTING APPARATUS EMPLOYING TRIAD COLOR STRIP ZONE DEVELOPMENT

Renn Zaphiropoulos, Los Altos, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Jan. 30, 1967, Ser. No. 612,471
Int. Cl. H04n *1/30*
U.S. Cl. 178—5.2 **5 Claims**



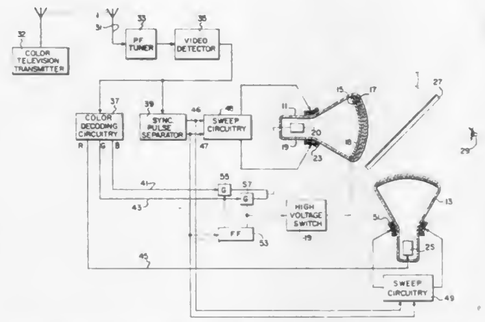
An electrographic color printing and reproduction machine is disclosed. In the machine, a color image or picture to be reproduced is scanned in a line-by-line manner by a flying-spot scanner pick-up device. The pick-up device has three channels, one for each of the primary colors, red, green and blue. A line array of pin-shaped electric writing electrodes are arranged over and across the charge retentive surface of a moving web of electographic recording paper. The electrodes are arranged in groups of three. One electrode of each group is connected into the "red" channel. Another electrode of each group is connected into the "green" channel and the last electrode of each group is connected into the "blue" channel. The electrode groups are successively scanned and energized with writing potentials in synchronism with the three separate outputs of the flying-spot scanner pick-up device. Three separate inkers, one for each of the three colors, are arranged across the web for inking the line-shaped charge images layed down on the moving electrographic paper by the writing electrodes. Each inker includes an array of inking slots for applying ink to narrow line-shaped inking zones on the web. The slots of each inker are aligned in registration with its corresponding electrode and, thus, line charge images corresponding to its respective color. In this manner, the color images or pictures which are scanned are reproduced on the web.

3,523,159
COLOR TELEVISION RECEIVER AND DISPLAY SYSTEM

Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed July 26, 1967, Ser. No. 656,207
Int. Cl. H04r *9/22*
U.S. Cl. 178—5.4 **22 Claims**

This patent specification discloses a color television receiver and display system employing two kinescopes. One of the kinescopes is a penetration-type binary kinescope on which superimposed image components are produced with different chromatic contents. One of the image components is produced in pale blue light by exciting blue and green phosphors in accordance with a received blue video signal and the other image component is produced preferably in green light in accordance with a received green video signal. The two images are produced in registration on the screen of the binary kinescope. The second kinescope is monochromatic and produces an image component in red light in accordance with a received red video signal. A dichroic mirror is used to combine the red image component and the green and pale blue image components

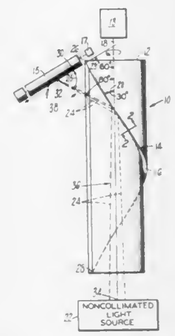


into a composite full color image. Alternatively, the binary kinescope may produce red and white image components in accordance with the red and green video signals, in which case the monochromatic kinescope would produce an image component in blue light in accordance with the blue video signal.

3,523,160
OPTICAL SCANNING DEVICE HAVING A CONSTANT OPTICAL PATH LENGTH

Roland Willey, Bristol, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Aug. 3, 1967, Ser. No. 658,244
Int. Cl. H04n *3/08*
U.S. Cl. 178—7.6 **10 Claims**



A continuous substantially flat reflecting surface is formed by a helical mirror surrounding a cylindrical drum. An optical beam modulated with information is reflected from the mirror surface and scanned across a target as the helix turns.

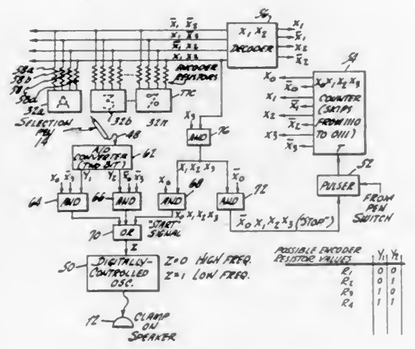
3,523,161
CHARACTER SELECTOR AND GENERATING DEVICE

Morton H. Lewin, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware

Filed Oct. 17, 1966, Ser. No. 587,079
Int. Cl. H04m *11/00*
U.S. Cl. 179—2 **19 Claims**

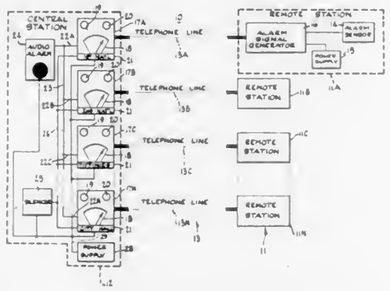
The combination of a keyboard and a conventional telephone, this combination being useful, for example, for communication with a remote computer. When a key

on the keyboard is selected, for example by a hand-held conductive "pen," oscillations, indicative of the character represented by the selected key, are applied to the speaker of the telephone. In one embodiment of the invention, these oscillations are produced by conducting successive voltages appearing on the selected key, via the hand-



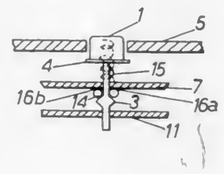
held pen, to a circuit for translating these voltages to serially coded oscillations. In another embodiment of the invention, when the hand-held pen is placed in contact with a key, a pulse is applied via the pen and key to an encoder, and the latter causes to be produced a group of concurrent signals indicative of the character on the key.

3,523,162
REMOTE SIGNAL SYSTEM
Elmer W. Streit, 4152 N. Whipple St., Chicago, Ill. 60618
Filed Nov. 13, 1967, Ser. No. 681,992
Int. Cl. H04m *11/04*
U.S. Cl. 179—5 **10 Claims**



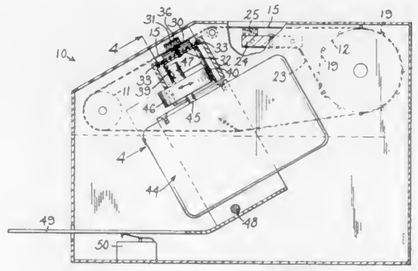
A remote alarm system employing telephone lines to interconnect a central station, such as a police station, with a number of remote stations, such as stores, banks, etc., and a central station alarm detecting and signaling circuit are disclosed. The alarm system has special provisions against false actuation of alarm signals by temporary short or open circuiting of the phone lines and yet provides for identification of and distinction between a long term short or open circuit and a true alarm signal. The circuit also provides means for identifying a new alarm situation from existing but uncorrected alarm situations.

3,523,163
PUSHBUTTON SWITCH FOR USE IN KEYSETS FOR TELEPHONE INSTRUMENTS
Rolf B. Andren, Bandhagen, Sweden, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 21, 1968, Ser. No. 707,153
Claims priority, application Sweden, Mar. 10, 1967, 3,323/67
Int. Cl. H04m *1/23*
U.S. Cl. 179—90 **4 Claims**



A new switch is provided for keysets utilizing printed circuit. The switch includes a helical spring which is actuated by means of a projection on the shaft of a push-button so that when the pushbutton is depressed the helical spring will interconnect selected parts of the printed circuit.

3,523,164
TRANSDUCING APPARATUS WITH MAGNETIC HEAD MOVING TRANSVERSE TO RECORD MEANS
Theodore H. Krueger, Jr., Orange, Conn., and Norman L. Hix, Seattle, Wash., assignors to Gametree Inc., New Haven, Conn., a corporation of Connecticut
Filed Dec. 8, 1966, Ser. No. 600,257
Int. Cl. G11b *5/52, 21/04;* **G09b** *5/04*
U.S. Cl. 179—100.2 **12 Claims**

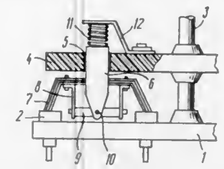


A device for detecting information recorded on magnetic memory means located on a non-magnetic material comprising a magnetic pick-up head and means for supporting and moving the head back and forth over the memory means. The movable means includes a drive means having a motor pivotally mounted on the device.

3,523,165
MULTICONTACT SWITCH
Gennady Kuzmich Datchenko, Ulitsa Ofitserskaya 48–a, kv. 69, and Boris Vasilievich Lyalin, Ulitsa Krasnaya 34, kv. 8, both of Krasnodar, U.S.S.R.
Filed Jan. 15, 1968, Ser. No. 697,722
Int. Cl. H01h *1/22*
U.S. Cl. 200—11 **6 Claims**

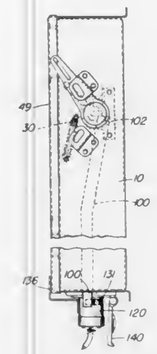
A multicontact switch in which current carrying brushes are mounted on a displaceable yoke by two crossing axles one of which is oriented in the direction of displacement

of the yoke and is pivotably connected to a clamp which is slidable in the yoke while the other axle pivotably supports the brushes. The brushes face contacts on a fixed



base and the axles lie in a common plane substantially disposed at the level of the opposed surfaces of the brushes and contacts.

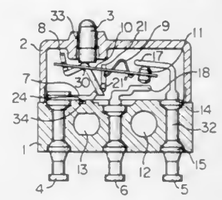
3,523,166
ENCLOSED SWITCH WITH COVER AND CONNECTOR INTERLOCK
Daniel Francis Daly, Newington, Conn., assignor to Arrow-Hart, Inc., Hartford, Conn., a corporation of Connecticut
Filed July 23, 1968, Ser. No. 746,812
Int. Cl. H01h *9/20*
U.S. Cl. 200—50 **8 Claims**



An electric switch is enclosed in a box. The one part of a two-part electrical connector is mounted on the box. The switch is interlocked with the cover of the box so that the switch cannot be closed if the cover is open and the cover cannot be closed or opened unless the switch is in open position. The connector is interlocked with the switch mechanism so that the cover cannot be closed or opened if the connector parts are connected; and because the switch cannot be closed while the cover is open, the switch cannot be closed if the plug is inserted while the cover is open. A sequence must be followed in connecting up and energizing the combination; and a reverse sequence must be followed to de-energize and disconnect the connector and obtain access to the interior of the box.

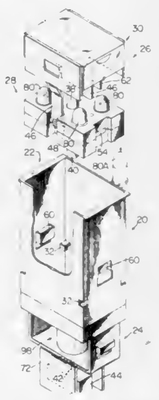
3,523,167
SNAP SWITCH
Hans Sauer, Munich, Germany, and Yukinobu Nishida, Kadoma, and Takeshi Nishii, Osaka, Japan; said Nishida and said Nishii assignors to Matsushita Electric Works, Ltd., Osaka, Japan, a corporation of Japan
Filed Dec. 19, 1967, Ser. No. 691,742
Claims priority, application Japan, Dec. 24, 1966, 41/84,683; May 29, 1967, 42/34,441
Int. Cl. H01h *13/36*
U.S. Cl. 200—67 **6 Claims**

The structure of snap switch, wherein the edge of a fine width part of a contact arm provided with a contact is engaged with a notch in an operating member having a bent part, a cut groove made in a lower end extension of the bent part of said operating member is engaged with a bearing part of an L-shaped member and a spring is resiliently set between said contact arm and the notch made in the L-shaped member. By the above structure,



when a pushbutton mounted on a flat part on the upper surface of the operating member is pressed or released, the contact of the contact arm will come into contact with a lower fixed contact or upper fixed contact connected integrally with a terminal to open or close the switch.

3,523,168
PUSHBUTTON SWITCH CONSTRUCTION WITH POSITIVE PLUNGER SAFETY STOP CARRIED BY A CASING
Ronald W. Holmes, Freeport, Ill., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed July 26, 1968, Ser. No. 748,017
Int. Cl. H01h *3/12, 3/20, 9/18*
U.S. Cl. 200—159 **21 Claims**

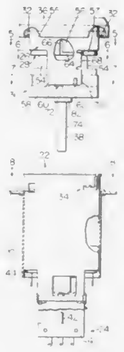


This application discloses an illuminated pushbutton switch construction having a tubular casing that receives a pushbutton construction means at the upper casing end and has a lower switch means at the lower casing end. The pushbutton construction means is movable inward into the upper casing end by an initial pushing in action and thereafter movable upwardly by a release counter-spring action. This places the pushbutton construction means in operable locked condition to operate the switch means as often as desired. The pushbutton means may be removed from the casing by an upward or outward movement, followed by an inward, downward pushing action of the pushbutton construction means. Thereafter, the pushbutton means may be removed from the casing by an upward and outward removing action completely to remove the pushbutton from the casing. The pushbutton construction means is prevented from actuating the switch means during the initial introduction of the pushbutton means into the casing by a positive stopping action of the switch operating plunger and its supporting structure and the push button can only operate the switch means after the plunger has been released from the first pushing in action.

3,523,169
TWO-POSITION TUBULAR LIGHTED PUSHBUTTON CONSTRUCTION

Anthony A. Di Pilla, Springfield, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Sept. 4, 1968, Ser. No. 757,239
Int. Cl. H01h *3/20, 9/16*
U.S. Cl. 200—167 17 Claims

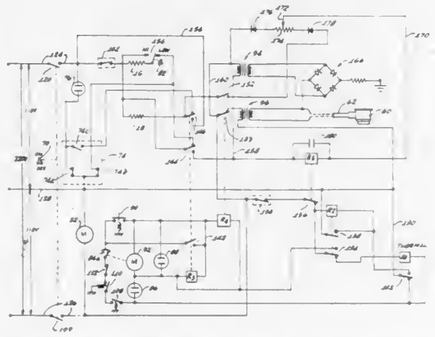


This application discloses a two-position, tubular, lighted pushbutton construction. A tubular casing has a sleeve receiving end and a switch supporting end. A tubular sleeve is insertable in the casing. The sleeve and casing have sleeve positioning means to position the sleeve in a switch locking position and condition or in a switch actuating position and condition by proper turning and releasing movement of the sleeve in the casing. A switch actuator and a lamp holder are unitarily supported by the sleeve and are unitarily insertable into and removable from the casing as a unit. The actuator and lamp holder each has groove or support means cooperating with respective tab or support means on the sleeve to aid in producing said switch locking and switch actuatable conditions.

3,523,170
CONTROL SYSTEM FOR MICROWAVE HEATER APPARATUS

Helmut Boehm, Thousand Oaks, Calif., assignor to Technology Instrument Corporation of California, Newbury Park, Calif., a corporation of California

Filed Oct. 27, 1967, Ser. No. 678,695
Int. Cl. H05b *9/06, 5/00*
U.S. Cl. 219—10.55 8 Claims



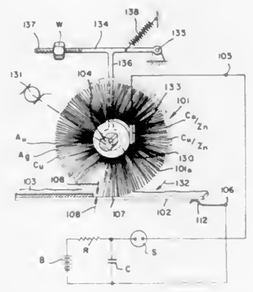
A microwave oven has heater elements adapted for conventional thermal heating and to be excited via a waveguide by a magnetron. For a microwave operation, a thermal relay prevents such operation until the filament has been heated for a predetermined period. Then a network of relays can be rendered operable to disconnect the filament transformer and connect the power transformer to the magnetron.

A bridge is formed of the power transformer primary, one or both heater elements, and respective portions of a potentiometer, with a relay connected to the wiper and operable to disconnect such primary in response to a predetermined load unbalance.

3,523,171
METHOD OF AND APPARATUS FOR THE SPARK-DISCHARGE DEPOSITION OF CONDUCTIVE MATERIALS ON A CONDUCTIVE SURFACE

Nikola R. Belopitov, Sofia, Bulgaria, assignor to Nautshno-Izsledovatelski i Proektno-Konstruktorski Institut po Elektrotechnitscheska Promishlenost, Sofia, Bulgaria, Research Institut of the People's Republic of Bulgaria

Continuation-in-part of application Ser. No. 494,069, Oct. 8, 1965. This application Jan. 21, 1969, Ser. No. 792,620
Int. Cl. B23k *9/04*
U.S. Cl. 219—76 10 Claims



A method of and an apparatus for the coating of a conductive substrate with conductive material in which the coating electrode is formed as a brush with bristles extending in the direction of the workpiece. The brush, which is preferably rotated or oscillated to swing successive rows of bristles into positions of closest approach to the workpiece, may be carried by an oscillation-damped arm. The substrate or workpiece is resiliently supported at a continuous tension band or upon a yieldable table and a discharge is generated between the workpiece and the tool so that the discharge, cooperating with rotation or movement of the tool in contact with the workpiece, is the sole source of vibration or flutter of the workpiece. The discharge serves to carry portions of the electrode-bristle material into contact with the workpiece.

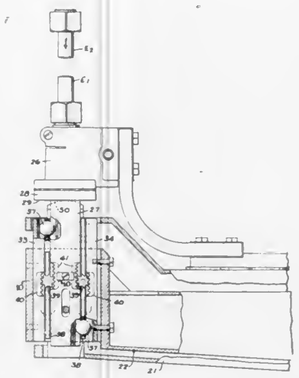
3,523,172
WELDING APPARATUS

William T. Wilbur, New Baltimore, Mich., assignor to Progressive Welder & Machine Company, Pontiac, Mich., a corporation of Michigan

Filed Dec. 19, 1966, Ser. No. 602,680
Int. Cl. B23k *9/28, 11/10*
U.S. Cl. 219—89 23 Claims

The welding apparatus described herein comprises a pair of arms telescoped within one another and connected to one another at one end. An electrode is supported on the other end of one of said arms and is guided by the other end of the other of said arms. A second electrode is mounted adjacent and movable toward the first electrode. In one form of the invention disclosed herein, the

arms are U-shaped and the second electrode is mounted on the cylinder of a fluid motor while the piston is fixed adjacent the one ends of said pair of arms. Means are provided for retracting and returning the second electrode to permit the workpiece to be moved into and out of

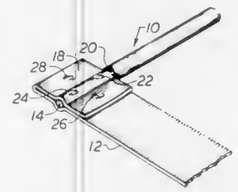


welding position. In another form of the invention disclosed herein, the welding electrode is mounted on another pair of arms in a similar fashion to the first pair of arms and similar means are provided for moving the electrode towards one another to apply welding pressure.

3,523,173
INSULATED LEAD CONNECTION

Roger E. Lull, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Aug. 17, 1967, Ser. No. 661,323
Int. Cl. B23k *11/10*
U.S. Cl. 219—91 2 Claims



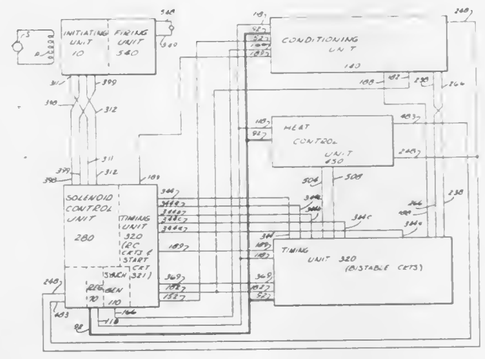
A lead having insulation capable of sublimation is welded within a sandwich of metal strips without prior removal of the insulation in the area of the weld.

3,523,174
WELDING TIMING CIRCUIT

Richard E. Haver, Detroit, Mich., assignor to Robotron Corporation, Detroit, Mich., a corporation of Michigan

Filed May 25, 1964, Ser. No. 369,727
Int. Cl. B23k *9/10*
U.S. Cl. 219—108 18 Claims

An initiating unit upon actuation of a pilot switch closes a plurality of relay contacts for allowing operation thereof and also provides a signal for energizing a conditioning unit. The conditioning unit, also fed by a synchronized signal from a synch generator, returns a precisely timed signal to the initiating unit to maintain same in operation after the release of the pilot switch whereby said initiating unit continues to energize said conditioning unit and to maintain said contacts closed. The conditioning unit also energizes a solenoid control unit for applying the welding electrodes to the workpiece, and starts a timing unit which times the functions of the welding sequence. The charging of a single capacitor times all of said functions for increased accuracy in timing. A heat control circuit, fed by a standard phase-shifted source, controls the turning on of a first valve, conveniently a semiconductor controlled rectifier. The turning on of a second valve in series with

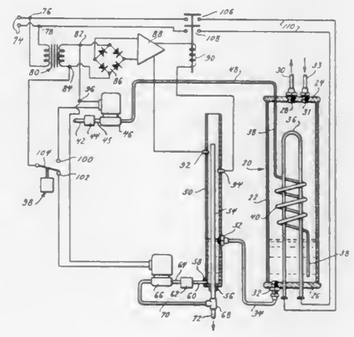


the first valve occurs at a preselected time after the switching of the timing unit to the weld function. Concurrent turning on of both valves allows a pair of ignitrons in a firing unit to be fired alternately to energize the welding head with pulses of alternating polarity having precisely controlled time intervals and hence magnitudes. Thus, a single phase-shift source controls both ignitrons. Means are provided for selecting single or repeat modes of operation of the apparatus.

3,523,175
HUMIDIFIER

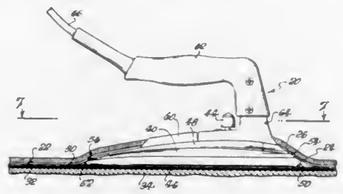
Ernest F. Gygax, 920 E. Essex, St. Louis, Mo. 63122

Filed May 27, 1968, Ser. No. 732,231
Int. Cl. F22b
U.S. Cl. 219—272 20 Claims



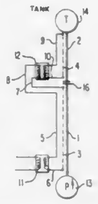
A humidifier has a boiler which vaporizes water to provide the desired moisture for a mass of air; and that humidifier keeps boiler scale from accumulating within that boiler by draining away the minerals and salts which tend to accumulate in the water in the bottom of that boiler and by keeping any minerals and salts within that bottom from becoming dry and hard.

3,523,176
ELECTRIC IRON FOR HEAT SENSITIVE ADHESIVE TAPE FOR SEAMING CARPETS
Harvey J. Hill, Monterey Park, Calif., assignor to Roberts Consolidated Industries, Inc., City of Industry, Calif., a corporation of California
Filed Dec. 18, 1967, Ser. No. 691,317
Int. Cl. D06f *75/08*
U.S. Cl. 219—245 **1 Claim**



An electric iron for simultaneously heating the upper surface of a heat sensitive adhesive tape and the lower surfaces of carpet edges to be joined in abutting relation by the tape. The sole plate of the iron is so shaped that, as it is moved along the tape, the carpet edges flow over the upper surface of the sole plate in heat-exchanging contact therewith over substantially the entire area of each carpet edge. A stand for supporting the hot iron is provided which automatically clips onto the iron when it is desired to move the stand from one location to another.

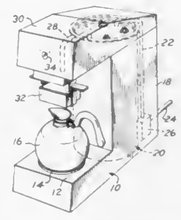
3,523,177
METHOD FOR FEEDING ELECTRIC POWER TO HEAT GENERATING BODIES OF A PLURALITY OF SECTIONS
Masao Ando, Yokohama-shi, Japan, assignor to Chisso Corporation, Osaka, Japan
Filed Aug. 8, 1967, Ser. No. 659,178
Int. Cl. G05d *24/02*
U.S. Cl. 219—300 **5 Claims**



A system for feeding power to heat generating bodies composed of a plural number of sections which comprises connecting the electric circuit in the first section nearer to a power source with the primary side of the transformer, the secondary side of which transformer is used for feeding the electricity to the second section in series relationship and effecting the same connection in the third and subsequent sections.

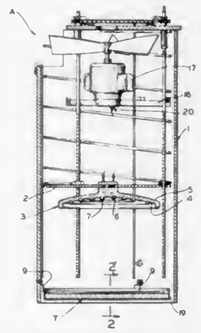
3,523,178
METHOD AND APPARATUS FOR HEATING LIQUIDS
William J. Spensley and Theodore Drwal, Chicago, Ill., assignors to Hill-Shaw Company, Chicago, Ill., a corporation of Illinois
Filed May 10, 1968, Ser. No. 728,118
Int. Cl. F24h *1/00*
U.S. Cl. 219—330 **3 Claims**

This invention concerns a method and apparatus for heating liquids in a closed tank or reservoir in which a liquid is maintained at an elevated threshold temperature by an immersion heater and a novel control arrangement. When the inlet valve is opened, cold liquid flows from the service line into the lower portion of the reservoir to displace the heated liquid therewithin and cause it to flow out through the outlet duct. The heater within the reservoir is controlled by a pair of thermostats at different times to avoid any overflow or drip of liquid from the outlet duct which could result from the expansion



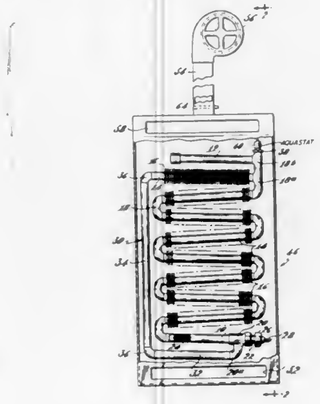
of the liquid after the valve is shut. One of the thermostats controls the heater to maintain the liquid at its elevated threshold temperature when the valve is shut, and the second thermostat assumes control of the heater when the valve is opened and liquid flows into the reservoir to maintain the liquid at a temperature in excess of the elevated threshold temperature.

3,523,179
SELECTIVE TRANSMITTER FOR INFRARED HEATERS
James W. Edwards, Foster City, San Mateo, Calif., and Richard K. Shelby, Chicago, Ill., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Continuation of application Ser. No. 726,023, May 2, 1968, which is a division of application Ser. No. 641,399, Mar. 20, 1967, which in turn is a division of application Ser. No. 333,468, Dec. 26, 1963. This application Mar. 27, 1969, Ser. No. 812,962
The portion of the term of the patent subsequent to July 18, 1984, has been disclaimed
Int. Cl. G02b *5/28*
U.S. Cl. 219—354 **4 Claims**



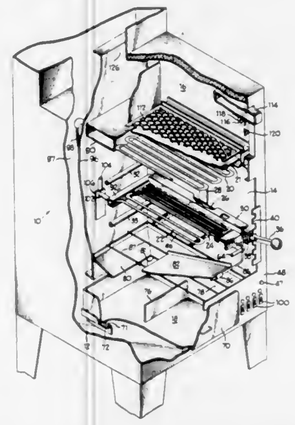
A heating device for molding machines which form articles from thermoplastic sheet-material, wherein the heating device comprises a vertically elongated housing having a highly reflective inner surface and having a downwardly facing concave electric radiant heater vertically adjustably mounted therein. A transmitter consisting of alternating layers of germanium and cryolite substantially spans the lower open end of said housing and is designed to preferentially transmit infrared radiation within a wavelength range of 2.85 to 3.75 microns. A fan is provided to draw cooling air upwardly through the housing past the peripheries of the transmitter and the heater.

3,523,180
ELECTRIC SPACE HEATER
Chester R. Kennedy, 47 Highland St., Brockton, Mass. 02401
Filed Feb. 1, 1967, Ser. No. 613,286
Int. Cl. F24h *7/04;* **H05b** *1/00*
U.S. Cl. 219—367 **7 Claims**



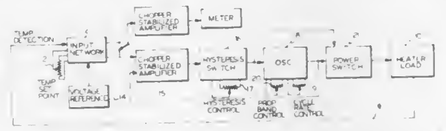
A space heater comprising a bank of radiator tubes connected at alternate ends to form a circuitous path for flow of fluid through the tubes, a fluid heater connected to the lowermost of the radiator tubes for supplying heated fluid thereto, and a return loop connected to the uppermost radiator tube and to the fluid heater for returning the cooled fluid at the top of the bank of tubes to the heater for reheating and continued circulation.

3,523,181
ELECTRIC COOKING UNIT
Silas V. Beasley, Elgin, Ill., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Jan. 18, 1968, Ser. No. 698,828
Int. Cl. A21b *1/00;* **F27d** *11/00*
U.S. Cl. 219—404 **12 Claims**



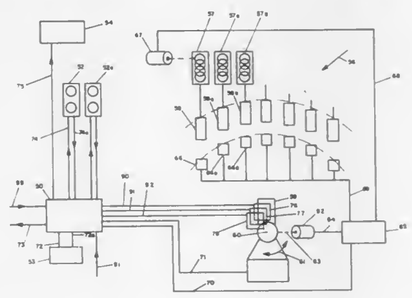
An electric cooking unit having a broiler section, upper and lower heated elements in this broiler section and a food supporting grill between the heating elements, the grill and lower heating element normally contacting one another and being vertically adjustable together relative to the upper heating element, the grill being separable from the lower heating element and removable from the broiler section for loading and unloading food thereon, a control for selectively energizing the heating elements, and an oven section located above the broiler section heated by the upper heating element.

3,523,182
VARIABLE CYCLE RATE AND DUTY CYCLE TEMPERATURE CONTROLS
George E. Phillips and Paul E. Straight, Fairmont, W. Va., assignors to Electronic Control Systems, Inc., Fairmont, W. Va., a corporation of West Virginia
Filed Nov. 7, 1967, Ser. No. 681,147
Int. Cl. H05b *1/02*
U.S. Cl. 219—501 **10 Claims**



An electronic temperature control system employs a hysteresis device which turns on and off a heater source at different temperatures in a preselected range of actual temperatures detected. This produces a variable duty cycle for the heater, which additionally is cycled on and off during the on duty cycle by an oscillator. The oscillator duty cycle is also controlled by means of a current source control to a field effect transistor coupled as a relaxation oscillator. This gives a wide range of control conditions including duty cycles and cycle rates selectable for different load and variation conditions.

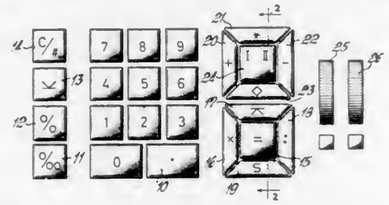
3,523,183
METHOD AND APPARATUS FOR STORING ON AND RETRIEVING INFORMATION FROM MULTIPLE HIGH DENSITY INFORMATION STRIPS
Daniel Silverman, 5969 S. Birmingham, Tulsa, Okla. 74105
Filed Aug. 27, 1963, Ser. No. 304,789
Int. Cl. G06k *17/00;* **G06f** *3/00*
U.S. Cl. 235—61.11 **29 Claims**



This invention involves an information system in which a plurality of film strips are run in a plurality of strip handlers so as to be exposed in a film gate in each handler. More than one film strip can be run sequentially in each handler. The plurality of handlers are arranged geometrically about a central scanner system that can be selectively positioned sequentially to each gate. Each of the film strips carry section index and subject index characters and each handler is adapted to read the section index and control the strip to position it to a desired section in its film gate.

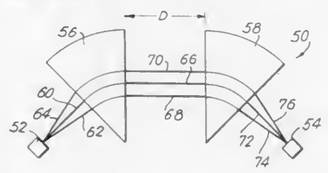
The central scanner comprises up to four separate devices, (a) a high speed photoelectric scanner for reading the digital information, (b) a slow speed reader to read the subject index, (c) a digital recorder to update the digital film strip, and (d) a camera to copy the information on the film strip. The camera can be a single frame copier, or it can be a strip copying camera. It is contemplated that the film strip will be recorded at very high optical reduction ratio to have high density of storage, and the camera will copy the original strip at a nominal magnification ratio. The copy, which will be of nominal reduction ratio will then be scanned to read the information. The camera can copy on film which does not require wet chemical development. This two step, two ratio process is contemplated for the recording as well as the readout of the information.

3,523,184
OPERATIONAL KEYBOARD SYSTEM
Karl Vogel, Furth, Bavaria, Germany, assignor to Diehl, Nuremberg, Germany
Filed Dec. 6, 1968, Ser. No. 781,770
Claims priority, application Germany, Dec. 7, 1967, 1,549,402
Int. Cl. G06c *7/02*
U.S. Cl. 235—145 **11 Claims**



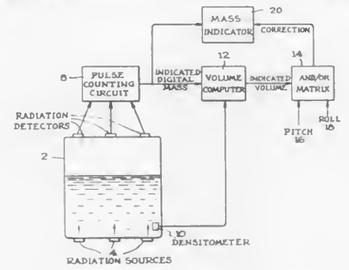
Operational keyboard system for calculators in which at least one group of operational keys is arranged in a block constituting a main key and function keys surroundingly arranged with respect thereto. The function keys are operable only together with the main key. Each of the keys is connected via switching means to an associated control circuit for performing a calculating function; only the main key being capable of being individually depressed to initiate the calculating function of its associated control circuit via its switching means. All other calculating function control circuits are initiated when both the main key and the associated function key are depressed.

3,523,185
MAGNETIC DEFLECTION MASS SPECTROMETER HAVING TWO SECTORS WITH A SPACING THEREBETWEEN
Stanley Grossel, New York, and William Lankenau, Northport, N.Y., assignors to Veeco Instruments, Inc., Plainview, N.Y., a corporation of New York
Filed Oct. 25, 1967, Ser. No. 677,973
Int. Cl. H01j *39/34*
U.S. Cl. 250—41.9 **6 Claims**



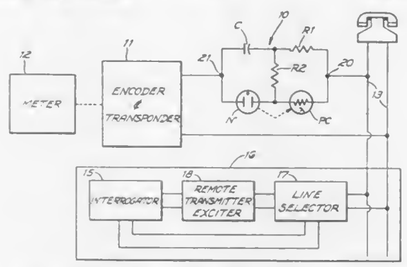
A mass spectrometer in which there is a single magnetic stage having two sectors with a spacing therebetween. The elements are arranged such that there is no focus of the ion beam between the sectors.

3,523,186
ATTITUDE ERROR CORRECTION FLUID GAUGING SYSTEM EMPLOYING RADIATION DETECTORS AND ERROR STORAGE TECHNIQUES
Irving H. Cohn, Terrace, and Frank DeNardo, Huntington, N.Y., assignors to Simmonds Precision Products, Inc., Tarrytown, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 589,631, Oct. 26, 1966. This application Oct. 18, 1967, Ser. No. 676,263
Int. Cl. G01n *21/26, 23/12*
U.S. Cl. 250—43.5 **3 Claims**



A fuel gauging system for containers in aircraft employing a radiation detection device and having an all digital system for correcting errors due to changes in attitude of the aircraft.

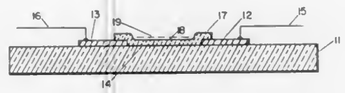
3,523,187
STATIC RELAY USING PHOTOCONDUCTIVE CELL AND NEON BULB
Victor E. Stewart, Jr., South Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Dec. 15, 1967, Ser. No. 691,021
Int. Cl. H01j *39/12*
U.S. Cl. 250—206 **18 Claims**



A static switching circuit useable for coupling a position encoder in an automatic remote information transferring system. The static relay includes a voltage responsive light emitting breakdown device and a photo-sensitive device whose impedance is a function of incident radiation and which are connected in series. An RC time delay or frequency selective impedance circuit is connected in parallel with the series combination and coupled to the voltage sensitive breakdown device to provide an excitation level-time or frequency response.

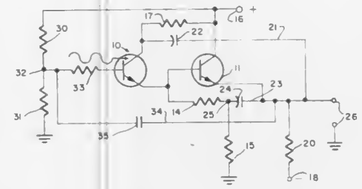
3,523,188
SEMICONDUCTOR CURRENT CONTROL DEVICE AND METHOD
Benjamin Kazan, Pasadena, and John S. Winslow, Altadena, Calif., assignors, by mesne assignments, to Xerox Corporation, a corporation of New York
Filed Dec. 20, 1965, Ser. No. 514,864
Int. Cl. H01l *15/00*
U.S. Cl. 250—211 **28 Claims**

This application relates to a current control device having spaced electrodes on a supporting substrate and a field-effect semiconductor therebetween. In one embodiment, the field-effect semiconductor material is a storing field-effect semiconductor such that it is capable of retaining an electrostatic charge on the exposed surface thereof and conducting current through the central portion thereof without substantially affecting the charge thereon. The field-effect semiconductor may also have photoconductive properties such that it is capable of dissipating charge



applied to the exposed surface in response to actinic electromagnetic radiation impinging thereon. In a further embodiment, the field-effect semiconductor layer has an overlying photoconductive insulating layer. In either embodiment, current flow between the spaced electrodes through the field-effect semiconductor is modulated by the polarity and magnitude of the electrostatic charge on the exposed surface of the current control device.

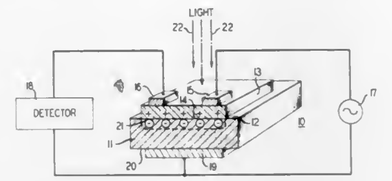
3,523,189
LIGHT-SENSITIVE CIRCUIT IN WHICH THE EFFECTIVE LOAD OF A PHOTOTRANSISTOR IS BOOTSTRAPPED
David O. Hansen, Westminster, and Neal L. Roy, Redondo Beach, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed May 23, 1968, Ser. No. 731,457
Int. Cl. H01j *39/12*
U.S. Cl. 250—211 **12 Claims**



A solid-state circuit responsive to relatively low-level light flashes while still providing a fast response. To this end the load impedance of the phototransistor is bootstrapped to make it appear large, thereby to provide a high gain. This is effected by a feedback connection between an output circuit of a transistor and the load. On the other hand, the effective capacitance is reduced so that the time constant of the circuit remains small to provide fast response.

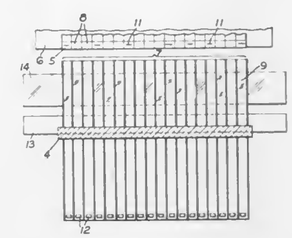
3,523,190
MOS PHOTODETECTOR HAVING DUAL GATE ELECTRODES
Adolf Goetzberger, Freiburg in Brisgau, Germany, and Edward H. Nicollian, Murray Hill, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Oct. 17, 1968, Ser. No. 768,467
Int. Cl. H01j *39/12;* **H01l** *15/00;* **H03k** *3/42*
U.S. Cl. 250—211 **10 Claims**

A photodetector comprises an MOS structure having two separated, relatively small, with respect to the oxidized area, gate electrodes plus the usual ohmic contact to the semiconductor body. An inherent surface inversion layer at the oxide interface is depleted of carriers by application of a large repetitive pump signal at one gate electrode thus rendering the entire oxidized area very



light sensitive. The other gate electrode provides a means of detecting impinging light and may be operated either in an integrating mode or a compensating mode.

3,523,191
DOCUMENT READING HEAD UTILIZING A CYLINDRICAL LENS AND A PLURALITY OF BAFFLES TO MINIMIZE CROSSTALK BETWEEN CHANNELS
Leslie John Street, Bristol, England, assignor to Parnall & Sons Limited, Soho Foundry, Birmingham, England
Filed July 22, 1968, Ser. No. 746,486
Claims priority, application Great Britain, Aug. 9, 1967, 36,499/67
Int. Cl. G06k *7/00*
U.S. Cl. 250—219 **5 Claims**

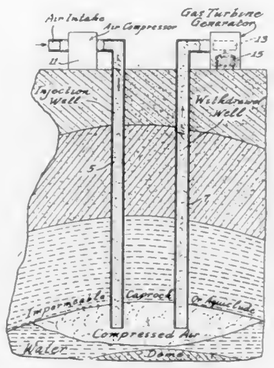


A document reading head having minimal "crosstalk" and comprising a cylindrical lens, a plurality of substantially flat screens extending in parallel spaced apart planes substantially perpendicular to the longitudinal axis of the lens, and a plurality of light responsive transducers disposed between respective adjacent pairs of screens.

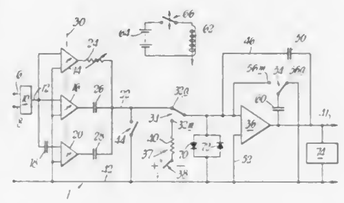
3,523,192
METHOD AND APPARATUS FOR INCREASING THE EFFICIENCY OF ELECTRIC GENERATION PLANTS
William J. Lang, Mundelein, Ill. (623 Dawes, Libertyville, Ill. 60048)
Filed Feb. 14, 1968, Ser. No. 705,546
Int. Cl. H02k *7/18*
U.S. Cl. 290—52 **6 Claims**

Excess electric power available during period of low load factor is utilized to pump air or other gas into a natural, barren or depleted aquifier underground storage reservoir having a porosity and permeability sufficiently high to enable the gas to be pumped into the formation against the existing hydrostatic pressure without significantly increasing reservoir pressure. Upon peak load demand the gas is withdrawn from the reservoir and utilized to operate an air motor, turbine or other prime mover which in turn operates the generator. Substantially no loss of pressure in the reservoir is experienced

during withdrawal of the gas and no loss of existing gas pressure is experienced and the pressure of the gas feed from the reservoir to the prime mover is substantially constant.



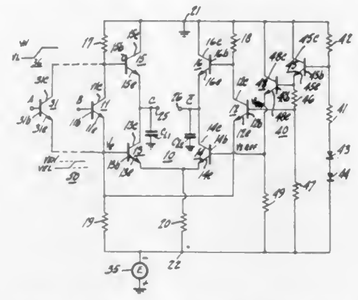
3,523,193
ELECTRIC CONTROLLER DEVICES
Ian Carrodus Hutcheon, Luton, England, assignor to George Kent Limited, Luton, England, a British Company
Filed June 24, 1968, Ser. No. 739,292
Claims priority, application Great Britain, June 26, 1967, 29,443/67
Int. Cl. G05b *7/00*
U.S. Cl. 307—116 **24 Claims**



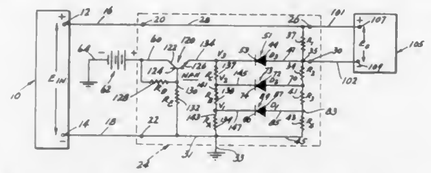
Circuits are disclosed for electric controller devices providing output signals representing regulator position, which can be switched between "automatic" and "manual" operation without the need for a balancing operation and without a discontinuity or substantially without a discontinuity in the output, the circuits having an amplifier and capacitor means connected as a Miller integrator. Proportional and integral action control term signals are generated from an error signal and a derivative control term signal can be generated either from the error signal or from a signal representing the measured value under control. The control term signals can be independently and collectively varied and each can be adjustably limited in magnitude. Arrangements for preventing integral saturation at the output limits are described.

3,523,194
CURRENT MODE CIRCUIT
Alfredo Sheng, Cherry Hill, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Mar. 31, 1967, Ser. No. 627,437
Int. Cl. H03k *17/00*
U.S. Cl. 307—214 **1 Claim**

Current mode switching circuits having dual output emitter-follower output transistors are described. Power dissipation is considerably reduced by switching a common load current path from one to the other output terminal as determined by the binary significance of the digital input signals, whereby the emitter current of only one of the emitter-follower transistors flows through the common path under steady state conditions.



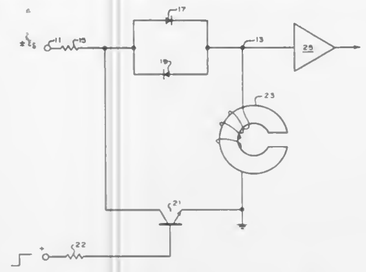
3,523,195
FUNCTION GENERATOR NETWORK UTILIZING A TRANSISTOR INCLUDING A MULTIPLE TAP EMITTER FOLLOWER
Frank John Thomas, West Paterson, and John Stanley Ruszala, Elizabeth, N.J., assignors to The Bendix Corporation, a corporation of Delaware
Filed June 7, 1967, Ser. No. 644,221
Int. Cl. G06g *7/12, 7/24*
U.S. Cl. 307—229 **6 Claims**



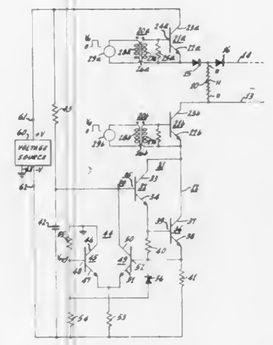
A function generator network utilizing a transistor including a multiple tap emitter follower to provide a plurality of reference voltages at low source impedances for back biasing diodes of the function generator to determine the break points thereof so that the diodes may selectively act to implement an electrical function by changing the network resistance in response to magnitude of an input voltage, thereby providing a composite of linear segmented slopes, and the transistor having a base-to-emitter junction resistance which changes in response to a change in the ambient temperature prevailing at the associated diodes of the function generator and in a sense to compensate for change in the resistance or voltage drop across the associated diodes of the function generator due to a change in the effective ambient temperature.

3,523,196
BIDIRECTIONAL TRANSMISSION GATE HAVING SINGLE CONTROL INPUT
Donald K. Miller, San Jose, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed July 30, 1968, Ser. No. 748,833
Int. Cl. H03k *5/08*
U.S. Cl. 307—248 **5 Claims**

A bidirectional transmission gate includes two oppositely poled silicon diodes connected in parallel for conducting dual polarity signals from a source terminal to a load terminal. A transistor has a main current carrying path connected between the source terminal and ground. When the transistor is suitably biased, it operates in both a normal and an inverted mode to conduct the dual polarity input signals to ground, thereby rendering the two diodes non-conductive. The conduction of the bidirectional transmission gate is controlled by a single signal applied to the base electrode of the transistor.



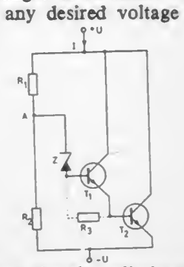
3,523,197
CURRENT PULSE DRIVER APPARATUS EMPLOYING NON-SATURATING TRANSISTOR SWITCHING TECHNIQUES AND HAVING LOW-POWER DRAIN DURING NON-PULSE PERIODS
William Ellsworth Salzer, Lake Park, Fla., assignor to RCA Corporation, a corporation of Delaware
Filed Apr. 18, 1968, Ser. No. 722,248
Int. Cl. H03k *3/26*
U.S. Cl. 307—270 **4 Claims**



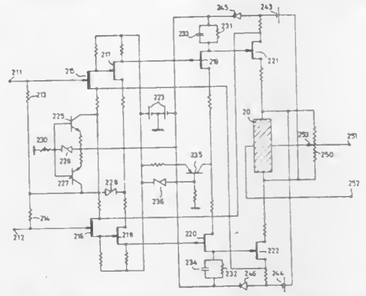
Current pulse driver apparatus for a line linked by magnetic elements is described. The driver includes a substantially constant current source transistor and a pair of transformer-transistor switches located at different ends of the line and selectively operable to connect the line in the collector circuit of the current source transistor. Circuitry is provided to regulate the current amplitude as well as to effect a fast linear leading edge for the current pulse when the line is selected. When the line is non-selected, the circuitry maintains the current source transistor forward biased but dissipates only a small amount of power.

3,523,198
VOLTAGE STABILIZATION CIRCUIT
Hans Keller, Freiburg, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 16, 1967, Ser. No. 683,678
Claims priority, application Germany, Nov. 23, 1966, D 51,615
Int. Cl. H03k *1/12*
U.S. Cl. 307—297 **7 Claims**

A circuit which simulates an adjustable Zener diode. A standard Zener diode when connected according to the invention with a pair of transistors and a pair of resistors, the latter being arranged as an ohmic voltage divider, can be set to provide any desired voltage breakdown point within wide ranges, thereby eliminating the need for selecting particular Zener diodes for specific applications.

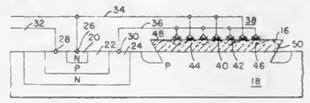


3,523,199
HALL EFFECT ANALOG MULTIPLIERS
Loc Ta Phuoc, Palaiseau, and Henri Moniere, Joinville-le-Pont, France, assignors to Centre National de la Recherche Scientifique, Paris, France, a body corporate of France
Filed June 12, 1968, Ser. No. 736,315
Int. Cl. G06g *7/16*
U.S. Cl. 307—309 **2 Claims**



Analog Hall effect multiplier for multiplying a first and a second analog voltages comprising a semiconductor bar exhibiting a Hall effect, input electrodes and output electrodes on said bar, respectively parallel to two rectangular axes of the bar, a winding for applying a magnetic field to said semiconductor bar, two amplifiers respectively fed by the first and second analog voltages, each having at least an input stage formed by two differentially connected metal-oxide-semiconductor transistors, and an output stage formed by two field-effect transistors having their output source-drain circuits respectively connected to the input electrodes of the bar in opposite directions and to the winding in opposite directions so that the drain currents of the two transistors of the two amplifiers flow in opposite directions respectively in the semiconductor bar and the winding.

3,523,200
SURFACE WAVE PIEZOELECTRIC RESONATOR
William E. Newell, Murrysville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 28, 1968, Ser. No. 708,823
Int. Cl. H04r *17/00*
U.S. Cl. 310—8.2 **8 Claims**



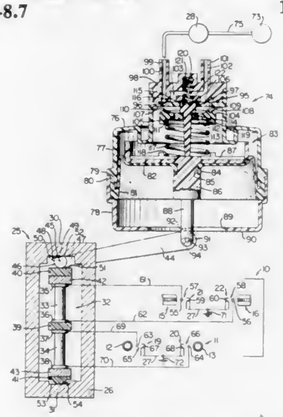
A piezoelectric resonator including a solid body of piezoelectric material and at least two transducer concentric electrodes for propagating and receiving surface energy in the body.

3,523,201

VACUUM OPERATED PIEZOELECTRIC IGNITION MEANS AND ACTUATOR THEREFOR

Arthur L. Good, Elkhart, Ind., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Jan. 15, 1968, Ser. No. 698,006
Int. Cl. H01v *7/00*
U.S. Cl. 310—8.7 **10 Claims**



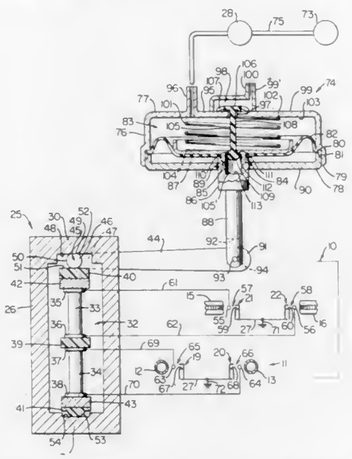
This disclosure relates to a vacuum operated ignition means for the pilot burner means of a cooking apparatus or the like, the ignition means including piezoelectric crystal means that have the stresses therein altered to cause sparking at the pilot burner means when the vacuum operated actautor of the ignition means is cycled between its actuated and deactuated positions. The vacuum operated actuator automatically cycles itself between its actuated and deactuated positions as long as a vacuum source is being interconnected thereto by a selector means.

3,523,202

VACUUM OPERATED PIEZOELECTRIC IGNITION MEANS AND ACTUATOR THEREFOR

Alan E. Maire, Goshen, Ind., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed July 12, 1968, Ser. No. 744,444
Int. Cl. H01v *7/00*
U.S. Cl. 310—8.7 **10 Claims**



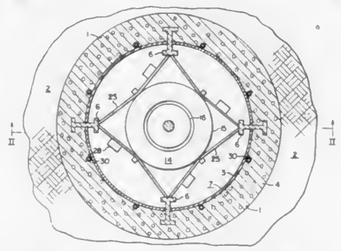
This disclosure relates to a vacuum operated ignition means for the pilot burner means of a cooking apparatus or the like, the ignition means including piezoelectric crystal means that have the stresses therein altered to cause sparking at the pilot burner means when the vacuum operated actuator of the ignition means is cycled between its actuated and deactuated position. The vacuum operated actuator automatically cycles itself between its actuated and deactuated position as long as a vacuum source is being interconnected thereto by the selector means, the actuator having a movable wall that is interconnected to a single valve means by lost motion means to control the same for the automatic cycling of the actuator.

3,523,203

HOUSING AND SUPPORT STRUCTURE FOR LARGE, VERTICALLY DISPOSED ROTATING MACHINES

Eugene C. Whitney, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 18, 1968, Ser. No. 698,975
Int. Cl. B61f *17/00;* **F16c** *1/24, 13/02, 33/66*
U.S. Cl. 310—91 **5 Claims**



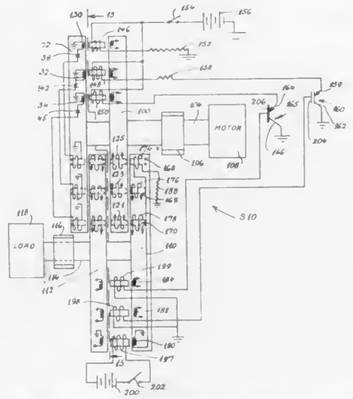
A housing and support structure for a vertically mounted rotating machine, the structure comprising a gas tight tank having a side wall divided into sections by beams extending the length thereof, and extending radially inside and outside of the tank. The structure further comprises a concrete wall formed by pouring concrete in a space defined the walls of the tank, the walls of a pit provided in the ground and the beams extending outside of the tank. The machine is vertically disposed within the tank and suitably supported therein, for example between beam portions extending inside of the tank.

3,523,204

MAGNETIC TRANSMISSION SYSTEM

Sydney Rand, G.P.O. Box 2034, San Juan, Puerto Rico 00936

Filed Jan. 19, 1968, Ser. No. 703,840
Int. Cl. H02k *49/06*
U.S. Cl. 310—94 **3 Claims**



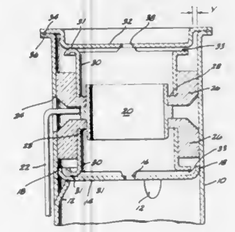
The disclosure describes a frictionless, noiseless, transmission system in which a rotatable drive member carrying circumferentially spaced magnets magnetically drives a rotatable driven member also carrying circumferentially spaced magnets. The magnets are permanently magnetized elements or are electromagnets. The drive and driven members have such dimensions and the magnets are so distributed that any desired mechanical advantage is obtained.

3,523,205

FOCUS LENS STRUCTURE FOR AN ELECTRON GUN

Frederick G. Oess, Oceanside, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Jan. 2, 1968, Ser. No. 694,944
Int. Cl. H01j *29/46, 19/40*
U.S. Cl. 313—85 **4 Claims**



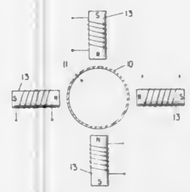
Focus lens structure for an electron gun is disclosed which comprises cylindrical configurations associated with the limiting aperture plate and the final aperture plate which shield focus cylinder supporting ceramic surfaces from primary electrons and thus prevent the creation of charge patterns that could unfavorably influence the focusing electrostatic field. A uniform annular field is also created between anode potential and focus potential.

3,523,206

PLASMA CONTAINMENT MEANS

Jacques P. Drabier, Los Angeles, Calif., Kermit D. Kerruish, Phoenix, Ariz., and Linda Folkard Stengel, and Rudolph F. Stengel, Los Angeles, Calif., assignors to Entropy Limited, Toronto, Ontario, Canada, a corporation of Ontario

Filed Oct. 31, 1967, Ser. No. 679,311
Int. Cl. H01j *1/50*
U.S. Cl. 313—161 **8 Claims**



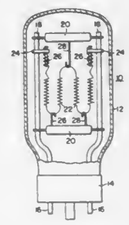
A magnetic enclosure for the containment of a plasma comprising a torus having a plurality of star-shaped electromagnetic coil assemblies located in spaced adjacency around and along the circumference of the torus in which all of the coils in all of the assemblies are oriented with like poles of all coils facing radially inwardly toward the center of the torus whereby all poles of like polarity face each other with a torus space therebetween.

3,523,207

INCANDESCENT LAMP WITH TANTALUM CARBIDE FILAMENT AND NITROGEN GAS ATMOSPHERE

Herman A. Johnsen, Monroeville, Pa., and Richard Corth, East Orange, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 18, 1968, Ser. No. 698,963
Int. Cl. H01k *7/02*
U.S. Cl. 313—113 **8 Claims**



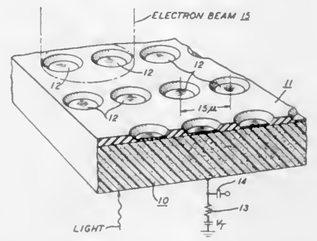
Incandescent lamp incorporates a filament which principally comprises tantalum carbide and a gaseous filling which consists essentially of nitrogen as the only reactive component. Such a lamp is particularly adapted to be used as a projector lamp because of the very high temperature at which the filament can be operated, and the nitrogen atmosphere permits internal reflector systems to be used.

3,523,208

IMAGE CONVERTER

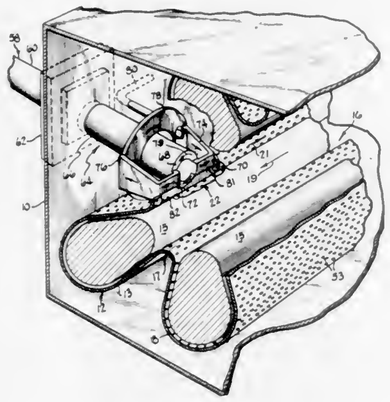
Max G. Bodmer, Short Hills, Merton H. Crowell, Morristown, Eugene I. Gordon, Convent Station, and Francis J. Morris, Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed May 27, 1968, Ser. No. 732,273
Int. Cl. H01j *31/26*
U.S. Cl. 315—10 **8 Claims**



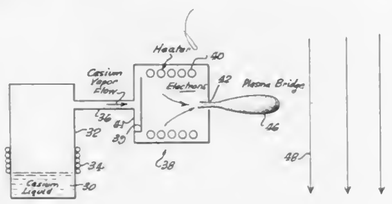
The specification describes a modification of the prior art silicon diode array target for video image converters by using, in place of the p-n junctions, devices resembling MIS diodes. A depletion layer for collecting the minority carriers generated by photon absorption is established by the scanning beam at the insulator-semiconductor interface. Isolation is achieved with a thick insulating film between the active regions which effectively limits significant depletion layer formation to those areas below the active regions.

3,523,209
PLASMA DEVICE INCLUDING PLASMA INJECTION STRUCTURE AND METHOD
Tihiro Ohkawa and Arthur A. Schupp, Jr., San Diego, Calif., assignors, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware
Filed June 29, 1967, Ser. No. 650,006
Int. Cl. H01j *1/50, 17/26;* H01h *1/02*
U.S. Cl. 315—111 19 Claims



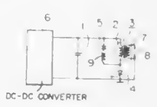
A method and apparatus for injecting plasma into a confining magnetic field is provided with which the confining field is eliminated adjacent the entry point during the time while the plasma is injected and is reinforced adjacent the entry point at other times. The plasma may also be guided to the entry point using one form of the method and apparatus.

3,523,210
GAS DISCHARGE NEUTRALIZER INCLUDING A CHARGED PARTICLE SOURCE
Marshall P. Ernstene, Pasadena, Alvin Theodore Forrester, Los Angeles, Robert C. Speiser, Altadena, Gordon Sohl, Pasadena, Alexander Harvey Firestone, Los Angeles, and Philip O. Johnson, Manhattan Beach, Calif., assignors, by mesne assignments, to Xerox Corporation, a corporation of New York
Filed May 20, 1966, Ser. No. 551,596
Int. Cl. H01j *17/26;* H05h *1/00*
U.S. Cl. 315—111 6 Claims



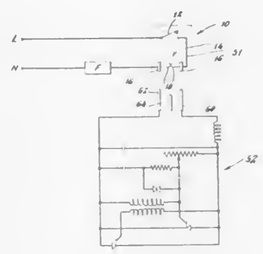
This application relates to an improved ion engine having a gas discharge neutralizer coupled to the ion beam. The neutralizer comprises a particle emitting means supported with an enclosure which is additionally connected to a source of ionizable material. The enclosure has an orifice of such diameter that particles generated therein efflux freely in a stream and such that vapor from the ionizing material is partially restricted within the enclosure whereby a stream of particles mixed with ions flow towards the ion beam.

3,523,211
CONDENSER-DISCHARGE IGNITION SYSTEM WITH A SILICON CONTROL RECTIFIER
Kazuo Oishi, % Seimeiryo 12, 7-chome, Tenno-cho, Kariya-shi, and Kunihiko Negi, 3, 1-chome, Doichi-cho, Mizuho-ku, Nagoya-shi, both of Aichi-ken, Japan
Continuation-in-part of application Ser. No. 481,487, Aug. 23, 1965. This application Dec. 12, 1968, Ser. No. 783,386
Int. Cl. F02p *15/00;* H05b *41/14*
U.S. Cl. 315—209 1 Claim



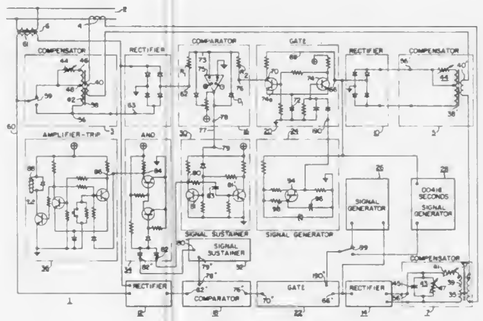
A condenser-discharge ignition system known per se and improved by providing another circuit connected in parallel with a primary winding disposed in a known manner, the circuit comprising a diode and an inductance connected in series with the diode which is disposed in such a position that the direction of the unidirectional conductivity thereof is in reverse to the direction of the unidirectional conductivity of a silicon control rectifier connected in series with the primary winding and also with the circuit. The improved system is advantageous in a long lasting arc and in the fact that the inductance is not heated.

3,523,212
PLUG-IN SCR LAMP DIMMER WITH WALL SWITCH AND SOCKET
Robert M. Murphy, Fairfield, Conn., assignor to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed Feb. 15, 1968, Ser. No. 705,712
Int. Cl. H01r *31/08;* H01b *37/02, 39/04*
U.S. Cl. 315—291 9 Claims



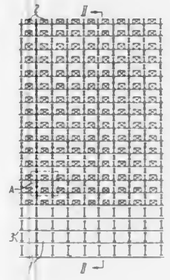
A portable dimmer system having a wall mountable unit including a switch and special receptacle and a portable dimmer unit which may be selectively engaged with the special receptacle. The receptacle includes usual receptacle contacts which are shorted by means of selectively operable shorting contacts and the dimmer unit includes a housed dimmer circuit electrically connected to usual contact blades and a non-conductive operable blade insertable into the special receptacle to open the shorting contacts to allow current to flow through the dimmer circuit when the switch is closed.

3,523,213
DISTANCE RELAY WITH RECTANGULAR CHARACTERISTICS
William K. Sonnemann, Austin, Tex., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 19, 1968, Ser. No. 722,776
Int. Cl. H02h *3/38*
U.S. Cl. 317—27 15 Claims



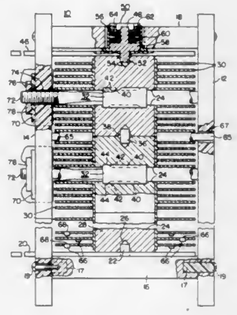
An apparatus for comparing the relative magnitudes of two alternating current quantities at a fixed point in the cycle of one of the quantities and which apparatus is particularly useful as a distance relay for protecting a desired section of an alternating current transmission network.

3,523,214
MULTISTAGE FRAME TOWER FOR INSTALLATION OF H.T. ELECTRICAL EQUIPMENT, PREFERABLY BANKS OF CONDENSERS
Vitaly Evgenievich Beniaminson, Ul. Osipenko 3, kv. 2; Evgeny Mikhailovich Bukharin, Pervomaiskaya ul. 73, kv. 13; Vladimir Samuilovich Glik, Petrovka 19, kv. 52; Natalia Yakovlevna Timoshenko, Bolshaya Ekaterininskaya ul. 16, kv. 2; Anatoly Ivanovich Sheiko, Nizhne-Krasnoselskaya ul. 45, kv. 32; Samson Aikovich Kazarian, Zverinetskaya ul. 14, kv. 54; and Leonid Irshevich Kattel, 1 Monetchikovsky per. 8 kv. 71, all of Moscow, U.S.S.R.
Filed Oct. 24, 1968, Ser. No. 770,217
Int. Cl. H02b *1/04*
U.S. Cl. 317—99 4 Claims



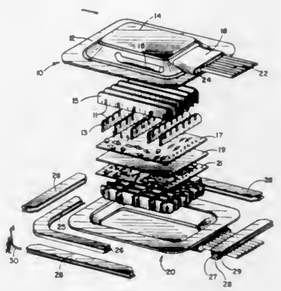
A multistage frame tower for installation of H.T. electrical equipment, preferably banks of condensers is, formed by horizontal metal frames interconnected by uprights, the frame tower featuring high insulating properties and sufficient rigidity which is achieved by the fact that the uprights of each of the stages are divided along the height into component members one of which is essentially an insulator.

3,523,215
STACK MODULE FOR FLAT PACKAGE SEMICONDUCTOR DEVICE ASSEMBLIES
John J. Steinmetz, Jr., Monroeville, and Herbert E. Ferree and Thomas P. Nowalk, Greensburg, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 19, 1968, Ser. No. 714,196
Int. Cl. H01l *1/12*
U.S. Cl. 317—100 17 Claims



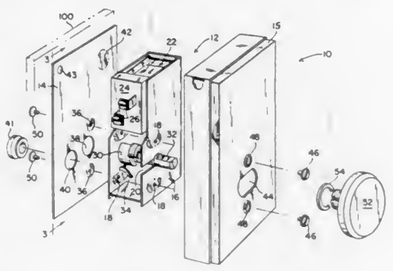
A stack module for flat packaged semiconductor devices comprises side panels which function as tension members to retain the electrical components of the stack in a good electrically conductive relationship with each other as well as providing a means for mounting necessary electrical circuits thereon and a means for channeling the coolant medium through one or more of these stacks.

3,523,216
ELECTRONIC PACKAGING MODULE FOR DEEP OCEAN ENVIRONMENTS
Robert G. Cook, San Pedro, and Patrick F. Godwin, Jr., Costa Mesa, Calif., assignors to North American Rockwell Corporation, El Segundo, Calif., a corporation of Delaware
Filed July 29, 1968, Ser. No. 748,523
Int. Cl. H02b *1/04*
U.S. Cl. 317—101 8 Claims



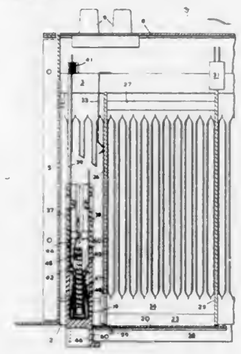
The module is comprised of two can assemblies each having relatively wide, flat, lip portions which in the assembled position butt against each other forming a partial seal. A set of egg-crate grid structures fit inside the two cans to provide the cans with structural strength against outside pressures. The electronic package mounted on circuit boards is sandwiched between the grid structures inside the can assemblies. An elastomeric molded channel seal fits over the butted lip portions and is held in place by a number of rigid retainer channels which, in turn, are secured in place by a safety wire which passes around the assembled panels. Electrical connections to the electronic package is made through the can assemblies by means of potted fittings which are welded in place on the cans.

3,523,217
UNIVERSAL HUMIDISTAT
Walter R. Stiles, Milford, Mich., assignor to Skuttle Manufacturing Company, Milford, Mich., a corporation of Michigan
Filed June 10, 1968, Ser. No. 735,854
Int. Cl. H05k 5/02; H02b 1/10
U.S. Cl. 317—120 10 Claims



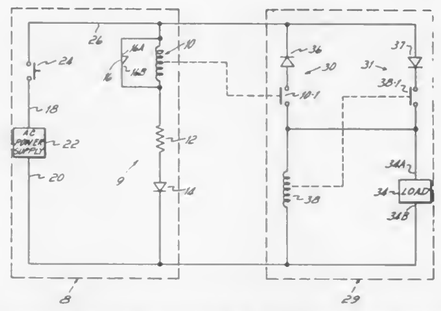
A humidity control device including a substantially flat base plate and a humidity sensing assembly which may be removably mounted in either forward or reverse positions on the base plate to adapt the control device for use either as a wall mounted or duct mounted humidistat. The base plate has an opening through which and adjusting shaft on the humidity sensing assembly may pass when the device is assembled in an air duct mounting position. In addition, the plate has a plurality of readily removable knock-out plugs with one or another of the plugs being located on the plate to be respectively positioned adjacent electrical terminals on the sensing assembly when it is in either a forward or reverse position. A number of bosses extend from the plate and function to space the sensing assembly therefrom when the parts are assembled as a duct humidistat.

3,523,218
ELECTRICAL APPARATUS HOUSING WITH INTERLOCK FOR REMOVABLE UNITS
Gordon Albert Fradley and Brian David John Potts, Stafford, England, assignors to The English Electric Company Limited, London, England, a British company
Filed Aug. 26, 1968, Ser. No. 755,147
Claims priority, application Great Britain, Aug. 24, 1967, 38,973/67
Int. Cl. H02b 1/02
U.S. Cl. 317—120 12 Claims



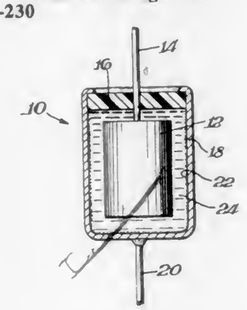
This invention provides a housing for static relay equipment arranged on a modular basis. The housing contains a "connector" module associated with a group of "operational" modules, with a bridging plug for use with the connector to connect the supply to the remaining group. The bridging plug is so arranged that these connections are effected in a particular sequence, and interlock facilities are available whereby none of the modules may be removed without the connector module having first been removed.

3,523,219
RELAY CONTROL CIRCUIT
William T. Bross, Cincinnati, Ohio, assignor to Liebel-Flarsheim Company, Division of Ritter Pfaudler Corporation, Rochester, N.Y., a corporation of New York
Filed Mar. 5, 1968, Ser. No. 710,521
Int. Cl. H01h 47/00
U.S. Cl. 317—137 7 Claims



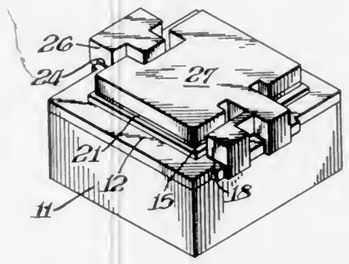
A control circuit including an A.C. relay and resistor connected in series across the terminals of a switch-controlled one-half wave rectified power supply, and a normally nonconducting device connected in parallel with the relay. The normally nonconducting device is capable of becoming conductive, to thereby short circuit the relay and prevent it from pulling-in, should the switch be closed other than at a point in the A.C. waveform when sufficient time remains in the positive one-half cycle for the relay to completely pull-in, thereby preventing closure of the relay contacts for other than at least a complete A.C. cycle commencing within a predetermined narrow band. Also disclosed is a load energization circuit, employing the foregoing control circuit, for energizing an A.C. supplied load at a zero point in the A.C. supply waveform regardless of when in the A.C. cycle a randomly actuated switch is closed.

3,523,220
ELECTROLYTIC CAPACITOR AND PROCESS FOR PREPARING THE CONTAINER
Richard P. Harding, North Adams, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Mar. 8, 1968, Ser. No. 711,545
Int. Cl. H01g 9/08
U.S. Cl. 317—230 11 Claims



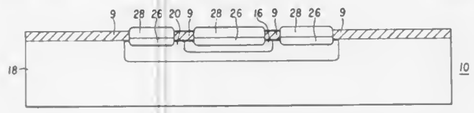
An electrolytic capacitor having an anodized valve metal anode and an electrolyte sealed within a metal container, said container having an inner surface of etched silver, said etched inner surface of said container having thereon a film of deposited silver and a member of the class consisting of the platinum group metals and gold; and a process for forming the same.

3,523,221
BI-METAL THIN FILM COMPONENT AND BEAM-LEAD THEREFOR
Melvin Tierman, North Adams, and William E. Wesolowski, Adams, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed May 7, 1968, Ser. No. 727,159
Int. Cl. H01g 9/05, 3/075
U.S. Cl. 317—230 11 Claims



A thin film capacitor having a counterelectrode of an extremely thin layer of chromium overlaid by gold is provided with beam-lead electrode connections resulting in a capacitor with improved mechanical and electrical properties.

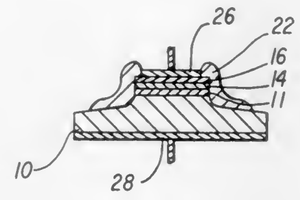
3,523,222
SEMICONDUCTIVE CONTACTS
Walter S. Jaeger, New Boston, and James E. Moore, Jr., Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Continuation of application Ser. No. 450,096, Apr. 22, 1965, which is a continuation of application Ser. No. 111,327, May 19, 1961. This application Sept. 15, 1966, Ser. No. 579,788
Int. Cl. H01l 1/14
U.S. Cl. 317—234 7 Claims



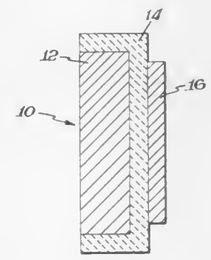
Disclosed is a semiconductor device having multilayer ohmic contacts to different regions of the device. The multilayer ohmic contact has a layer of palladium engaging the surface of the device with a gold layer overlying the palladium layer, the palladium layer forming a barrier between the device surface and the gold layer.

3,523,223
METAL-SEMICONDUCTOR DIODES HAVING HIGH BREAKDOWN VOLTAGE AND LOW LEAKAGE AND METHOD OF MANUFACTURING
Allan Harold Luxem and Constantinos Theodore Nicolaou, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Nov. 1, 1967, Ser. No. 679,880
Int. Cl. H01l 9/00
U.S. Cl. 317—234 1 Claim

This specification discloses a metal-semiconductor diode characterized by a mesa of joined layers of oxidation-resistant metal, barrier metal, epitaxial layer of semiconductor material, and monocrystalline substrate, supported on a monocrystalline substrate having ohmic contacts affixed thereto; the mesa having ohmic contacts affixed on top thereof and having its exposed surfaces covered by an insulating, passivating layer. A multistep method of manufacturing the diode is also disclosed.



3,523,224
NICKEL-NICKEL OXIDE CAPACITOR
Francis J. Gamari and John J. Randall, Jr., Williamstown, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Nov. 12, 1968, Ser. No. 774,955
Int. Cl. H01g 1/01
U.S. Cl. 317—258 8 Claims

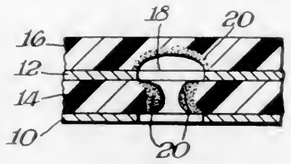


A capacitor has a nickel electrode having a surface nickel oxide dielectric formed thereon and a counter-electrode deposited on the oxide dielectric. The nickel electrode, after surface oxidation, is characterized by having substantially no intergranular oxidation within the metal. Preferably the nickel electrode is an alloy containing at least 90% nickel. The crystalline orientation of the nickel electrode should include at least 5% of the (100) orientation.

3,523,225
REGENERATIVE CAPACITOR
Paul H. Netherwood, Williamstown, Mass., Herbert C. Craig, Stamford, Vt., Ernest B. Rondeau, North Adams, Mass., and Raynor Linzey, Stamford, Vt., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Mar. 11, 1969, Ser. No. 806,223
Int. Cl. H01g 3/215
U.S. Cl. 317—258 4 Claims

A regenerative capacitor has a first and second composite of a polyethyleneterephthalate (Mylar) film having a thin coating of a cellulose lacquer on one side thereof and a metal electrode coating on the cellulose lacquer.

The first and second composites are convolutely wound in capacitative, extended electrode arrangement. Metal

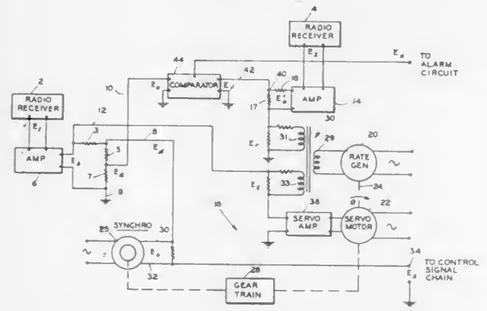


masses are in electrical communication with all of the end edges of the extended portions of the electrodes.

3,523,226
SIGNAL MONITORING SYSTEM FOR A CLOSED LOOP SERVO SYSTEM

William Walter Medlinski, Clifton, N.J., assignor to The Bendix Corporation, a corporation of Delaware

Filed July 28, 1967, Ser. No. 656,735
Int. Cl. G05b *23/02*
U.S. Cl. 318—565 **9 Claims**



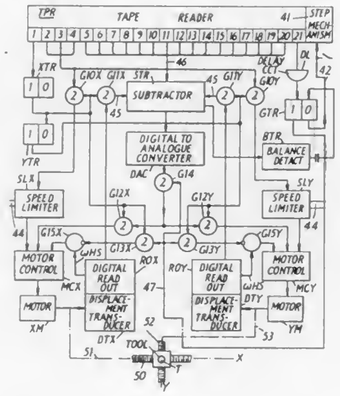
A system for monitoring signals varying as related functions. A signal from a signal source is combined with a signal generated as a function of apparatus for providing a signal related to the signal from the signal source. A comparator compares the combined signal with the signal from the signal source for indicating when the difference between the compared signals exceeds a predetermined threshold level. The system is adjustable for independent alarm sensing of the signal from the signal source and the related signal.

3,523,227
CONTROL SYSTEMS FOR MACHINE TOOLS

Alexander Russell, Glasgow, Scotland, assignor to National Research Development Corporation, London, England, a British corporation

Filed Jan. 3, 1968, Ser. No. 695,460
Claims priority, application Great Britain, Jan. 4, 1967, 499/67
Int. Cl. G05b *19/38*
U.S. Cl. 318—594 **12 Claims**

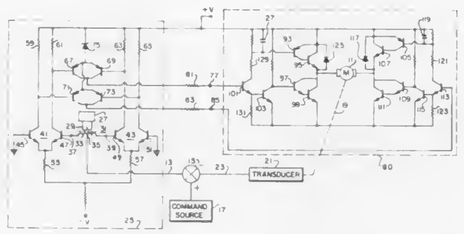
System for point-to-point control of a tool in a machine tool along either of two perpendicular rectilinear paths by means of digital form instructions on punched tape in which a digital form signal from the destination component of the instruction is compared with a digital form position signal derived from position transducer means coupled to the movable tool to generate an error signal used to control an electric motor driving the tool towards the destination position and in which upon arrival of the tool in the vicinity of the destination, control of said motor is transferred to an analogue form holding signal provided by the transducer means and whose amplitude passes through zero value when the tool is at the midpoint of the unit division of displacement defined by the signalled value of the least significant digit of the position component of the instruction.



3,523,228
TRANSISTOR SERVO SYSTEM INCLUDING A UNIQUE DIFFERENTIAL AMPLIFIER CIRCUIT

James R. Currie and Frank J. Nola, Huntsville, Ala., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Dec. 20, 1968, Ser. No. 785,595
Int. Cl. G05b *11/28*
U.S. Cl. 318—599 **4 Claims**

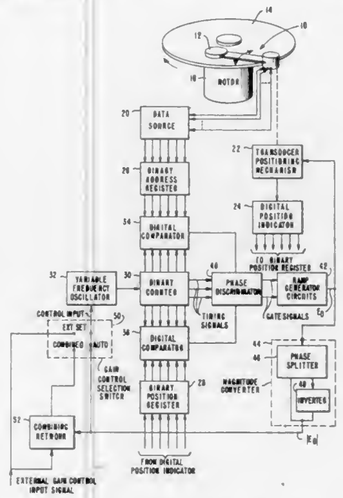


An automatic null seeking seeking servo system including means for producing an error signal whose amplitude is proportional to the magnitude of a measured variable from a desired value. A pulse width modulator responsive to said error signal having a differential mode input and differential mode output for producing control pulses at either first and second output terminals depending on the sign of the error signal. Switch means responsive to the control pulses so as to drive a motor in a direction depending on the sign of the error signal.

3,523,229
DIGITAL-ANALOG SERVO SYSTEM

Robert James Black, Los Gatos, and Frank John Sordello and Jack Stewart Swartz, San Jose, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 5, 1967, Ser. No. 607,544
Int. Cl. G05b *19/38*
U.S. Cl. 318—601 **10 Claims**

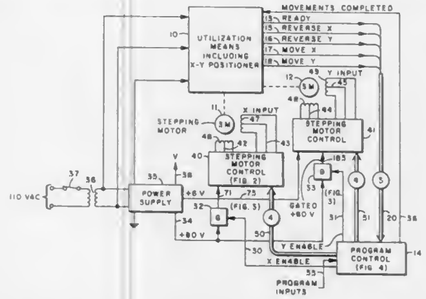


A servo system which compares two digital input signals and provides an analog output proportional to the square-root of the difference between them. A binary counter and a phase discriminator compare digital values of actual and desired positions and provide an output signal relative to their difference. This output signal controls a positioning motor and is also fed back to control the rate of the binary counter, thus providing the square-root relationship. This system may be used for rapidly and accurately controlling the position of a movable member.

3,523,230
STEPPING MOTOR POSITIONING SYSTEMS

Joe Dean York, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Nov. 8, 1968, Ser. No. 774,304
Int. Cl. G05b *19/00;* **H02p** *1/30, 1/56*
U.S. Cl. 318—603 **4 Claims**

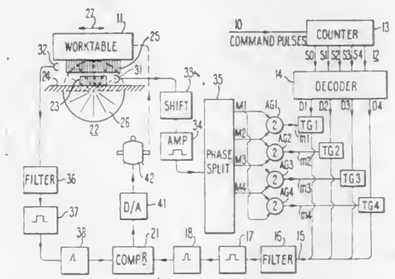


A stepping motor actuated X–Y positioner provides relative movements between function performing unit and a unit on which a function is to be performed. Each stepping motor is rapidly actuated by semiconductor switching devices. When a stepping motor winding is deactuated, the flyback voltage is permitted to increase to a high amplitude to minimize time for the magnetic field to collapse. When positioning movements are desired, a gated high voltage is supplied to the windings for actuating same. When the motors are stationary, small amplitude holding current is supplied through the stepping motor winding means and the semiconductor switching devices for maintaining the stepping motor in a predetermined position. A program control determines when the stepping motors have positioned the X–Y positioner to a desired location. A multifrequency oscillator supplies low frequency stepping pulses at a low rate upon the initiation of a positioning movement and high frequency stepping pulses in the mid-portion of a positioning movement. Each stepping motor is decelerated prior to reaching a desired location.

3,523,231
SERVOMECHANISM INCLUDING PULSE TRAIN COMMANDS, PULSE FEEDBACK FROM AN OPTICAL ENCODER, AND PHASE COMPARISON MEANS

Hugh MacDonald Arthur, John Young Condie Montgomery, and Donald Ferguson Walker, Edinburgh, Scotland, assignors to Ferranti, Limited, Hollingwood, Lancashire, England, a company of Great Britain and Northern Ireland

Filed Feb. 26, 1969, Ser. No. 802,569
Claims priority, application Great Britain, Mar. 2, 1968, 10,253/68
Int. Cl. G05b *19/24*
U.S. Cl. 318—608 **4 Claims**



Closed-loop servo apparatus for controlling the position of a machine tool in dependence on a train of irregularly-spaced command pulses representing elemental movements of constant length and one or other sense, in comparison with a measurement signal derived from an optical fringe counter system to represent the actual position of the tool. The command pulses are decoded into polyphase signals which are of triangular waveform when plotted against the command pulses. These are sampled repetitively and the combined samples are phase-compared with the measurement signal to derive the servo error signal for control of the tool.

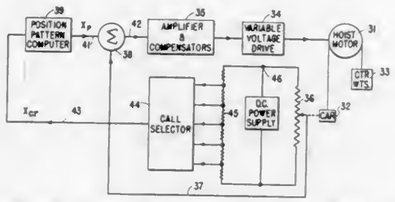
3,523,232
JERK, ACCELERATION, AND VELOCITY LIMITED POSITION PATTERN GENERATOR FOR AN ELEVATOR SYSTEM

Donivan L. Hall, Richard C. Loshbough, and Gerald D. Robaszkiewicz, Toledo, Ohio, assignors, by mesne assignments, to The Reliance Electric and Engineering Company, Cleveland, Ohio, a corporation of Ohio

Filed July 6, 1964, Ser. No. 380,385
Int. Cl. G05b *5/01*
U.S. Cl. 318—611 **25 Claims**

An elevator hoist motor control employing a high gain amplifier with suitable compensation to insure stability to apply a control signal derived from the difference between a time based commanded position signal and a signal representative of the actual car position. The commanded position signal is derived by two integrations as

a function of time of a precisely defined commanded acceleration signal subject to constraints of constant rate of change of acceleration or jerk, acceleration, and velocity. Jerk, acceleration and velocity values are adjustable. Values of jerk, acceleration and velocity are utilized to



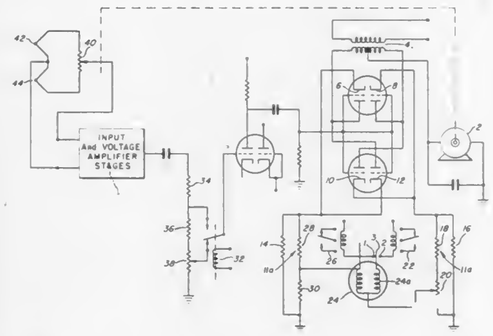
compute the position at which the car would stop is ordered to stop at any instant during its travel. Correspondence of computed stop position and the destination of the car institutes a stop pattern without reference to the actual car position. Suitable controls are set forth to avoid unsafe operation.

3,523,233

THERMOCOUPLE CONTROL APPARATUS INCLUDING A SERVO CONTROLLED CALIBRATING MODE AND A MEASUREMENT MODE DETECTING LOW LEVEL SIGNALS

Wendell P. Cropper, Olympia Fields, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Dec. 27, 1965, Ser. No. 516,355
Int. Cl. G05d *23/22*
U.S. Cl. 318—619 **6 Claims**



Disclosed is a multifunction circuit which is operable between a high gain and low gain amplification mode. In the high gain mode, a servomotor is actuated to balance a thermocouple bridge for zero calibration. In the low gain mode a meter relay is actuated in accordance with the polarity of the signal from the thermocouple.

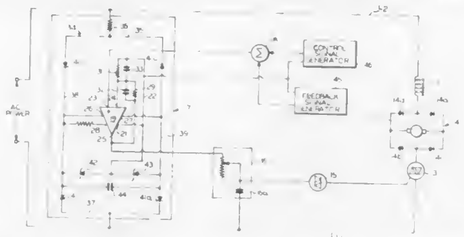
3,523,234

SOLID STATE SWITCH CONTROLLER FOR UNIVERSAL OR D.C. MOTORS INCLUDING A UNIQUE TRIGGER AND REGULATOR THEREFOR

Quentin C. Turtle, Cranston, R.I., assignor to General Signal Corporation, a corporation of New York

Filed Sept. 8, 1967, Ser. No. 666,447
Int. Cl. G05b *11/28*
U.S. Cl. 318—681 **5 Claims**

Solid state controllers for DC or universal electric motors employing Diacs and Triacs, or equivalent static triggers and gate-controlled power switches, and on R-C timing network for controlling the firing angle of the trigger. A combination pulse generating input signal amplifying and voltage regulating unit supplies line synchronized pulses to the timing network. These pulses enable the network to vary in reverse senses, and in an amount dependent upon the magnitude of the input signal,



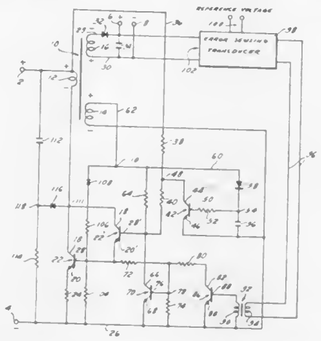
the firing angle of the Diac during the positive and negative half cycles of the AC power. Inductive coupling between the DC control elements and the AC power lines may be provided to preclude ground loops.

3,523,235

SELF-OSCILLATING SWITCHING TYPE POWER SUPPLY

Johannes M. Schaefer, Grossweier, Germany, assignor to Technipower Incorporated, Ridgefield, Conn., a corporation of Connecticut

Continuation-in-part of application Ser. No. 651,489, July 6, 1967. This application Mar. 1, 1968, Ser. No. 709,658
Int. Cl. H02m *3/32;* **H03k** *3/30*
U.S. Cl. 321—2 **21 Claims**



A switching type power supply in which the control for the switching is feedback-connected to the output so as to produce a system which is inherently oscillatory between switch-on and switch-off conditions, and in which one or more output parameters may be varied and maintained at predetermined value by modifying the feedback effect; positive starting means are provided which is rendered ineffective when the desired oscillatory condition has been established.

3,523,236

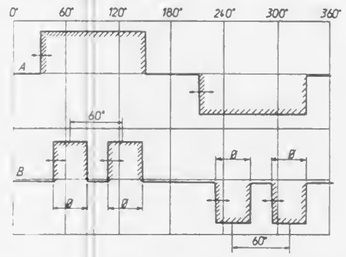
CIRCUIT TO CONTROL INVERTER SWITCHING FOR REDUCED HARMONICS

Antony Charles Howell, Marrickville West, New South Wales, and Christopher Burcham Ridley Walker, Coogee, New South Wales, Australia, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 13, 1968, Ser. No. 783,583
Int. Cl. H02m *1/12*
U.S. Cl. 321—9 **3 Claims**

The invention includes an inverter which supplies a series of rectangular voltage pulses of constant amplitude to a low pass filter. An A.C. output relatively pure

in fundamental is produced by generating a pulse series which has no second, third, or fourth harmonics. The pulses are produced in pairs. Alternate pairs are produced which are of opposite polarities. All the pulses are of the same time width. When the first pulse in a pair is spaced 180 electrical degrees from the first pulse in the next succeeding pair and the second pulses in the same



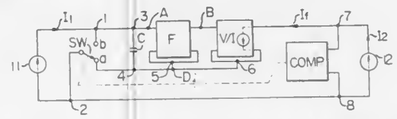
pairs are also 180 degrees apart, the even harmonics are eliminated. When all the pulse pairs are spaced 60 degrees apart, the third harmonic is eliminated with all harmonics that are a multiple of three. It is also a feature of the invention that the pulses have a variable time width. This makes it possible to vary the amplitude of the fundamental.

3,523,237

DEVICE CONVERTING ELECTRIC CURRENT RATIO INTO TIME RATIO

Shinichiro Ogawa and Toshiyuki Matsuda, Tokyo, Japan, assignors to Honywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Sept. 23, 1968, Ser. No. 761,665
Claims priority, application Japan, Sept. 22, 1967, 42/60,555
Int. Cl. H02m *7/00;* **H02j** *7/00*
U.S. Cl. 321—15 **1 Claim**



During a change-over switch is in a position, capacitor is charged from an electrical source to store a first charge corresponding to the duration the switch is in the position. During the change-over switch is in the other position, the capacitor is charged in opposite direction from another electrical source to store another second charge corresponding to the duration the switch is in the other position. The circuit making the second charge constitutes a negative feedback circuit to the circuit making the first charge. The difference in charge stored in the capacitor becomes zero at a balanced condition so that the current performing the second charge is in proportion to the current performing the first charge by the factor of the duration in which the change-over switch is on condition, respectively.

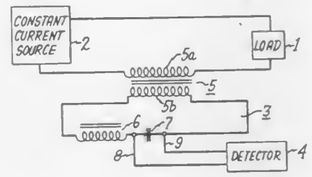
3,523,238

CURRENT SENSING DEVICE

Howard T. Jones, Flat Rock, N.C., assignor to General Electric Company, a corporation of New York

Filed Mar. 8, 1968, Ser. No. 711,539
Int. Cl. G01r *19/16*
U.S. Cl. 323—6 **7 Claims**

Variable output constant current regulator for operating airport runway lights is equipped with a current sensing device in series-circuit with the load for converting the current to a voltage signal proportional to the current for transmittal to a detector in a data processing system, the sensing device including a current transformer having



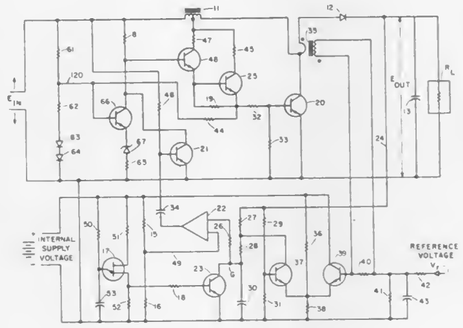
a primary in series with the load in the lighting circuit, the secondary of the transformer having an inductor and a capacitor in series therewith, and a pair of conducting leads connecting the detector across the capacitor for detecting the voltage drop therein.

3,523,239

VOLTAGE REGULATED STEP-UP APPARATUS

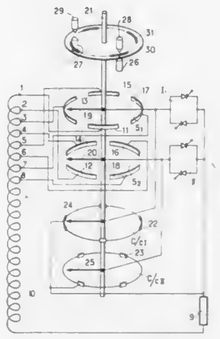
William L. Heard, Greenville, Tex., assignor to Systems Engineering Electronics, Inc., Dallas, Tex., a corporation of Texas

Filed Dec. 11, 1967, Ser. No. 689,699
Int. Cl. G05f *1/60*
U.S. Cl. 323—20 **11 Claims**



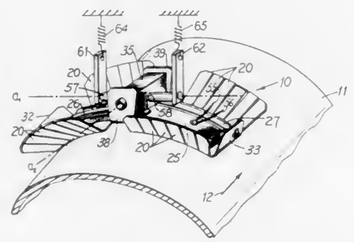
Disclosed is a regulated DC voltage translating circuit providing an essentially constant predetermined output voltage. A transistor switch is utilized for transferring energy from an inductor in the input loop to a storage capacitor and load in the output portion through a diode connected in the forward direction. A unijunction relaxation oscillator establishes the basic frequency of operation of the transistor switch, and voltage and current feedback means responding to fluctuations in the load voltage and load current operate in conjunction with the relaxation oscillator to establish the duration of time the switch is open and closed. The feedback includes a transformer, differential amplifier, and associated resistors and capacitors to control the output of an operational amplifier, which in turn controls the conduction cycles of various transistors, including the transistor switch. Also disclosed is a drive current regulator for the transistor switch to prevent over-driving this transistor.

3,523,240
TAP PRESELECTOR FOR LOAD SWITCHING SYSTEM
Guy Bouvier, Aix-les-Bains, France, assignor to Compagnie Generale d'Electricite, Paris, France, a corporation of France
Filed Mar. 18, 1968, Ser. No. 713,850
Claims priority, application France, Mar. 17, 1967, 99,376
Int. Cl. G05f *7/00*
U.S. Cl. 323—43.5 10 Claims



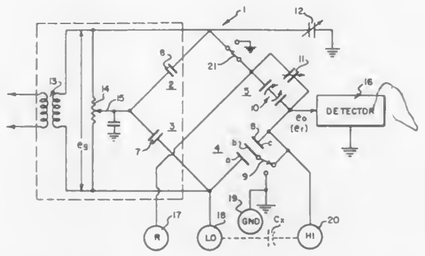
It is the object of the present invention to allow for a rapid regulation of the voltage at the terminals of a load supplied by a transformer winding having multiple taps. The communication is effected by means of thyristor circuit breakers whose action is controlled in dependence upon the operation of a tap preselector.

3,523,241
FLEXIBLE SEARCH SHOE
Robert D. Barton, Houston, Tex., assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 26, 1968, Ser. No. 779,149
Int. Cl. G01r *33/12*
U.S. Cl. 324—37 10 Claims



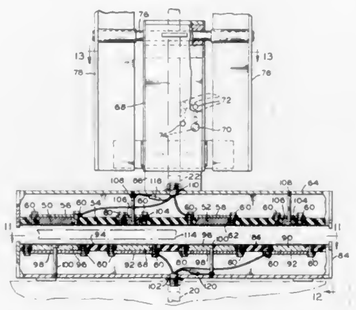
A search shoe for use in nondestructive testing of ferromagnetic tubular members and including an object engaging member made of a thin, flexible, and resilient nonmagnetic material and having a preformed curved surface whose radius of curvature is less than that of the smallest of the tubular members to be tested whose diameters are within a given range. The object engaging member may be resiliently urged into a closely-conforming contact with the surface of any tubular member to be inspected which falls within said range.

3,523,242
METHOD AND APPARATUS FOR MEASURING "Q" OF A REACTIVE ELEMENT IN A BRIDGE CIRCUIT
Stanley Bara, Morristown, N.J., assignor to Boonton Electronics Corporation, Parsippany, N.J., a corporation of New Jersey
Continuation-in-part of application Ser. No. 660,646, Aug. 15, 1967. This application Dec. 20, 1967, Ser. No. 698,368
Int. Cl. G01r *27/00*
U.S. Cl. 324—57 17 Claims



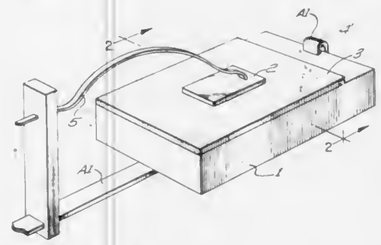
The Q of a specimen reactance is measured by inserting the reactance in an A.C. reactance bridge as one arm thereof and bringing the bridge circuit to a null condition such that the output voltage of the bridge circuit is a minimum. A reference voltage is also read from the bridge circuit, and the ratio of the reference voltage to the first mentioned output voltage is measured to obtain the Q value of the reactance under test.

3,523,243
MOISTURE MEASUREMENT DEVICE INSENSITIVE TO THICKNESS OF MATERIAL UNDER TEST
Delmer W. Wagner, Rte. 1, Box 176, Terrebonne, Oreg. 97760
Continuation-in-part of application Ser. No. 511,804, Dec. 6, 1965. This application Oct. 31, 1967, Ser. No. 683,080
Int. Cl. G01r *27/26*
U.S. Cl. 324—61 19 Claims



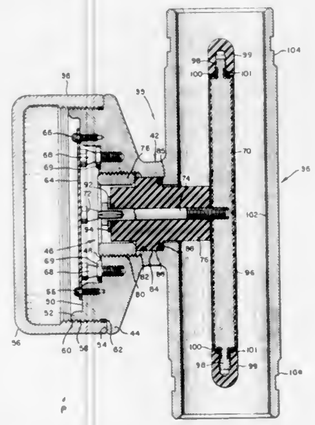
An apparatus for measuring the moisture content of material such as lumber, veneer, plywood, hardboard, paper pulp, and the like includes electric signal means and a pair of conductors disposed in spaced relation to the aforementioned material. The conductors form a capacitive device for interconnection with the electric signal means, with the material being tested providing a dielectric for the capacitor. The conductors are mounted such that thickness changes in the material are compensated. For example, one of the conductor means is pivotally supported so that passage of material of different thicknesses changes the projected area between the conductor means. In the case of another embodiment, the conductor means are spaced or staggered along the material so that a major proportion of the electric path between the conductor means extends along a substantially fixed distance in the material rendering the overall measurement less susceptible to changes in material thickness.

3,523,244
DEVICE FOR MEASUREMENT OF ABSOLUTE HUMIDITY
Philip Goodman, Lexington, and David J. Chleck, Brookline, Mass., assignors, by mesne assignments, to Panametrics, Inc., New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 624,056, Mar. 17, 1967. This application Nov. 1, 1967, Ser. No. 683,084
Int. Cl. G01r *27/02*; G01n *25/56*; H01c *13/00*
U.S. Cl. 324—61 7 Claims



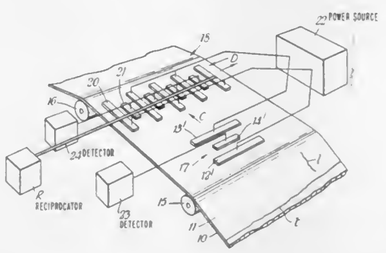
A device for measurement of absolute humidity by measuring the change in impedance of an element. The element is an aluminum oxide layer on an aluminum base, serving as one electrode with a second electrode contacting another surface of the aluminum oxide layer.

3,523,245
FLUID MONITORING CAPACITANCE PROBE HAVING THE ELECTRIC CIRCUITRY MOUNTED WITHIN THE PROBE
Robert G. Love and Paul Lorenzino, Jr., Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Apr. 4, 1968, Ser. No. 718,694
Int. Cl. G01r *27/26*; H01g *7/00*
U.S. Cl. 324—61 15 Claims



A highly accurate capacitance probe and oscillator circuit assembly for providing a variable frequency output signal representative of a condition of the fluid being sensed. The capacitance probe and oscillator circuit assembly is especially adapted to be used with an analyzing system which requires a highly accurate frequency signal input to determine the net oil flowing from a particular oil field installation. Specifically, the capacitance probe and oscillator circuit assembly includes a body member having a fluid flow channel defining conduit, an oscillator circuit mounting base, and an opening from the mounting base into the fluid flow channel. A probe element is rigidly supported in a fixed position within the conduit by a body of substantially rigid insulating material which extends through the opening surrounding an electrical connector between the probe element and an electrical circuit detachably mounted on the mounting base. The body of substantially rigid insulating material rigidly engages the probe element preventing its deflection in any direction and isolates the electrical connector from stresses applied to the probe element by the fluid flow. The probe element is insulated from the fluid in the channel by a heat shrunk plastic tube which surrounds and compressively engages the probe element. This plastic tube extends onto threaded projections extending from shoulders at both ends of the probe element and is sealed by caps which telescope over the tubing on the threaded projections to abut the shoulders.

3,523,246
METHOD OF AND APPARATUS FOR TESTING A LAMINAR MATERIAL FOR IRREGULARITIES OF THICKNESS
Brian Reginald Hall and Denis Manktelow Neale, both of 23 Roden St., Ilford, Essex, England
Continuation-in-part of abandoned application Ser. No. 545,608, Apr. 27, 1966. This application July 22, 1968, Ser. No. 746,460
Claims priority, application Great Britain, Apr. 27, 1965, 17,689/65
Int. Cl. G01r *27/26*
U.S. Cl. 324—61 18 Claims

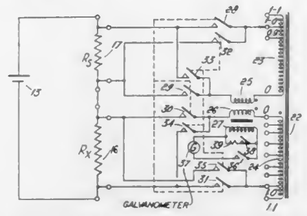


Apparatus for testing a moving laminar material for irregularities in thickness, comprises a first and second set of electrodes, rollers for moving the material between the electrodes and an amplifying circuit. Each set of electrodes includes a pair of drive electrodes situated adjacent positions in the laminar material, which are spaced apart in the plane of the material. An alternating potential difference is connected to the drive electrodes to induce an alternating current in the surface of the material. A probe electrode situated between the two drive electrodes is responsive to changes in the alternating potential of the material between the drive electrodes. The detected signal is amplified and gives an indication of the presence of thickness irregularities in the material. The first set of electrodes, extending substantially transverse to the direction of travel of the material, detects transverse irregularities and the second set of electrodes, which are reciprocated transverse to the direction of travel, detect longitudinal irregularities.

3,523,247
ELECTRICAL RESISTANCE COMPARISON DEVICE UTILIZING AN INDUCTIVE RATIO STANDARD

Peterson Miller Clifford, Edgeare, and Alan Hubert Silcocks, Billericay, England, assignors to Hawker Siddeley Dynamics Limited, Hatfield, and H. W. Sullivan Limited, Kent, England

Filed Dec. 19, 1967, Ser. No. 691,875
Int. Cl. G01n *27/02;* **H01f** *15/04*
U.S. Cl. 324—62 **10 Claims**

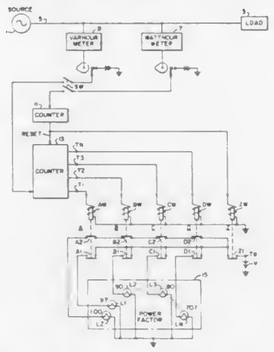


Electrical circuitry for comparing an unknown resistor with a standard resistor by means of an inductive ratio standard, the standard resistor and the unknown resistor being operated on steady D.C. and the inductive ratio standard being operated on a form of alternating current.

3,523,248
POWER FACTOR MEASURING DEVICE RESPONSIVE TO THE RATIO OF VARHOUR PULSES TO WATT-HOUR PULSES

David F. Wright, Lake Park, Fla., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 4, 1966, Ser. No. 584,259
Int. Cl. G01r *7/00*
U.S. Cl. 324—141 **5 Claims**



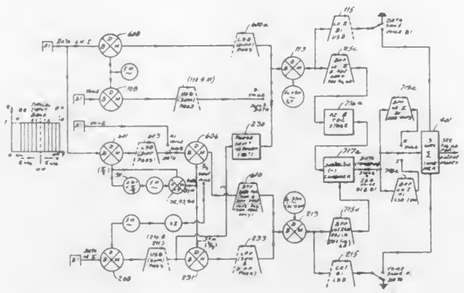
First and second pulses are generated to represent reactive and real energy in an alternating electric circuit. A first counter provides separate outputs for different numbers of the first pulses to light different lamps corresponding to such numbers to indicate power factor. A second counter resets the first counter at the end of each cycle containing a predetermined number of the second pulses.

3,523,249
COMPLEMENTARY PAIRING OF ISB MODULATION AND ANALYSIS METHODS

Anthony C. Palatinus, Maspeth, N.Y.
(15 Rooney Court, Glen Cove, N.Y. 11542)

Filed Feb. 8, 1968, Ser. No. 704,092
Int. Cl. H04b *1/68;* **H04j** *1/00*
U.S. Cl. 325—49 **6 Claims**

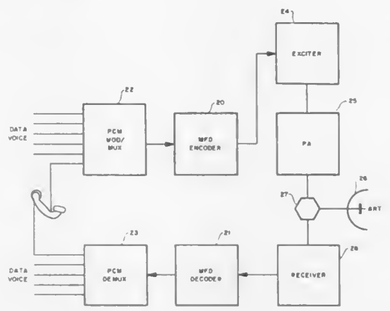
This specification discloses the novel compositional pairing of methods of symmetrical independent sideband (ISB) communications, broadly identified as "opposite-ly offset phase symmetrical intermediate sideband modulation" processes, having confunctional properties associated with intermediate and oppositely offset in-common carrier signal generation techniques within the symmetric passband of a multi-channel ISB radio communications system.



3,523,250
TIME DIVISION MULTIPLEX MULTIPLE FREQUENCY DIVERSITY TROPOSCATTER COMMUNICATION SYSTEM

Richard A. Branham, Orange County, Fla., assignor to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland

Filed Feb. 21, 1967, Ser. No. 617,596
Int. Cl. H04b *7/02*
U.S. Cl. 325—56 **32 Claims**



This invention involves a scatter propagation communication system for the transmission and reception of intelligence bearing signals over a tropospheric scatter medium. Two digital coding techniques are utilized. Voice and data channels are encoded into a serial binary bit stream of time-division multiplexed pulse code modulated signals, and then the serial binary bit stream is converted into a serial stream of frequency-time codes which are transmitted over a troposcatter link by means of a single antenna and power amplifier.

3,523,251
ANTENNA STRUCTURE WITH AN INTEGRATED AMPLIFIER RESPONSIVE TO SIGNALS OF VARIED POLARIZATION

William S. Halstead, 10 W. 16th St., New York, N.Y. 10011

Filed Feb. 27, 1967, Ser. No. 618,877
Int. Cl. H04b *1/18*
U.S. Cl. 325—373 **18 Claims**

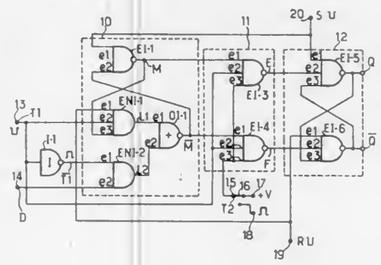
An antenna structure including an amplifier built into the antenna casing. The basic antenna configuration is an open-ended helically wound metallic ribbon, with the helical turns uniformly spaced from each other. The length of the helix is large as compared to the diameter and may be shorter than one-quarter wavelength of the received electromagnetic energy, with the ratio of length to diameter of the helix being a factor in attaining spherical response of the antenna to transmitted energy. The intimate linking of the amplifier and the antenna substantially eliminates the transmission losses and often out-of-phase signal that often occur between an antenna and a receiver. The antenna is adapted to be mounted at any angular orientation and provides sensitive pickup of differently polarized electromagnetic energy from a variety of such orientations.



3,523,252
TRANSFER-STORAGE STAGES FOR SHIFT REGISTERS AND LIKE ARRANGEMENTS

Robert Chikli-Pariente, Paris, France, assignor to Societe Industrielle Bull-General Electric (Societe Anonyme), Paris, France

Filed Nov. 22, 1967, Ser. No. 685,119
Claims priority, application France, Apr. 26, 1967, 104,236
Int. Cl. G11c *19/00;* **H03k** *21/30*
U.S. Cl. 328—37 **6 Claims**

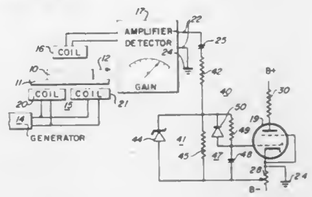


A signal transfer and storage element, which may be used to constitute various circuit arrangements, such as shift registers, pulse counters or the like, comprises a dual gate section connected between output terminals of a "transfer" flip-flop and input terminal of a "storage" flip-flop, these flip-flops being formed in cross-coupled logical amplifiers. Depending upon the signals which are applied to control input terminals of the gate section, the element may operate either according to the single-pulse per cycle mode or according to the two-pulse per cycle mode of operation.

3,523,253
COUPLING NETWORK

Alfred Moore, Jeffersonville, Ind., assignor, by mesne assignments, to Electronic Memories & Magnetics Corporation, Hawthorne, Calif., a corporation of Delaware

Filed Apr. 15, 1966, Ser. No. 542,955
Int. Cl. H03b *1/00;* **H03k** *3/26*
U.S. Cl. 328—165 **9 Claims**

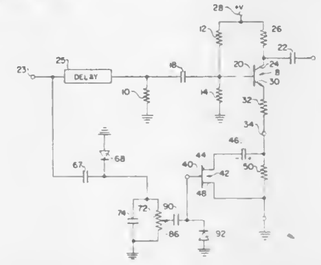


A coupling network which enhances the desired signal while discriminating against undesirable higher frequency components. A signal component is clipped by a Zener diode and integrated by a series connected resistor and capacitor shunted across the Zener diode. A second diode shunts the resistor to provide rapid discharge of the capacitor. The charging of the capacitor produces a signal which actuates a switching device.

3,523,254
AUTOMATIC GAIN CONTROL CIRCUIT EMPLOYING A FIELD-EFFECT TRANSISTOR

David L. Royer, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Feb. 11, 1969, Ser. No. 798,311
Int. Cl. H03g *3/30*
U.S. Cl. 330—29 **2 Claims**



An input signal is delayed before it is supplied to the base of a bipolar transistor amplifier, and it is also supplied to a capacitor that has a potentiometer connected in parallel with it to develop a control potential that is coupled to the gate of a field-effect transistor. The field-effect transistor has its drain-source path coupled through another capacitor to an intermediate point on the load current path to ground of the bipolar transistor which is connected to the emitter of the bipolar transistor in series with the collector-emitter path of the bipolar transistor.

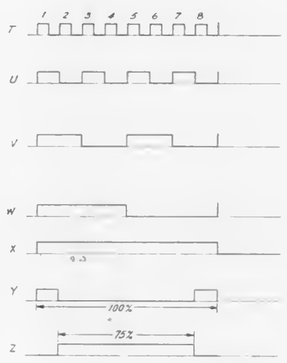
3,523,255
TUNABLE SINE WAVE RINGING GENERATOR

Earl C. Rhyne, Jr., Millis, Ray A. Bennett, Billerica, and Zissis Kalivas, Stow, Mass., assignors to Dielectric Products Engineering Co., Inc., a corporation of Michigan

Filed June 12, 1968, Ser. No. 736,460
Int. Cl. H03b
U.S. Cl. 331—56 **4 Claims**

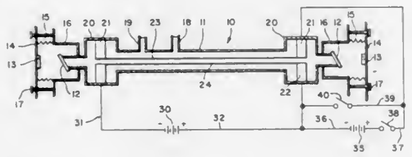
A plurality of oscillators each provides a signal having a determined frequency. A plurality of shapers and amplifiers are connected to the oscillators and each shapes and

amplifies the signals provided by the oscillators. A plurality of bridges are connected to the shapers and amplifiers and each provides full wave switching of the shaped, amplified signals under the control of the corresponding one of the signals. Each of a plurality of power supplies is connected to a corresponding one of the bridges for energizing the corresponding bridge. The power supplies are energized with an input voltage. A plurality of filters



are connected to the bridges and each provides full cycle rejection of every frequency but the corresponding determined frequency and passes an output voltage having the corresponding determined frequency. Each of a plurality of feedbacks extends between a corresponding one of the filters and the corresponding one of the power supplies for regulating variations in input and output voltages thereby permitting the use of the bridges and the filters.

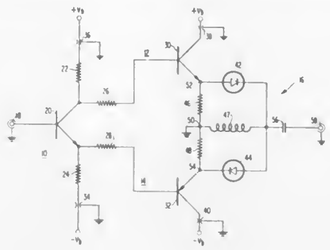
3,523,256
HEAT PUMPED LASER
Fred M. Johnson, Monrovia, Calif., assignor, by mesne assignments, to Xerox Corporation, a corporation of New York
Filed Feb. 12, 1965, Ser. No. 432,174
Int. Cl. H01s *3/09*
U.S. Cl. 331—94.5 **3 Claims**



This application relates to a heat pumped laser having means directly connected to a cathode for heating said cathode to a temperature sufficient to maintain operation in the low voltage arc mode and to supply sufficient power to adjacent negative absorption material to cause laser action.

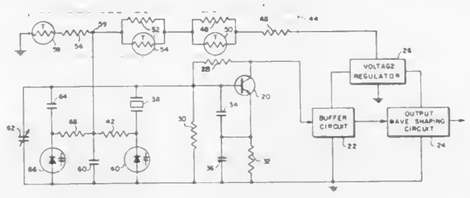
3,523,257
COUPLED PAIR TUNNEL DIODE VOLTAGE CONTROLLED OSCILLATOR
Marvin R. Wachs, Bowie, Md., assignor to Communications Satellite Corporation
Filed Aug. 28, 1968, Ser. No. 755,945
Int. Cl. H03b *7/08;* **H03c** *3/02*
U.S. Cl. 331—107 **3 Claims**

A coupled pair tunnel diode astable oscillator is provided with a varying balanced bias voltage to vary the output frequency. An input voltage is applied to a phase splitter and the opposite phase outputs are connected to



the tunnel diode pair oscillator through a pair of complementary type emitter follower connected transistors.

3,523,258
LINEAR TRIMMING DEVICE FOR TEMPERATURE CONTROLLED CRYSTAL OSCILLATOR
Donald E. Niemoeller, Lafayette, Ind., and William E. Reinhardt, Sandwich, Ill., assignors to Arvin Industries, Inc., Columbus, Ind., a corporation of Indiana
Filed Sept. 26, 1968, Ser. No. 762,905
Int. Cl. H03b *5/36*
U.S. Cl. 331—116 **9 Claims**

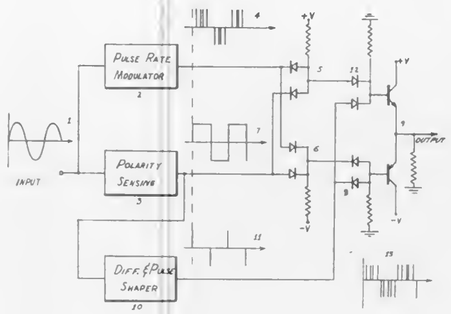


A temperature compensated crystal controlled oscillator having a linearizing circuit connected thereto for maintaining linear temperature compensation while the oscillator's frequency is adjusted to compensate for aging of the crystal. A transistor is connected in the oscillator circuit with its base electrode being controlled by a crystal connected through a varactor diode to ground. The varactor is controlled by a regulated voltage applied to the diode through a compensating circuit which includes thermistors. A capacitor is connected in parallel with the crystal for providing an adjustment for changing the crystal frequency back to its nominal value after it has aged. Adjustment of the variable capacitor causes a change in the network temperature characteristics so that the frequency of the oscillator no longer remains within tightly controlled limits over a wide temperature range. To alleviate this problem a second varactor diode and a capacitor are connected in series with each other and in parallel with the trimming capacitor, and the voltage across the second varactor is controlled by said compensating circuit.

3,523,259
POLARITY PULSE AUGMENTOR FOR PULSE RATE MODULATORS
Harry Fein, 832 Quarter Mile Road, Orange, Conn. 06477
Filed Apr. 8, 1968, Ser. No. 719,444
Int. Cl. H03k *7/06, 1/08*
U.S. Cl. 332—9 **3 Claims**

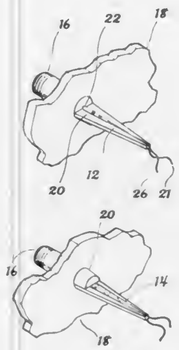
This invention is an apparatus for signalling changes in modulating signal polarity in pulse rate modulators. Each

zero transition of a modulating signal produces an electrical pulse of appropriate polarity which is combined



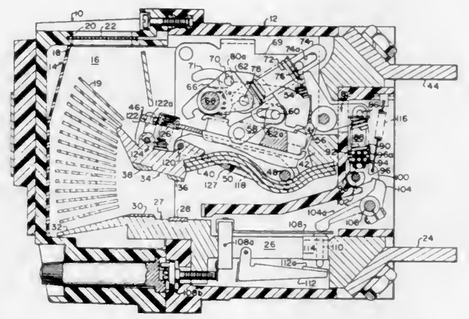
with pulses normally generated by the process of pulse rate modulation. This operation has the effect of enhancing the information content of pulse signals so augmented.

3,523,260
MICROSTRIP BALUN
Bernard F. Gunshinan, Sepulveda, and Bernard L. Burton, Simi, Calif., assignors to The Bendix Corporation, a corporation of Delaware
Filed Aug. 18, 1969, Ser. No. 850,888
Int. Cl. H03h *7/38;* **H01p** *3/08*
U.S. Cl. 333—26 **5 Claims**



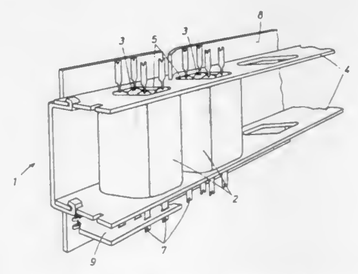
A miniature hybrid microstrip balun is described for providing an efficient coupling means between conductors such as a50-ohm coaxial conductor and a 150-ohm microwave antenna. Using microstrip techniques, a "hot side" conductor track tapered according to a Tchebycheff pattern is associated with a wide, but tapered, ground plane conductor on opposite sides of a dielectric substrate. Since the impedance transformation effected by this means provides only a portion of that required at the point where the "hot side" conductor is tapered to a minimum practical width, this conductor is maintained at this minimum width and the ground plane conductor is tapered smoothly down to a comparable width, thus providing the remaining impedance transformation and at the same time accomplishing mode transformation without significant reflective losses or phase shift.

3,523,261
CURRENT LIMITING CIRCUIT BREAKERS
Achille Bianchi and Angelo Mostosi, Bergamo, Italy, assignors, by mesne assignments, to Federal Pacific Electric Company, Newark, N.J., a corporation of Delaware
Filed Jan. 30, 1968, Ser. No. 701,721
Claims priority, application Italy, Jan. 30, 1967, 12,055; Nov. 29, 1967, 23,307
Int. Cl. H01h *77/10*
U.S. Cl. 335—16 **8 Claims**



A circuit breaker with high interruption capacity is realized by utilizing an electromagnetic loop that expands instantly when high current develops, to part the contacts initially and to cause continued contact-opening motion to full fault-current interruption. Responsiveness to the electrodynamic force is preserved and adequately large contacts are utilized without the corresponding consequence of contact-parting bounce at the instant of closing, by providing a gradual contact-closing operation that is completed with a short, sudden motion. In one form, the contact which is operated with minimum bounce to close the circuit breaker is also the contact that is moved electrodynamically to open the breaker; and in this construction the electrodynamic force unlatches the breaker-opening mechanism. In the other form, one contact is actuated to close the contacts and the companion contact is electrodynamically operable for opening the circuit breaker.

3,523,262
RELAY ARRANGEMENTS WITH REED CONTACTS
Johannes Bernutz, Ludwigsburg-Hoheneck, and Erich Klivar, Ditzingen, Germany, assignors to International Standard Electric Corporation
Filed Dec. 15, 1967, Ser. No. 690,819
Claims priority, application Germany, Dec. 24, 1966, St 26,301
Int. Cl. H01h *67/00*
U.S. Cl. 335—112 **21 Claims**



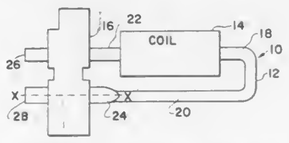
Relay strips are provided for telephone exchange systems. To form the relay strips, baked bodiless coils are

fastened by apertures and/or studs or tongues to insulating strips. Reed contacts are then inserted into the coils to form a network of crosspoints. The baked coils and the reeds are held together and to the insulating strips by form-locking fittings of the individual parts.

ERRATUM

For Class 335—230 see:
Patent No. 3,523,271

3,523,263
ELECTROMAGNETIC APPARATUS
Lambert F. Craemer, Orange, Samuel T. Kelly, Torrance, William W. Chambers, Anaheim, and James R. Willson, Garden Grove, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Jan. 12, 1968, Ser. No. 697,411
Int. Cl. H01f *7/08, 7/14*
U.S. Cl. 335—276 **6 Claims**

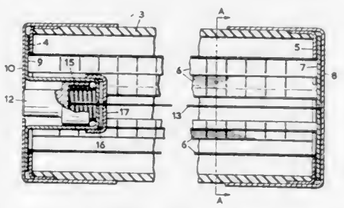


An electromagnetic apparatus composed of a magnetizable core having a flat and a round pole leg, with an energizing coil thereon, a flat armature arranged transversely of the coplanar outer sides of the legs and rollingly fulcrumed on the round leg, with only single line rotational friction therebetween, for pivotal movement in a curvilinear path normal of the pole faces and transversely of the axes of the legs, about an axis paralleling such leg axes, into facial contact with the flat leg; and positioner tabs on the armature cooperating with the adjacent part on the round leg upon antagonistic spring-urged movement of the armature and, upon energizing, a gap occurring between the tabs and such leg.

ERRATUM

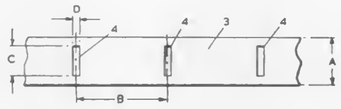
For Class 336—133 see:
Patent No. 3,523,272

3,523,264
FUSE LINKS
John Feenan, Ronald Vincent Wafer, and Eric Jacks, Liverpool, England, assignors to The English Electric Company Limited, London, England, a British company
Filed Mar. 29, 1968, Ser. No. 717,246
Claims priority, application Great Britain, Mar. 30, 1967, 14,466/67
Int. Cl. H01h *85/12, 85/30*
U.S. Cl. 337—161 **3 Claims**



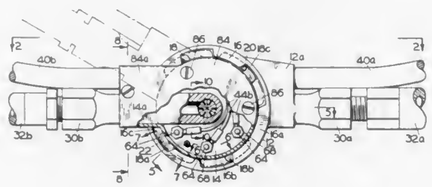
This invention relates to a fuse link comprising a tubular body of insulating material having conductive caps on its ends and in which a number of elongated fusible elements are connected between these caps, the elements being equidistantly spaced from one another and each comprising strip material so shaped in cross-section as to be sulf-supporting along its length.

3,523,265
FUSE ELEMENTS
John Feenan, Ronald Vincent Wafer, and Eric Jacks, Liverpool, England, assignors to The English Electric Company Limited, London, England, a British company
Filed Mar. 29, 1968, Ser. No. 717,211
Claims priority, application Great Britain, Mar. 30, 1967, 14,467/67
Int. Cl. H01h *85/08*
U.S. Cl. 337—290 **4 Claims**



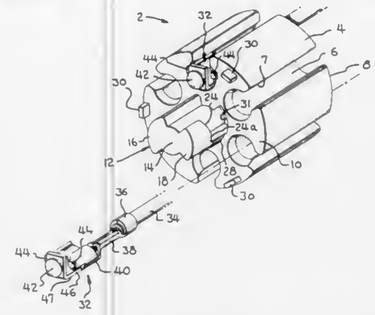
A fusible element for use in a high voltage fuse link, which element has a number of elongated apertures spaced apart along its length. The cross-sectional area and length of the intermediate portions of the element between the apertures and the cross-sectional area and length of the reduced portions alongside the apertures are carefully designed and so related that the relatively large mass of metal in these intermediate portions retards the rate at which the element is consumed by an arc upon overload fault inception. This retardation of the element consumpton is sufficient to encourage arcs to strike adjacent other apertures in the element whereby to realise an unstable multiple arcing condition conducive to their extinction.

3,523,266
COMPOSITE AIR AND ELECTRICAL COUPLING
Lloyd M. Wetzig, 465 N. 22nd St., and Lloyd A. King, 2120 N. A St., both of Springfield, Oreg. 97477
Filed Mar. 20, 1968, Ser. No. 714,638
Int. Cl. H01r *13/54, 23/54*
U.S. Cl. 339—15 **5 Claims**



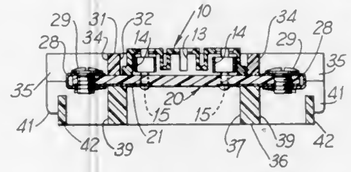
A composite air and electrical coupling is designed for use particularly on truck-trailer units. It comprises a hollow case formed in two telescoping, cupped sections releasably interengageable with each other. Air conduit and electrical conductors, both formed in two sections, are mounted one section on each of the case sections. They are arranged so that when the case sections are interengaged, the conduit and electrical conductor sections are operatively coupled. Provision is made for shielding the coupling from dirt and for protecting its elements from damage by vibration.

3,523,267
DISENGAGEABLE ELECTRICAL CONNECTOR
William Vito Pauza, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Continuation-in-part of application Ser. No. 626,252, Mar. 27, 1967. This application Jan. 24, 1968, Ser. No. 704,503
Int. Cl. H05k *1/00*
U.S. Cl. 339—17 **7 Claims**



Disengageable electrical connector for use with a printed circuit board comprises insulating housing having locking boss extending centrally from one side. Contacts are mounted in the housing and have contact head portions adjacent to, and elevated from, one side in surrounding relationship to locking boss. Boss has bayonet-type detent mechanism thereon including means for latching boss in assembled relationship to board and controlling the engagement of the contact heads of the terminals with the conducting paths of the board.

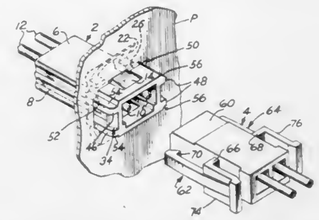
3,523,268
RELAY MOUNTING SOCKET WITH PRINTED CIRCUIT BOARD
Jack V. Foster, Fort Branch, Ind., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Mar. 6, 1968, Ser. No. 710,971
Int. Cl. H05k *1/07, 7/10*
U.S. Cl. 339—17 **10 Claims**



A mounting socket for an electrical plug-in device having a base of dielectric material with a printed circuit board embedded therein and detachable circuit connecting means for the conductors of the printed circuit board, and a socket means for the plug-in device being connected to the base and having contacts conductively connected to the conductors of the printed circuit board.

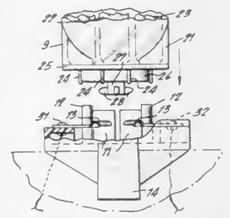
3,523,269
PANEL LOCKING TERMINAL CONNECTOR BLOCK
Roman J. Witek, Jr., Romulus, John D. Bissland, Westland, and Willard B. McCardell, Jr., Madison Heights, Mich., assignors to Essex International, Inc., a corporation of Michigan
Filed Mar. 8, 1968, Ser. No. 711,682
Int. Cl. H01r *13/54*
U.S. Cl. 339—91 **8 Claims**

A new and improved panel locking terminal connector block. A housing containing electrical terminals includes a pair of notched edge resilient inclined tabs and a pair of resilient backup members associated with each other and located on external faces of the housing. The housing is routed through a panel aperture and the notched tabs engage one side of the panel and the periphery of the aperture while the backup members remain on and bear against the other side of the panel to firmly lock the housing into the panel aperture. Shoulders are provided



to prevent overrouting. A second housing, containing terminals, is inserted into the panel locked housing and means is included on both housings to firmly hold the housings together. The first housing includes ribs to protect said means while routing and also polarizing means are provided both to prevent routing of the first housing and insertion of the second housing in all but one position.

3,523,270
INTEGRAL SOCKET FOR PHOTOFLASH LAMP
George Cagen, Brooklyn, N.Y., assignor to Ideal Toy Corporation, Hollis, N.Y., a corporation of New York
Filed Oct. 1, 1968, Ser. No. 764,349
Int. Cl. H01r *13/54*
U.S. Cl. 339—91 **5 Claims**

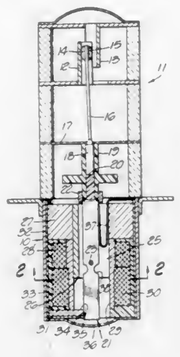


A receiving socket and electrical connector for multiple lamp photoflash cubes is formed of a single piece of plastic molded to include a plurality of upward extending retaining arms which are positioned to receive a flash cube base. The arrangement of retaining arms is designed to permit an inserted flash cube to rotate at 90 degree intervals between proper firing positions while preventing the cube from attaining any intermediate positions.

3,523,271
ARMATURE FOR AN ACTUATOR WITH A FLUX GUIDE THEREAROUND
Floyd Delbert Miles, Santa Clara, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware
Filed June 27, 1968, Ser. No. 740,596
Int. Cl. H01f *7/08*
U.S. Cl. 335—230 **5 Claims**

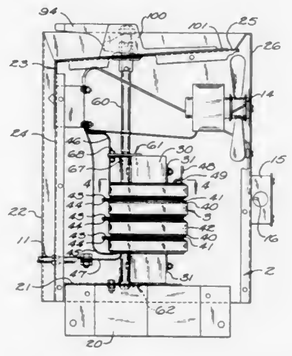
An electromagnetic actuator for a vacuum switch or the like. The actuator has an armature with a flux guide therearound. The armature has a thinned portion so that it may be bent to shape for adjustment purposes. The flux guide shunts magnetic flux around the thinned portion. An actuating arrangement is also provided to cause the armature to toggle to one of two positions by the application of a momentary voltage to one of two corresponding solenoids. A permanent magnet holds the armature in one position. The magnet does not have a field

strength sufficient to overcome the force of a spring which biases the armature in the other position. A first solenoid



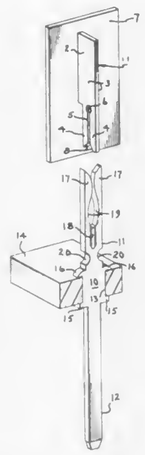
is then provided to aid the magnet. A second solenoid bucks the magnet to allow the spring to return the armature.

3,523,272
WELDER TRANSFORMER
Walter P. Jost, Webster, and John A. Palmer, University City, Mo., assignors to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
Filed July 24, 1968, Ser. No. 747,373
Int. Cl. H01f *21/06*
U.S. Cl. 336—133 **7 Claims**



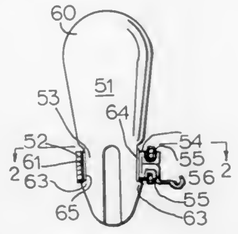
A core-type transformer for an AC arc welder in which the primary and secondary windings are aluminum strips interleaved with woven glass tape as the dielectric. The woven glass tape acts almost exclusively as a mere spacer. A second core is movable into and out of the window of the wound core. The second core is mounted on a vertical shaft journaled in a pair of brackets on horizontal reaches of the wound core. The vertical shaft is held in V-shaped seats in the brackets by relatively stiff keeper plates bearing against the opposite side of the shaft. The shaft extends through a sheet metal top cover and is capped by a pointer and handle for rotating the shaft and second core. Pin keys in the shaft above and below the top cover hold flanged locks. A cam on the handle compresses the top cover between the locks when the handle is pivoted downwardly. A table on the top cover indicates the output amperage of the transformer as the pointer moves and includes a set of colored bands, the colors of which correspond to American Welding Society code colors of some welding electrodes to be used with the welder.

3,523,273
ELECTRICAL CONNECTORS
Kemper Martel Hammell, Harrisburg, and Carl Hunter Boas, Reading, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Continuation of application Ser. No. 534,744, Mar. 16, 1966. This application July 3, 1968, Ser. No. 751,655
Int. Cl. H01r *11/22, 9/14*
U.S. Cl. 339—64 **19 Claims**



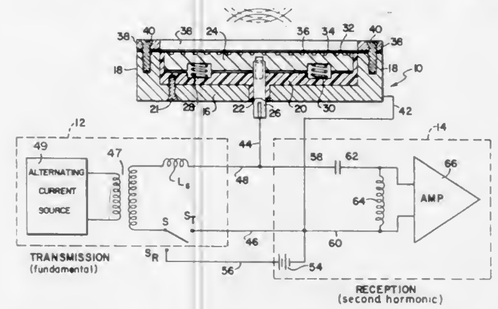
An electrical connector comprises a support portion for securable disposition on a mounting member, a contact section and a conductor-engaging section. The contact section is provided with bifurcated contact arms connected together by a bridge section. Each contact arm is provided with an inner surface of substantially sinusoidal configuration with an outer section of the inner surface defining a contact-engaging area of large radius and an inner section having an arcuate configuration thereby providing a varying cross section less than the radiused contact-engaging area and approximating a beam of constant strength to provide spring characteristics to the contact arms so as to maintain the contact-engaging areas in close proximity with respect to each other.

3,523,274
SIMPLIFIED LAMP AND STRUCTURE COACTION SYSTEM
John J. Horan, 420 Quigley Ave., Willow Grove, Pa. 19090
Filed Sept. 7, 1966, Ser. No. 584,031
Int. Cl. H01r *33/10*
U.S. Cl. 339—176 **30 Claims**



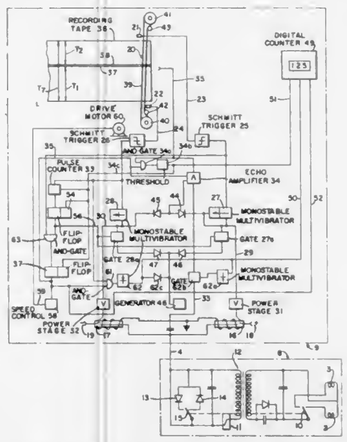
A simple, integrated system, with method and means, co-adapting new kinds of electric lamps with new forms of mechanical structure for quick installation, conductive acceptance, and firmly gripping retention of said lamps in said structure.

3,523,275
SYSTEM FOR TRANSMITTING AND DETECTING ACOUSTIC SIGNALS
Thomas A. O. Gross, Lincoln, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed July 23, 1968, Ser. No. 746,859
Int. Cl. G01s *9/68*
U.S. Cl. 340—1 **14 Claims**



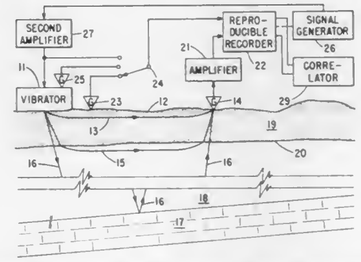
A system for transmitting and detecting accoustic signals which utilizes a singular polarizable transducer. The transducer is driven at a select frequency in a manner such that it generates acoustic signals at the second harmonic of the driving frequency. By polarizing the transducer during a receiving or detection interval, the device becomes responsive to acoustic echo pulses at the second harmonic frequency. The wide variance in transmitting and receiving frequencies permits the use of a simple high pass filter between the transmitting and receiving functions of the system.

3,523,276
ECHO SOUNDER SYSTEM
Hans Kietz, Bremen, Germany, assignor to Fried. Krupp Gesellschaft mit beschrankter Haftung, Essen, Germany
Filed Aug. 2, 1968, Ser. No. 749,762
Claims priority, application Germany, Aug. 2, 1967, B 93,793
Int. Cl. G01s *9/70*
U.S. Cl. 340—3 **12 Claims**



Echo sounder system for a fishing net including means for producing a long-range upwardly directed sounding from such net to sound the surface and determine the depth at which the net is disposed in the body of water and means for producing both a short-range upwardly and downwardly directed sounding from such net to sound the net and fish in close proximity to such net and means for recording the echoes received from the soundings of the long- and short-range sounding means. The recording means includes means for providing a separate recording of echoes received from long-range soundings in the upward direction as well as short-range soundings, both in the upward and downward directions, and for providing a large scale recording of echoes received from short-range soundings. By this arrangement, the depth of the net with respect to the surface of the body of water and the location of the net with respect to fish can be monitored.

3,523,277
VIBRATION SURVEYING
Ralph A. Landrum, Jr., Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Apr. 5, 1968, Ser. No. 719,207
Int. Cl. G01v *1/28*
U.S. Cl. 340—15.5 **6 Claims**



This invention relates to geophysical seismic prospecting and allied techniques, where the source signal is a set of n repetitions of a single basic wave, n being essentially an integer. An example of such a signal is a truncated sine wave starting from zero amplitude and terminating a finite integral number of cycles later. These waves are sent from the source zone or area and are received, including echoes, at one or preferably a plurality of receiver locations. The received waves are made into a reproducible record, which is played back and correlated with a signal substantially equivalent to the source signal. This considerably increases the signal-to-noise ratio.

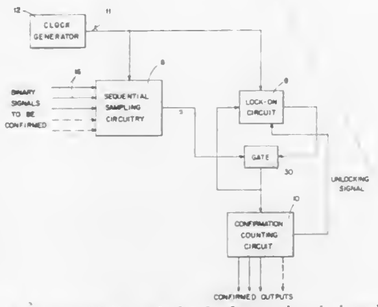
The correlated record is further played back and correlated with the autocorrelation function of the approximate spiking filter of the n repetitions, to compress each part of the received signal corresponding to a single echo (or reflection) into a short duration, recognizable signal characterizing such reflection. After this, a visual presentation of these data is made.

Use of this system makes practical a vibratory source of waves operating at a single frequency for a finite time interval.

3,523,278
SYSTEM FOR CONFIRMING THE VALIDITY OF REPETITIVELY SAMPLED DIGITAL DATA
Robert E. Hinkel, Los Angeles, Calif., assignor to Northrop Corporation, Beverly Hills, Calif., a corporation of California
Filed Feb. 5, 1968, Ser. No. 703,168
Int. Cl. H04l *1/00*
U.S. Cl. 340—146.1 **6 Claims**

A plurality of output lines having digital signals thereon to be confirmed as to their validity are fed to sequential sampling circuitry, wherein such signals are sequentially sampled in response to a clock generator. A lock-on circuit which is synchronized with the sequential sampling circuitry by the clock generator locks on to a predetermined one of the signals and gates this signal to a confirmation counting circuit as it successively appears in its sampling sequence. The confirmation counting circuit counts the successive appearances of the signal to be

confirmed until a predetermined count for confirmation has been reached, at which time the confirmed output for

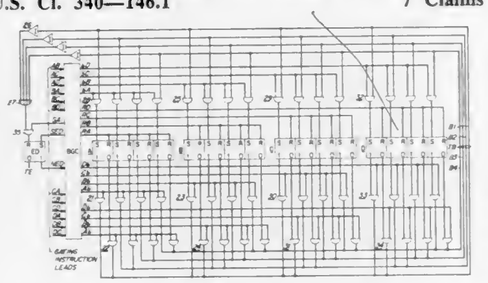


this signal is provided and the lock-on circuit is released so that it may lock on to another signal to be confirmed.

3,523,279
DATA TRANSMISSION ERROR CHECKING ARRANGEMENT

Bruce E. Briley, Countryside, and Victor Hachenburg, Naperville, Ill., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Apr. 17, 1968, Ser. No. 722,108
Int. Cl. G06f *11/00;* **G08b** *29/00*
U.S. Cl. 340—146.1 **7 Claims**



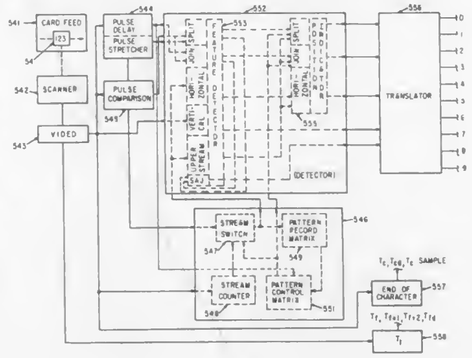
Disclosed herein is an arrangement for checking the contents of a destination register against the contents of a source register after a transfer of information between the registers has been performed over a single-rail data bus. The complement of the source register contents is gated onto the bus simultaneously with the true contents of the destination register and the bus is checked for the presence of any binary "0's." The complement of the destination register contents is then gated onto the bus simultaneously with the true contents of the source register and the bus is again checked for the presence of any binary "0's." The detection of any binary "0's" on the bus during either of the checking operations indicates a mismatch between the information in the source register and the information in the destination register.

3,523,280
APPARATUS FOR READING INTELLIGENCE BEARING CHARACTERS

David H. Shepard, Rye, N.Y., and Clyde C. Heasly, Jr., Arlington County, Howard W. Silsby, 3d, Annandale, and Pickard F. Bargh, Alexandria, Va., assignors to Farrington Electronics, Inc., Springfield, Va., a corporation of Massachusetts

Filed Mar. 25, 1964, Ser. No. 355,149
Int. Cl. G06k *9/12, 9/13*
U.S. Cl. 340—146.3 **10 Claims**

1. Apparatus for reading intelligence-bearing characters comprising means for scanning the area of a character along a plurality of successive scan lines progressing in parallelism along the character area and recurring at a selected repetition rate, means for sensing the interception of each scan line by the character during the scan line and producing interception and non-interception scan signals, respectively, denoting the interception and non-interception of the scan line by a portion of the character, means for recording the scan signals produced during each scan line, delay means for delaying the scan signals for a period corresponding approximately to said repetition rate, signal stretching means for stretching the time duration of said scan signals, means for comparing on a time basis delayed and stretched representations of scan signals recorded during a prior scan with scan signals produced during successive scan lines and by such comparisons continuously following through successive scan lines character configuration streams in a character being scanned from the first portions to the last portions of such streams encountered by the scan lines, counter means for



identifying each stream of a character to be read, means for maintaing the identification matched to the respective stream throughout the scanning of a character comprising, pattern record apparatus for recording the sequence of scan interceptions of a continuous stream occurring during past and successive scan lines and new streams occurring only during the successive scan line, stream switching apparatus, pattern control apparatus employing the recorded information from the pattern record apparatus for controlling the stream switching apparatus to regulate the actual orderly output of the pre-identified streams as they are intercepted during each successive scan line, said stream switching apparatus routing the outputs of the counter means and the means for comparing to detect preselected intracharacter patterns, and means for recognizing the character to be identified according to said patterns and providing an output signal indicative of the character recognized.

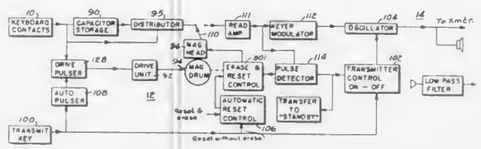
3,523,281
SELF-IDENTIFYING INQUIRY STATION FOR INFORMATION SYSTEMS

Frederick P. Willcox, 261–1 Oenoke Ridge, New Canaan, Conn. 06840, and Newland F. Smith, New Canaan, Conn.; said Smith assignor to said Willcox

Original application May 12, 1964, Ser. No. 366,792, now Patent No. 3,314,051, dated Apr. 11, 1967. Divided and this application Mar. 29, 1967, Ser. No. 644,416
Int. Cl. H04q *9/00*
U.S. Cl. 340—151 **2 Claims**

An inquiry-originating station for use in information systems of the type in which a central information store is interrogated from any of several remote points. The inquiry station includes a recording medium bearing in permanent form the identification code of that station

on one portion of the medium, for transmission as a message prefix; a second portion of the same medium provides space for changeable recording of the body of an inquiry message to be transmitted. The changeable por-

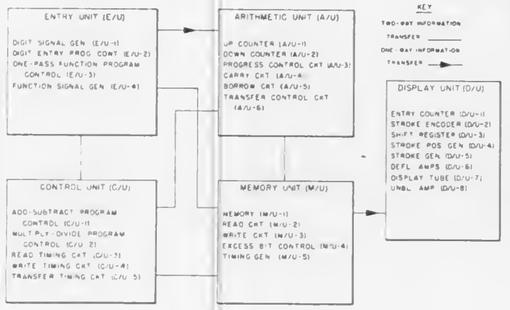


tion of the medium is erased following transmission of each inquiry message, and means are provided for recording on this erased portion, the reply message received from the central store.

3,523,282
CALCULATOR

Robert A. Ragen, Hayward, Calif., assignor to Friden, Inc., a corporation of Delaware

Original application Oct. 28, 1963, Ser. No. 319,273. Divided and this application Sept. 24, 1964, Ser. No. 398,902
Int. Cl. G06f *3/02, 3/14, 15/02*
U.S. Cl. 340—172.5 **13 Claims**



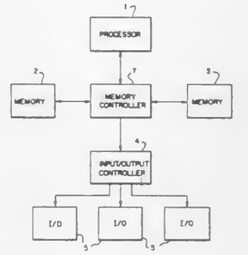
The disclosure relates to an electronic desk-type calculator capable of performing the basic arithmetical functions as well as store, recall and shift. The calculator automatically clears the entry register when a digit key is operated after a function key. All functions are performed by use of a single pair of counters, each capable of counting to ten, the functions of multiplication and division requiring an additional storage device.

3,523,283
DATA PROCESSING SYSTEM INCLUDING MEANS FOR INTERRUPTING A PROGRAM BEING EXECUTED

Robert Cohen, Pohn F. Couleur, and Richard L. Ruth, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York

Continuation of application Ser. No. 563,521, July 7, 1966. This application May 7, 1969, Ser. No. 822,748
Int. Cl. H04j *3/12*
U.S. Cl. 340—172.5 **9 Claims**

A data processing system including a memory controller connected as a sole communication channel between a memory device and any of a plurality of communication devices. One of the communication devices is a data processing system for executing instructions stored in memory. A program including a plurality of instructions may be executed by the data processor and the execution may be interrupted in response to predetermined conditions and a request for an interruption. A communicating device such as an input-output controller may request an interruption of the program being executed by the data processor by simply providing an interrupt signal to the memory controller. The interrupt signal

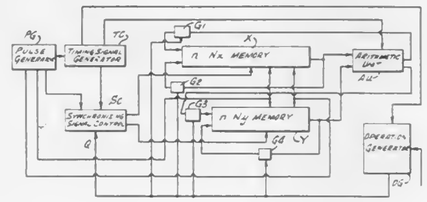


thus provided is generated without address considerations and in response thereto the memory controller generates a partial address and provides the partial address to the data processing system, which subsequently completes the address.

3,523,284
INFORMATION CONTROL SYSTEM

Isamu Washizuka, Osaka-shi, and Kunio Yoshida, Yamatokoriyama-shi, Japan, assignors to Hayakawa Denki Kogyo Kabushiki Kaisha, Osaka-shi, Osaka-fu, Japan, a company of Japan

Filed June 23, 1967, Ser. No. 648,331
Claims priority, application Japan, July 1, 1966, 41/43,168; Sept. 19, 1966, 41/62,095
Int. Cl. G11c *11/40*
U.S. Cl. 340—173 **1 Claim**



An information control system utilizing a synchronous dynamic memory system for dynamically storing information, a control device which controls the transmission of information from the dynamic memory by modifying one or more synchronizing signals for a specific period of time and in accordance with the particular type of computation to be effected.

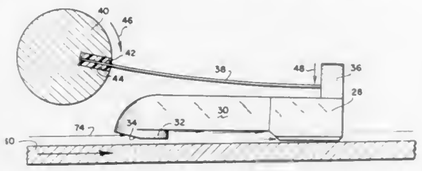
3,523,285
TRANSDUCING HEAD ASSEMBLY AND FORWARD CANTILEVERED BEARING PAD

James A. Alger, Jr., Torrance, and John J. Miyata, Monterey Park, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Nov. 2, 1967, Ser. No. 680,098
Int. Cl. G11b *5/60*
U.S. Cl. 340—174.1 **10 Claims**

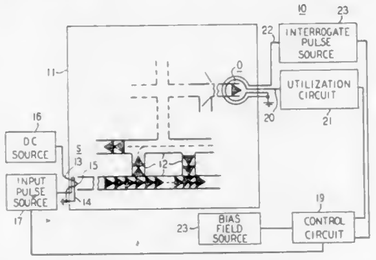
A transducing head assembly wherein a plurality of magnetic transducing heads are mounted together to form a transducing head unit with a flying pad cantilevered forward of the head unit. The head unit is affixed to one end of each of a pair of leaf springs and the other ends of the springs are affixed to, and extend radially from, a supporting rod. The supporting rod is mounted in an

assembly bracket so as to have rotatable movement about its axis and means are provided to control the rotative position of the rod. By rotating the rod, the leaf springs are pivoted toward or away from a rotating disc to thereby position the magnetic heads into or out of engagement with the recording surface of the disc. The flying



pad has a beveled leading surface portion forming an air foil that causes the pad to fly over the moving layer of air produced by the rotating disc. The moving air layer is accordingly directed under the head unit to urge the heads away from the disc surface. Proper balance of the lifting force and the loading force of the leaf springs sup ports the heads at a desired distance from the recording surface.

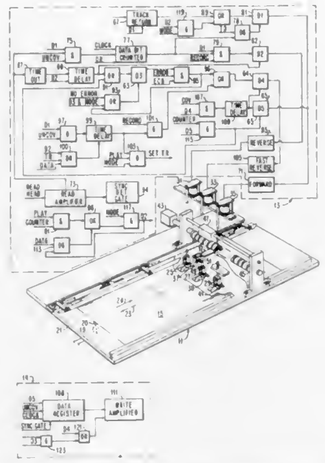
3,523,286
MAGNETIC SINGLE WALL DOMAIN PROPAGATION DEVICE
Andrew H. Bobeck, Chatham, and Edward Della Torre, Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Aug. 12, 1968, Ser. No. 752,069
Int. Cl. G11c *19/00*
U.S. Cl. 340—174 **11 Claims**



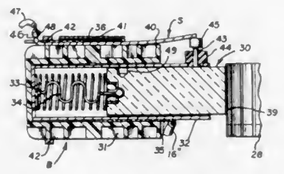
The propagation of single wall domains along a selected one of two intersecting propagation channels may be made to depend on the size of the domain at the intersection. Embodiments are described where domain propagation is carried out with alternation of domain size and, alternatively, with a constant domain size.

3,523,287
RECORDING AND PLAYBACK SYSTEM INCORPORATING A FIRST CHARACTER POSITIONING SYSTEM
Donald J. Morrison and Howard C. Tanner, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 15, 1968, Ser. No. 697,716
Int. Cl. G11b *27/20, 15/06*
U.S. Cl. 340—174.1 **5 Claims**

A system for providing an accurate positioned reference for the first data character of a group of data characters to be recorded during the relative movement of a recording media with respect to a recording head. A light-sensitive device senses the approximate position of the media and causes a reference character to be recorded on the media during the first increment of relative movement between the media and the recording head only if no such reference character has been previously recorded. The reference character is thereafter utilized by the recording system to control the position of the first data character which in turn controls the position of the following data character. Once the reference character is recorded by the system, it is never altered in subsequent recording operations unless it becomes obliterated or partially obliterated.



3,523,288
BRUSH WEAR INDICATOR
Harris A. Thompson, P.O. Box 916, Boulder, Colo. 80302
Filed Mar. 20, 1968, Ser. No. 714,555
Int. Cl. G08b *21/00;* **H01h** *1/36*
U.S. Cl. 340—267 **13 Claims**

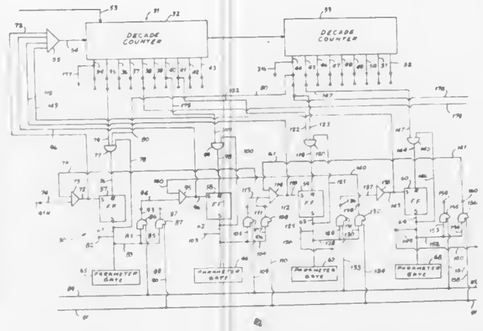


A brush wear indicator for an electric motor including a switch means having one portion contacting a motor brush. This switch means trips to initiate a warning device. When the brush is nearly worn out, the contacting portion drops over the edge of the brush and the switch is tripped. A switch may be used with one or with each brush and when used with both, either will trip to actuate the warning device. The warning device may be a light adapted to flash whenever the switch is tripped.

3,523,289
APPARATUS FOR GENERATING A REPRESENTATION OF THE JUNCTION BETWEEN TWO SOLIDS IN A CATHODE RAY TUBE DISPLAY
Lee Harrison III, Englewood, Colo., assignor to Computer Image Corporation, Denver, Colo., a corporation of Delaware
Continuation-in-part of application Ser. No. 607,078, Jan. 3, 1967. This appplication Jan. 15, 1968, Ser. No. 698,017
Int. Cl. H01j *31/10*
U.S. Cl. 340—324 **9 Claims**

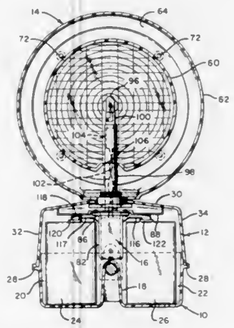
A network for maintaining continuity of generated surfaces on members which are pivotally connected together in a display produced by an electronic image generator. Lengths of the numbers are programmed to

a counter to automatically generate extensions of designated members beyond their pivotal connections to other



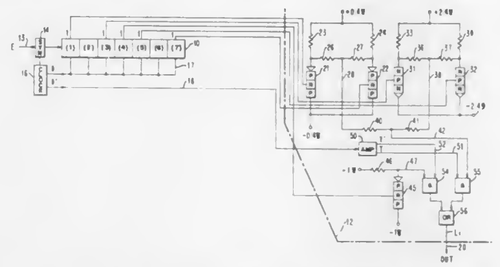
members, enabling the surfaces of the pivotally connected members to maintain their continuity.

3,523,290
FLASHING WARNING SIGNAL
Fred Russell Elledge, Jr., 2332 Eva St., Napa, Calif. 94558
Filed Dec. 19, 1967, Ser. No. 691,799
Int. Cl. F21v *33/00;* **G08b** *5/00*
U.S. Cl. 340—331 **5 Claims**



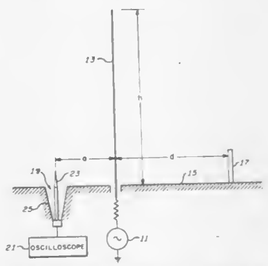
A signal device of the type which includes a battery accommodating case, a cover releasably secured to the case, and a novel head assembly rotatably secured to the cover. The head assembly comprises a molded plastic hollow body which is generally ring-shaped and formed with radially spaced inner and outer walls interconnected by axially spaced side walls. A pair of lenses are secured to the opposite side walls of the body. A fastening plate is included inside the body at a pair of aligned openings in the inner and outer walls thereof, and a cooperating headed tubular fastening member extends through an aperture in the cover, through the opening in the outer body wall, and engages the fastening plate within the body. A signal lamp member comprising a body releasably secured inside the cover, and having an elongated stem portion extending through the fastening member carries a lamp at the inner end of the stem for viewing through the lenses. A pair of opposed, inwardly directed lips on the inside of the cover releasably support the signal lamp member therewithin, the cover being sufficiently flexible to permit spreading of the opposed lips when the cover is removed from the case for attaching and removing the lamp member.

3,523,291
DATA TRANSMISSION SYSTEM
Jean-Marc Pierret, Falicon, Nice, France, assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 12, 1967, Ser. No. 667,203
Claims priority, application France, Sept. 21, 1966, 8,054
Int. Cl. H03k *13/02*
U.S. Cl. 340—347 **5 Claims**



A signal to be transmitted is considered to be comprised of a low frequency pulse modulated with its harmonics, the resultant having a decodable maximum or minimum. For digital transmission, appropriate selection of a central pulse with timed and weighted preceding and trailing echoes for each digit approximates such a resultant and enables transmission of digit signals over a line at pulse rates approximating the high frequency limit of the line pass band. The timing of the central pulses and echoes may be so selected that no central pulse overlaps an echo pulse whereby decoding of the received signal is facilitated.

3,523,292
RADAR TARGET-IDENTIFYING APPARATUS
Joseph D. DeLorenzo, Sudbury, Mass., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Oct. 18, 1967, Ser. No. 676,318
Int. Cl. G01s *9/02*
U.S. Cl. 343—5 **8 Claims**

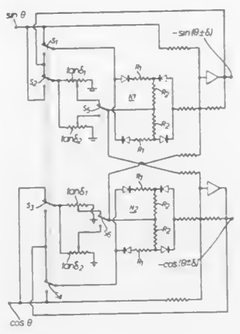


Radar target-identifying apparatus having a pulse source of voltage driving a monopole antenna which is long with respect to the target distance and a receiving antenna which has a doublet response characteristic.

3,523,293
RADAR DISPLAY CORRECTING ARRANGEMENTS
David Horace Chandler, Essex, England, assignor to The Marconi Company Limited, London, England, a British company
Filed July 11, 1968, Ser. No. 744,151
Claims priority, application Great Britain, July 12, 1967, 32,122/67
Int. Cl. G01s *9/02*
U.S. Cl. 343—5 **13 Claims**

In a radar having fixed deflection coil display apparatus and using a resolver to produce voltages proportional to

the sine and cosine of the bearing angle θ of a target to be displayed, the squint angle δ is corrected by combining voltages proportional to $+\sin\theta$ and $+\cos\theta$ with pre-

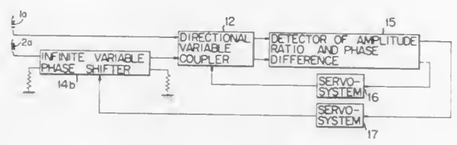


selected combined proportions of these circular functions to produce a voltage proportional to one of $-\sin(\theta+\delta)$, $-\sin(\theta-\delta)$, $-\cos(\theta+\delta)$ and $-\cos(\theta-\delta)$.

3,523,294
POLARIZATION-PLANE TRACKING RECEIVING SYSTEM

Soji Okamura, Yokohama-shi, Junzo Murakami, Kawasaki-shi, Joji Hamasaki, Tokyo, and Kazuaki Takao, Kyoto-fu, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan; Joji Hamasaki, Tokyo, Japan; and Kazuaki Takao, Kyoto-fu, Japan

Filed Jan. 3, 1969, Ser. No. 788,728
Claims priority, application Japan, Jan. 24, 1968, 43/3,703
Int. Cl. H04b *7/10*
U.S. Cl. 343—100 **15 Claims**

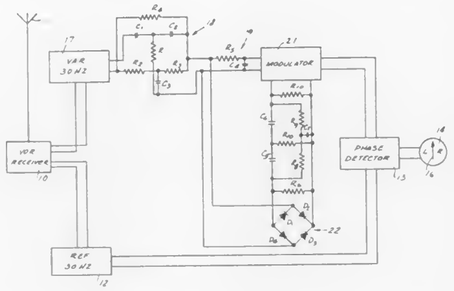


Incoming elliptically polarized electromagnetic waves are picked up by separating said waves into two right- and left-hand circularly polarized components. The two picked up signals are allowed to pass through an infinite variable phase shifter and electric power combining means in succession and supplied to a detector of amplitude ratios and phase differentials. The outputs from the detector which correspond to the amplitude ratios and phase differentials are fed back through a servo system to the variable drive means of the infinite variable phase shifter and electric power combining means. These output signals are supplied to one of the output sides, with their phases equalized by the infinite variable phase shifter and their amplitudes combined in the most suitable ratio for that output side by the electric power combining means. Thus there is arranged an indication apparatus in such a manner that incoming electromagnetic waves are picked up in accordance with variations in the polarization-plane, and that the degree of elliptical polarization, direction of the main axis of the ellipsis can be read from the amount of displacement exhibited by the variable drive means.

3,523,295
APPARATUS FOR CORRECTING ERRORS IN NAVIGATION SYSTEMS

Earl Stuart Perkins, Oakbrook, Ill., assignor to Butler National Corporation, Minneapolis, Minn., a corporation of Delaware

Filed Apr. 3, 1968, Ser. No. 718,412
Int. Cl. G01s *1/50;* **H04b** *1/12*
U.S. Cl. 343—106 **4 Claims**

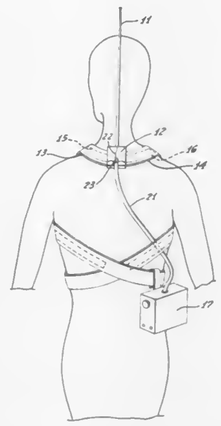


A navigation system for receiving and detecting VOR signals, for example, in which the variable 30 hertz signal is passed through a 15 hertz filter and then full-wave rectified to convert the 30 hertz signal into a 60 hertz signal. The 60 hertz signal is filtered out and the result is modulated on the variable 30 hertz signal which has not passed through the full-wave rectifier and 60 hertz filter. The output of the modulator is a corrected 30 hertz signal which accurately indicates the variable phase.

3,523,296
PORTABLE ANTENNA

Arie Vliegenthardt, De Bilt, Netherlands, assignor to Fritz Hellige & Co. G.m.b.H., Freiburg im Breisgan, Germany

Filed Apr. 10, 1968, Ser. No. 720,227
Claims priority, application Germany, Apr. 25, 1967, H 58,765
Int. Cl. H01q *1/12*
U.S. Cl. 343—718 **3 Claims**

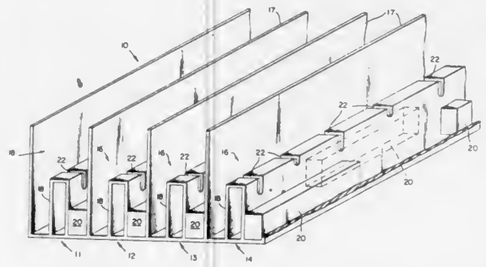


A portable antenna system adapted to be strapped to a man or animal for communication or telemetry purposes. A holder strapped to the body supports an antenna rod. The straps have conductive wire, tape or foil incorporated therein. The radio equipment is suspended from the straps and connected to a coaxial transmission line. The center conductor of the coaxial line is connected to the antenna rod, and the outer shield is connected to the conductive strap elements, which function as a counterpoise.

3,523,297
DUAL FREQUENCY ANTENNA

Maurice L. Fee, Lakewood, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Dec. 20, 1968, Ser. No. 785,539
Int. Cl. H01q *13/10, 11/02*
U.S. Cl. 343—771 **7 Claims**

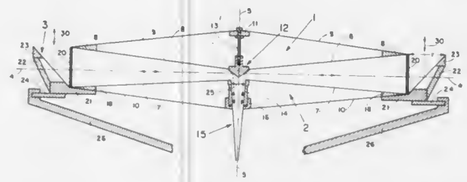


The apparatus of the present invention employs integrated radiating structure for two frequencies to provide a dual frequency antenna having a low frequency bandwidth which is greater than that obtainable with a slotted waveguide array and a high frequency bandwidth comparable to the bandwidth of a slotted waveguide array. The dual frequency antenna has an isolation between the two frequency channels thereof that may be made greater than that normally obtainable in dual frequency multimode antennas. The different frequency elements of the antenna may be oriented in a manner to radiate in space quadrature and thereby enhance the isolation between the two channels. The antenna is relatively simple to design and fabricate and may be used in a planar array configuration without exceeding a one wavelength spacing between radiating elements of the same frequency channel thereby minimizing the generation of undesirable secondary lobes in the array pattern.

3,523,298
BICONICAL HORN AND REFLECTOR ANTENNA

John P. Hagen, State College, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed May 31, 1968, Ser. No. 733,459
Int. Cl. H01q *19/14*
U.S. Cl. 343—775 **6 Claims**

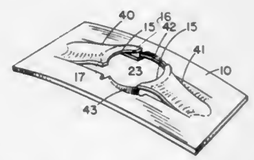


A lightweight large aperture antenna for use in radio astronomy and satellite tracking is constructed by positioning two double cones such that their confronting surfaces define a biconical radiator. Each of these double cones is formed from relatively thin metal members. These members are maintained under tension to prevent flexure during operation of the antenna. An annular reflector spaced from the mouth of the biconical horn redirects the omnidirectional radiation emanating therefrom into a narrow, unidirectional beam. This reflector also includes a relatively thin metal member under tension.

3,523,299
THREAD ENGAGING SHEET METAL FASTENER

George A. Tinnerman, 17864 Beach Road, Lakewood, Ohio 44107

Original application Sept. 20, 1965, Ser. No. 489,467, now Patent No. 3,382,753. Divided and this application Oct. 10, 1967, Ser. No. 674,247
The portion of the term of the patent subsequent to Sept. 21, 1982, has been disclaimed
Int. Cl. F16b *17/00, 37/00*
U.S. Cl. 85—36 **1 Claim**

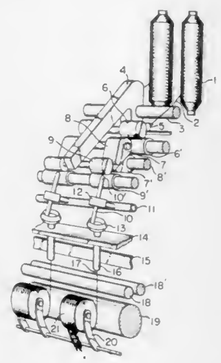


A sheet metal nut has an aperture bounded by separated, arcuate edges arranged in a helical path with some of the edges formed on tongues struck out from the sheet metal and crowned to brace the tongues. One arcuate edge is axially spaced from the first arcuate edge and may be rigid with the nut body.

3,523,300
SPINNING METHOD AND APPARATUS FOR MANUFACTURING YARN FROM TEXTILE FIBERS

Masaaki Tabata, Kozo Susuami, and Hiroshi Edagawa, Otsu-shi, and Kunio Shinkai, Handa-shi, Japan, assignors to Toray Industries, Inc., Tokyo, Japan, a company of Japan, and Howa Machinery, Ltd., Nagoya-shi, Aichi-ken, Japan, a company of Japan

Filed Aug. 16, 1967, Ser. No. 660,990
Claims priority, application Japan, Aug. 18, 1966, 41/53,905; Mar. 22, 1967, 42/17,418; Apr. 19, 1967, 42/24,976; May 22, 1967 (utility model), 42/42,452; June 5, 1967, 42/35,472; July 4, 1967, 42/42,559; July 12, 1967, 42/44,378, 42/44,380, 42/44,381, 42/44,382, 42/44,383 (utility model), 42/59,706
Int. Cl. D01h *7/00, 1/24*
U.S. Cl. 57—58.91 **29 Claims**



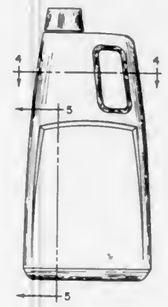
An improved spinning method and its apparatus utilizing pneumatics and centrifugal force. The bundle of fibers

delivered from a supply source is shredded in a supply conduit of the feeding means by a fluid stream caused by compressed air, and the shredded fibers are deposited continuously on a rotating receiving surface of a rotor and cohered on the receiving surface, then the cohered fibers in a circular bundle form are displaced to a collecting surface having larger radius than the receiving surface by the centrifugal force caused by the high speed rotation of the rotor and a continuous bundle of fibers is taken off from the collecting surface and drawn out from the outlet of the rotor while turning the bundle of fibers by the twisting action of the rotor, and thereafter the twisted bundle of fibers, that is the produced yarn, is packaged by a suitable winding mechanism. To control the above-mentioned twisting, certain twist control means attached to the rotor are provided.

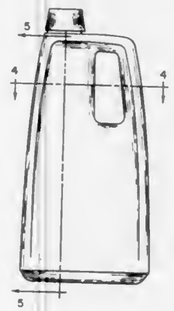
DESIGNS

AUGUST 4, 1970

218,219
JUG
David G. Hills, Collinsville, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Apr. 29, 1969, Ser. No. 16,933
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—42



218,220
JUG
David G. Hills, Collinsville, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Apr. 30, 1969, Ser. No. 16,964
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—42



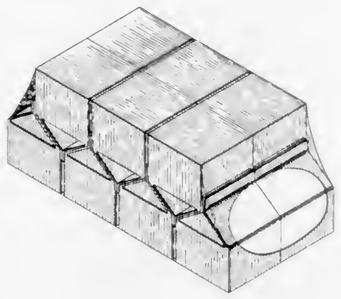
218,221
BOTTLE
Philip S. Coghill, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 12, 1968, Ser. No. 14,375
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—60



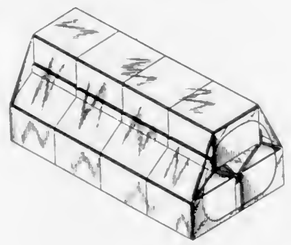
218,222
TOOTHBRUSH CASE
Abraham Leibson, Buckingham, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 29, 1969, Ser. No. 17,407
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—182



218,223
PACKAGE OR SIMILAR ARTICLE
Keith Stewart Carmichael, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 12, 1968, Ser. No. 14,376
Term of patent 7 years
Int. Cl. D9—*99*
U.S. Cl. D9—184



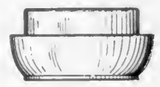
218,224
PACKAGE OR SIMILAR ARTICLE
Keith Stewart Carmichael, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 12, 1968, Ser. No. 14,377
Term of patent 7 years
Int. Cl. D9—*99*
U.S. Cl. D9—184



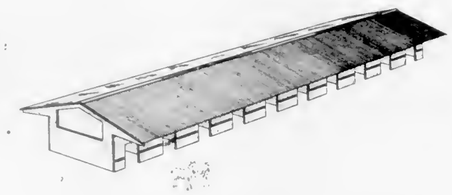
218,225
CAN
Carl William Heinle, Short Hills, and Sydney Johnstone Wallace, Allendale, N.J., assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 29, 1969, Ser. No. 18,921
Term of patent 14 years
Int. Cl. D9—*07*
U.S. Cl. D9—218



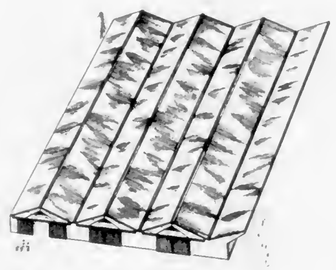
218,226
CAP FOR SCREWS
Jean Painaud, St. Francoise, Ville Laval, Quebec, Canada, assignor to Tritton Enterprises Ltd., Montreal, Quebec, Canada
Filed July 15, 1968, Ser. No. 12,758
Claims priority, application Canada June 1, 1968
Term of patent 3½ years
Int. Cl. D2—*04*
U.S. Cl. D8—263



218,227
SUMMER BARN
Caleb G. Clarke, 1540 W. Market St., Akron, Ohio 44313
Filed Apr. 10, 1969, Ser. No. 16,664
Term of patent 14 years
Int. Cl. D25—*04*
U.S. Cl. D13—1



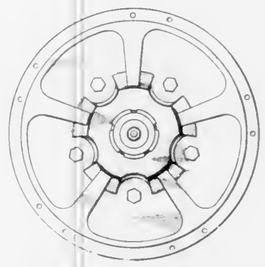
218,228
ALL-WEATHER BARN
Caleb G. Clarke, 1540 W. Market St., Akron, Ohio 44313
Filed Apr. 10, 1969, Ser. No. 16,665
Term of patent 14 years
Int. Cl. D25—*04*
U.S. Cl. D13—1



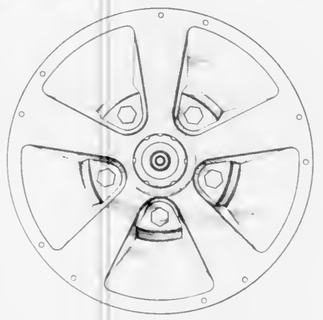
218,229
VEHICLE
Jean-Pierre Ponthieu, 25 Avenue Perrichont, Paris 13eme, France
Filed Oct. 10, 1969, Ser. No. 19,504
Claims priority, application France May 14, 1969
Term of patent 14 years
Int. Cl. D12—*08*
U.S. Cl. D14—3



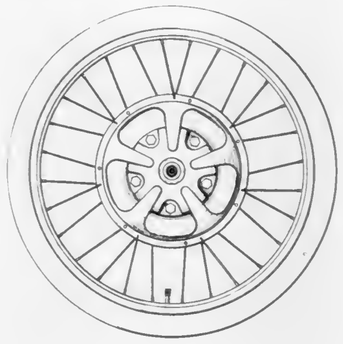
218,230
HUB FOR A CYCLE SPOKE WHEEL
Keizo Shimano and Norio Sato, both % Shimano Industrial Co., Ltd., 77 3-cho, Oimatsu-cho, Sakai, Japan
Filed Apr. 11, 1969, Ser. No. 16,697
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D14—30



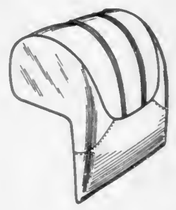
218,231
HUB FOR A CYCLE SPOKE WHEEL
Keizo Shimano and Norio Sato, both % Shimano Industrial Co., Ltd., 77, 3-cho, Oimatsu-cho, Sakai, Japan
Filed Apr. 11, 1969, Ser. No. 16,698
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D14—30



218,232
COMBINATION TIRE AND WHEEL
Keizo Shimano and Norio Sato, both % Shiman Industrial Co., Ltd., 77 3-cho, Oimatsu-cho, Osaka, Japan
Filed June 2, 1969, Ser. No. 17,469
Claims priority, application Japan Mar. 13, 1969
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D14—30



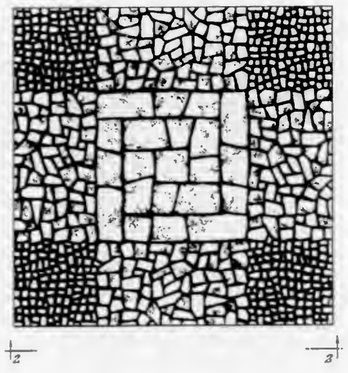
218,233
HEAD REST OR SIMILAR ARTICLE
Earl H. Belk, 931 Long Beach Blvd., Long Beach, Calif. 90813
Filed July 30, 1968, Ser. No. 12,957
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—8



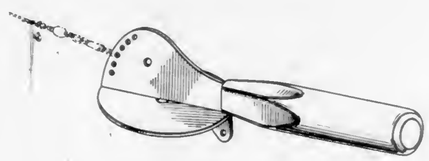
218,234
COMBINED VEHICLE HEADREST AND PROTECTIVE PAD
Earl H. Belk, Long Beach, Calif.
(15604 S. Broadway, Gardena, Calif. 90247)
Original design application July 30, 1968, Ser. No. 12,957. Divided and this application June 27, 1969, Ser. No. 18,341
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—8



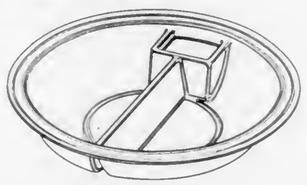
218,235
FLOOR TILE OR SIMILAR ARTICLE
John Stanley Madsen, Belle Mead, N.J., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 2, 1969, Ser. No. 18,958
Term of patent 14 years
Int. Cl. D25—*01*
U.S. Cl. D18—2



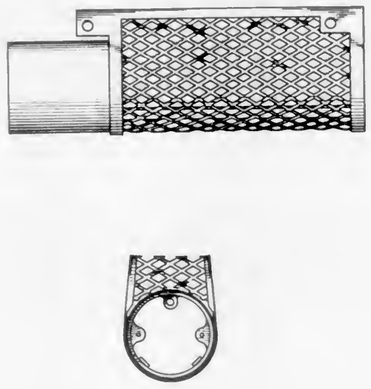
218,236
TROLLING LURE
Lloyd C. Fry, 2000 Hamilton Lane, and Charles D. Thompson, 1259 E. Park St., both of Grants Pass, Oreg. 97526
Continuation-in-part of design application Ser. No. 13,830, Oct. 3, 1968. This application Aug. 21, 1969, Ser. No. 19,398
Term of patent 14 years
Int. Cl. D22—*07*
U.S. Cl. D22—27



218,237
BASIN
John R. Cline, Ontwa Township, Cass County, Mich. (P.O. Box 333, R.R. 1, Edwardsburg, Mich. 49112)
Filed Jan. 23, 1969, Ser. No. 15,458
Term of patent 14 years
Int. Cl. D23—*02*
U.S. Cl. D23—48



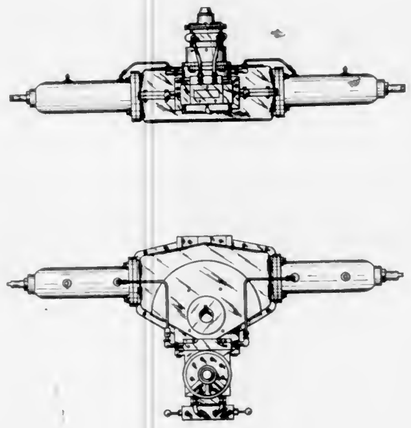
218,238
EMERGENCY OXYGEN GENERATOR HOUSING OR THE LIKE
Vladimir Hwoschinsky, Buffalo, N.Y., assignor to Automatic Sprinkler Corporation of America, Cleveland, Ohio
Filed Jan. 14, 1969, Ser. No. 15,331
Term of patent 14 years
Int. Cl. D23—*04*
U.S. Cl. D23—151



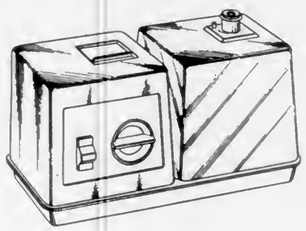
218,239
AERATION NOZZLE FOR A HYDROTHERAPY UNIT
Henry Marshall Stairs, Louisville, Ky., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 23, 1969, Ser. No. 15,476
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—34



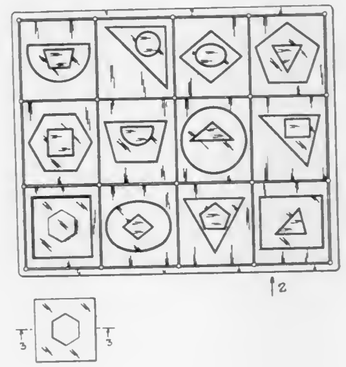
218,240
VALVE OPERATOR
Willem E. Tupker, Sepulveda, Chester Richard LeWan, La Crescenta, and Antoni Tadeusz Bronikowski, Los Angeles, Calif., assignors to Bell Aerospace Corporation, a corporation of Delaware
Filed Feb. 14, 1969, Ser. No. 15,783
Term of patent 14 years
Int. Cl. D23—*99*
U.S. Cl. D23—167



218,241
ORAL CLEANSING UNIT
Robert C. Gilbert and Tim Cunningham, Mansfield, Ohio, assignors to Westinghouse Electric Corporation, a corporation of Pennsylvania
Filed June 27, 1969, Ser. No. 17,924
Term of patent 14 years
Int. Cl. D24—*03*
U.S. Cl. D24—1



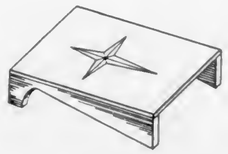
218,242
EDUCATIONAL GEOMETRIC PUZZLE
Simon Gompes and Herman Schpektor, both of Nieuwe Keizersgracht 58, Amsterdam, Netherlands
Filed Mar. 10, 1969, Ser. No. 16,163
Claims priority, application Great Britain Feb. 7, 1969
Term of patent 14 years
Int. Cl. D19—*08*
U.S. Cl. D25—1



218,243
COMBINED BOOK END AND VASE
Emil Mollik, 74 Glider Ave., Flanders Road, Riverhead, N.Y. 11901
Filed May 22, 1969, Ser. No. 17,277
Term of patent 7 years
Int. Cl. D6—*01*
U.S. Cl. D33—3



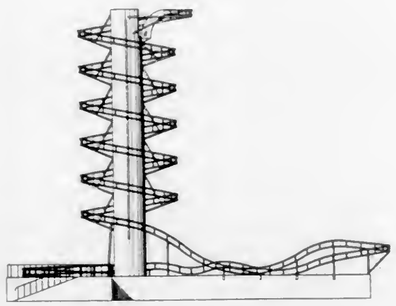
218,244
FURNITURE ARM TRAY
Albert T. Hansen, 1042 Harrison Ave., Lincoln, Calif. 95648
Filed Aug. 6, 1968, Ser. No. 13,047
Term of patent 3½ years
Int. Cl. D6—*01*
U.S. Cl. D33—14



218,245
TOY BOY FIGURE
Don A. Winton, Pasadena, Calif., assignor to J. L. Prescott Company, Passaic, N.J., a corporation of New Jersey
Filed July 22, 1969, Ser. No. 18,325
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—4



218,246
SPIRAL AMUSEMENT RIDE
Walter J. House, Jr., Rte. 1, Tascosa Road, Amarillo, Tex. 79016
Filed Jan. 31, 1969, Ser. No. 15,581
Term of patent 14 years
Int. Cl. D21—*04*
U.S. Cl. D34—5



218,247
TOY GIRL FIGURE
Don A. Winton, Pasadena, Calif., assignor to J. L. Prescott Company, Passaic, N.J., a corporation of New Jersey
Filed July 22, 1969, Ser. No. 18,313
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—4

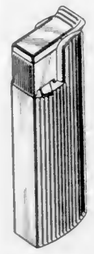


218,248
EDUCATIONAL TOY PUZZLE
Simon Gompes and Herman Schpektor, both of Nieuwe Keizersgracht 58, Amsterdam, Netherlands
Filed Mar. 5, 1969, Ser. No. 16,056
Claims priority, application Great Britain Feb. 5, 1969
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15

218,249
TOY SPINNING TOP
Peter Balleis, 55 Hermann-Lons-Strasse, Zirndorf, near Nuremberg, Germany
Filed Apr. 23, 1969, Ser. No. 16,863
Claims priority, application Germany Dec. 23, 1968
Term of patent 7 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



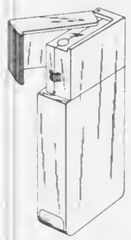
218,250
DISPOSABLE CIGARETTE LIGHTER
Robert Hocq, Boulogne-Billancourt, France, assignor to Societe Franco-Hispano-Americaine Francispam, Paris, France
Filed Dec. 9, 1968, Ser. No. 14,852
Claims priority, application France June 10, 1968
Term of patent 14 years
Int. Cl. D27—*05*
U.S. Cl. D48—27



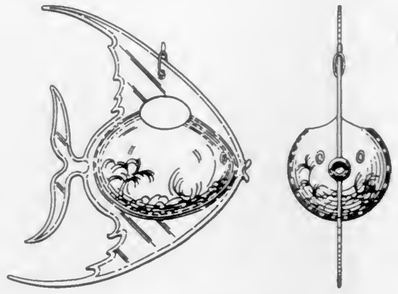
218,251
POCKET LIGHTER OR SIMILAR ARTICLE
Dieter Rams, Konigstein, Taunus, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany, a corporation of Germany
Filed Dec. 19, 1968, Ser. No. 15,056
Claims priority, application Germany July 4, 1968
Term of patent 7 years
Int. Cl. D27—*05*
U.S. Cl. D48—27



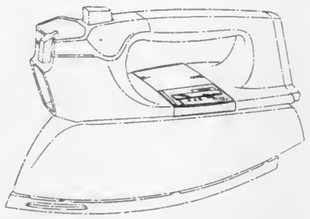
218,252
POCKET LIGHTER OR SIMILAR ARTICLE
Dieter Rams, Konigstein, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany
Filed Apr. 22, 1969, Ser. No. 16,854
Claims priority, application Germany Oct. 22, 1968
Term of patent 14 years
Int. Cl. D27—*05*
U.S. Cl. D48—27



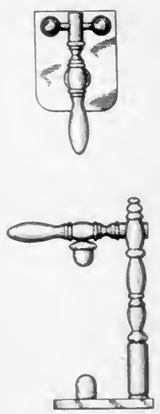
218,253
FISH BOWL
Wade H. Wolfe, 5211 Arbardee Lane, Fair Oaks, Calif. 95628
Filed Dec. 11, 1968, Ser. No. 14,892
Term of patent 7 years
Int. Cl. D30—*01*
U.S. Cl. D30—9



218,254
ESCUTCHEON PLATE FOR AN IRON
Walter R. B. Hall, Somerville, N.J., and Walton E. Sparks, Lexington, Ohio, assignors to Westinghouse Electric Corporation, a corporation of Pennsylvania
Filed Nov. 27, 1968, Ser. No. 14,701
Term of patent 14 years
Int. Cl. D7—*06*
U.S. Cl. D49—6



218,255
PAPER TOWEL HOLDER
Earl B. Hockenberry and Gerald W. Lewis, Emporium, Pa., assignors to Lew-Hoc Wood Products Company, Inc., Emporium, Pa., a corporation of Pennsylvania
Filed Aug. 20, 1969, Ser. No. 18,770
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D52—2



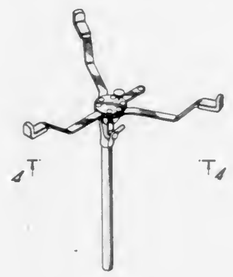
218,256
COFFEE GRINDER
Dieter Rams, Konigstein, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany
Filed June 9, 1969, Ser. No. 17,572
Claims priority, application Germany Dec. 9, 1968
Term of patent 14 years
Int. Cl. D7—*05*
U.S. Cl. D55—1



218,257
COFFEE GRINDER
Dieter Rams, Konigstein, Taunus, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany
Filed Aug. 21, 1969, Ser. No. 18,788
Claims priority, application Germany Feb. 26, 1969
Term of patent 14 years
Int. Cl. D7—*05*
U.S. Cl. D55—1



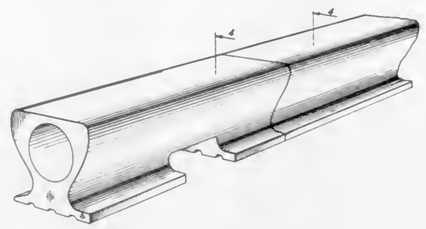
218,258
TOP FOR A DRUM STAND
Josephus B. Thompson, deceased, late of Covington, Ohio, by K. E. Stade, administrator, Covington, Ohio, assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York
Filed Oct. 9, 1968, Ser. No. 13,917
Term of patent 14 years
Int. Cl. D17—*04*
U.S. Cl. D56—1



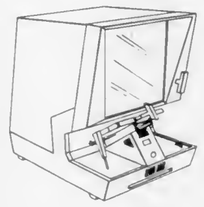
218,259
CYMBAL STAND
Josephus B. Thompson, deceased, late of Covington, Ohio, by K. E. Stade, administrator, Covington, Ohio, assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York
Filed Oct. 9, 1968, Ser. No. 13,920
Term of patent 14 years
Int. Cl. D17—*04*
U.S. Cl. D56—1



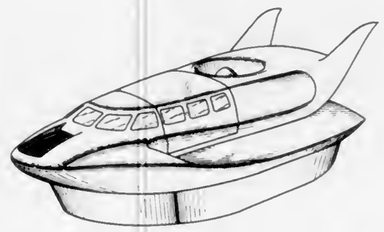
218,260
RUBBER CURBING ASSEMBLY OR THE LIKE
Sheldon Westervelt, Oradell, N.J., assignor to Wm. C. Westervelt & Sons, Franklin Lakes, N.J., a corporation of New Jersey
Filed Jan. 31, 1969, Ser. No. 15,583
Term of patent 14 years
Int. Cl. D25—*05*
U.S. Cl. D60—1



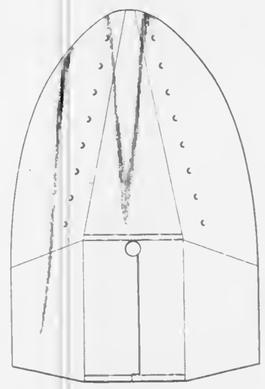
218,261
MICROFILM READER-PRINTER
Logan W. Johnson, Minnetonka, and Wolodymyr Diachuk, Columbia Heights, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Mar. 24, 1969, Ser. No. 16,399
Term of patent 14 years
Int. Cl. D16—*05, 99*
U.S. Cl. D61—1



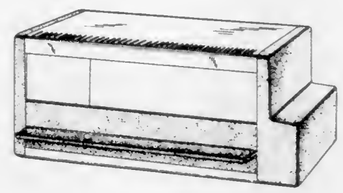
218,262
SURFACE EFFECT VEHICLE
Abel Yvon André Thomas, Versailles, and Charles Joseph Marchetti, Neuilly-sur-Seine, France, assignors to Société d'Etudes et de Developpement des Aeroglisseurs Marins Sedam, a corporation of France
Filed Feb. 26, 1969, Ser. No. 15,917
Claims priority, application France Aug. 30, 1968
Term of patent 14 years
Int. Cl. D12—*06*
U.S. Cl. D71—1



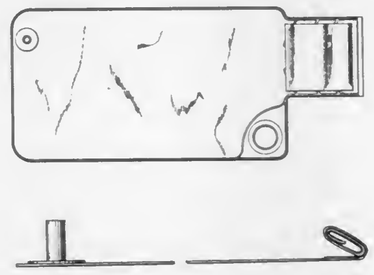
218,263
BOAT COVER
David C. Thorpe, London, England, assignor to Richmond Marine Limited, London, England, a British company
Filed June 26, 1969, Ser. No. 17,889
Claims priority, application Great Britain Jan. 2, 1969
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D71—1



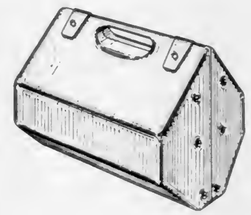
218,264
TOASTER
Juergen Greubel, Eschenhahn, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany, a firm
Filed July 7, 1969, Ser. No. 18,092
Claims priority, application Germany Jan. 29, 1969
Term of patent 14 years
Int. Cl. D7—*04*
U.S. Cl. D81—10



218,265
COLLAPSIBLE ENEMA BAG OR SIMILAR ARTICLE
Richard E. Ericson, Keene, N.H., assignor to Elliot Laboratories, Inc., Fitzwilliam, N.H., a corporation of New Hampshire
Filed July 24, 1969, Ser. No. 18,387
Term of patent 14 years
Int. Cl. D24—*02*
U.S. Cl. D83—1



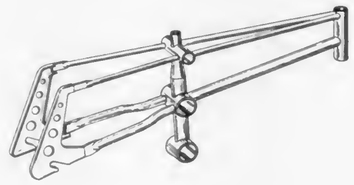
218,266
TACKLE BOX
Paul Belokin, Jr., 1603 Orrington Ave., Berwyn, Ill. 60201
Filed Apr. 25, 1968, Ser. No. 11,619
Term of patent 14 years
Int. Cl. D3—*99*
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218,267
SUIT CASE
Paul Belokin, Jr., 1603 Orrington Ave., Berwyn, Ill. 60201
Filed Mar. 24, 1969, Ser. No. 16,402
Term of patent 14 years
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218,268
BICYCLE FRAME
William F. Jacoby and Charles E. Kerr, Little Rock, Ark., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Mar. 10, 1969, Ser. No. 16,166
Term of patent 14 years
Int. Cl. D12—*11*
U.S. Cl. D90—8



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Brown, Thomas G., Jr., to International Telephone and Telegraph Corporation. Line switching apparatus. 3,522,587, Cl. 340-147.

Brownstein, Raymond G. Rotary severing method and apparatus. 3,522,747, Cl. 82-72.

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Charpentier, Roger. Magnetic panel supporting and securing devices. 3,522,923, Cl. 248-206.

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Clifford, Cecil Frank. Electromechanical oscillator. 3,522,500, Cl. 318-128.

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Coffey, Peter E., and Rich, Theodore A., to General Electric Company. Gas conversion apparatus and method for producing nuclei condensation. 3,522,431, Cl. 250-43.5

Cohen, Robert, Couleur, John F., and Ruth, Richard L., to General Electric Company. Data processing system including means for interrupting a program being executed. 3,523,283, Cl. 340-172.5

Cohn, Gjonge I. Electric field intensity indicator employing a vibratory conductor sensor. 3,522,531, Cl. 324-72.

Cohn, Irving H., and DeNardo, Frank, to Simmonds Precision Products, Inc. Attitude error correction fluid gauging system employing radiation detectors and error storage techniques. 3,523,186, Cl. 250-43.5

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Cook, Robert G., and Godwin, Patrick F., Jr., to North American Rockwell Corporation. Electronic packaging module for deep ocean environments. 3,523,216, Cl. 317-101.

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Coor, Thomas, and Ridgway, Stuart L., to Princeton Applied Research Corporation. Spectrophotometer apparatus utilizing a ratio measuring circuit. 3,522,739, Cl. 356-97.

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Costello, Bernard J., to Argus Engineering Company, Inc. Heating method. 3,522,407, Cl. 219-85.

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Crippa, Eugene R., to United States of America, Navy. Digitally-controlled high speed capacitor tuning apparatus. 3,522,497, Cl. 317-250.

Cropper, Wendell P., to Standard Oil Company. Thermocouple control apparatus including a servo controlled calibrating mode and a measurement mode mode detecting low level signals. 3,523,233, Cl. 318-619.

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Cubitt, Robert Bruce, to Colgate-Palmolive Company. Composite die member. 3,522,633, Cl. 18-47.

Curby, William A., to United States of America, Navy, mesne. Particle capture device. 3,522,734, Cl. 73-421.

Currie, James R., and Nola, Frank J., to United States of America, National Aeronautics and Space Adminstration. Transistor servo system including a unique differential amplifier circuit. 3,523,228, Cl. 318-599.

Curtis, Robert W., to Cincinnati Milling Machine Co., The. Process for making plastic articles. 3,523,152, Cl. 264-246.

Cutler, Arthur S., and Smith, Dallas F., to General Electric Company. Process for developing wound coils for electromagnetic devices. 3,522,650, Cl. 29-596.

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Davis, John H., to Bell Telephone Laboratories, Incorporated. Nonlinear gray encoder using piecewise linear compression. 3,522,599, Cl. 340-347.

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Davison, Raymond B., to Allied Chemical Corporation. Methylenebis (cyclohexyl isocyanate) having increased reactivity. 3,523,106, Cl. 260-77.5

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Dean, Walter L., and Ferguson, George N., to Procter & Gamble Company, The. Novel antiredeposition agent and built detergent compositions containing said antiredeposition agent. 3,523,088, Cl. 252-138.

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De Guillenchmidt, Pierre, and Gabriet, Paul, to Giravions Dorand. Firing training simulators for remotely- controlled guided missiles. 3,522,667, Cl. 35-25.

Delaplace, Paul Rene. Friction elements, in particular for hinges and bearings. 3,523,080, Cl. 252-12.4

Delfel, Norman E., to United States of America, Agriculture. Device for applying a coating of varying thickness. 3,522,792, Cl. 118-415.

DeLorenzo, Joseph D., to Sperry Rand Corporation. Radar target-identifying apparatus. 3,523,292, Cl. 343-5.
DeMetrick, John, to Automatic Radio Manufacturing Co., Inc. Modular circuit construction. 3,522,485, Cl. 317-101.
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De Pierri, William G., Jr., to Esso Research and Engineering Company. Stabilization of white oils. 3,523,083, Cl. 252-48.6
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De Simone, Joseph, to Westinghouse Electric Corporation. Valve for controlling elastic fluid. 3,522,929, Cl. 251-298.
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Di-Dro Systems, Inc.: *See—*
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Diessel, Karl-Heinz, Bier, Gerhard, Trautvetter, Werner, and Buning, Robert, to Dynamit Nobel Aktiengesellschaft. Production of polyvinyl chloride or vinyl chloride polymers having high softening points. 3,523,109, Cl. 260-87.1
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Dietz, Milton S., to Polaroid Corporation. Exposure control apparatus. 3,522,763, Cl. 95-10.
DiPilla, Anthony A., to Robertshaw Controls Company. Two position tubular lighted push button construction. 3,523,169, Cl. 200-167.
DiPilla, Anthony, to Robertshaw Controls Company. Illuminated switch construction with releasing slidable cam. 3,522,402, Cl. 200-167.
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Doggett, William N., and Suppes, Duane A., to Phillips Petroleum Company. Impedance measuring alternating current bridge having an automatically adjustable frequency oscillator. 3,522,529, Cl. 324-57.
Dolter, Paul A., to Eaton Yale & Towne, Inc. Plunger-type sound level adjustable buzzer. 3,522,601, Cl. 340-392.
Donaldson, Robert M.: *See—*
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Piffath, Rodney S., and Cole, John J., to Butane Match Corporation of America. Gas flow regulator for lighter. 3,523,006, Cl. 431-344.

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CLASSIFICATION OF PATENTS

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88	3,523,148	248	3,523,196		3,523,216	324– 18	3,522,535	112	3,523,262	238	3,522,596
90	3,523,149	252	3,522,452	120	3,523,217	34	3,522,523	153	3,522,562	267	3,523,288
210	3,523,150	264	3,522,453		3,523,218		3,522,524		3,522,563	324	3,522,597
	3,523,151	265	3,522,454	134	3,522,488		3,522,525		3,522,564		3,523,289
246	3,523,152	269	3,522,455	137	3,523,219	37	3,523,241	170	3,522,565	331	3,523,290
266– 3	3,522,936	270	3,523,197	230	3,522,489	57	3,522,529	202	3,522,566	347	3,522,598
18	3,522,937	292	3,522,456		3,523,220		3,523,242	230	3,523,271		3,522,599
21	3,522,938	295	3,522,457		3,523,221	58	3,522,526	251	3,522,567		3,523,291
267– 34	3,522,940	297	3,523,198	234	3,522,490	.5	3,522,527	276	3,523,263	381	3,522,600
64	3,522,941	309	3,523,199		3,522,491	61	3,522,528	336– 20	3,522,568	392	3,522,601
119	3,522,939	308– 3	3,522,974		3,523,222		3,523,243	133	3,523,272	343– 5	3,523,292
270– 55	3,522,942	72	3,522,975		3,523,223		3,523,244	165	3,522,569		3,523,293
271– 6	3,522,943		3,522,976	235	3,522,492		3,523,245	337– 28	3,522,570	6.5	3,522,602
273– 1.5	3,522,944	78	3,522,977		3,522,494		3,523,246	161	3,523,264		3,522,603
123	3,522,945	310– 8.2	3,523,200	244	3,522,495	62	3,523,247	203	3,522,571	7.3	3,522,604
138	3,522,946	.7	3,523,201	250	3,522,497	65	3,522,530	290	3,523,265	18	3,522,605
176	3,522,947		3,523,202	258	3,522,493	72	3,522,531	338–171	3,522,572	100	3,522,606
277– 27	3,522,948	10	3,522,459		3,522,496	73	3,522,532		3,522,573		3,523,294
140	3,522,949	29	3,522,460		3,522,498	141	3,523,248	316	3,522,574	106	3,523,295
170	3,522,950	91	3,523,203		3,523,224	149	3,522,533	339– 15	3,523,266	702	3,522,608
280– 11.1	3,522,951	93	3,522,461		3,523,225	154	3,522,534	17	3,523,267	703	3,522,609
12	3,522,952	94	3,523,204	318–128	3,522,500	325– 37	3,522,536		3,523,268	718	3,523,296
21	3,522,953	234	3,522,462	138	3,522,499	49	3,522,537	64	3,523,273	771	3,523,297
33.99	3,522,954	312– 38	3,522,978		3,522,501		3,523,249	89	3,522,575	775	3,523,298
47.37	3,522,955	313– 85	3,523,205	203	3,522,502	56	3,523,250	91	3,522,576	854	3,522,610
81	3,522,956	92	3,522,463	314	3,522,503	166	3,522,538		3,523,269	346–107	3,522,611
283	3,522,957	113	3,523,207	332	3,522,504	305	3,522,540		3,523,270	140	3,522,607
511	3,522,958	117	3,522,464	431	3,522,505	320	3,522,539	95	3,522,577	350– 3.5	3,522,979
287– 52.05	3,522,959	131	3,522,465	475	3,522,506	324	3,522,541	101	3,522,578	6	3,522,980
54	3,522,960	161	3,523,206	565	3,523,226	373	3,523,251	145	3,522,579	44	3,522,981
82	3,522,961	212	3,522,466	594	3,523,227	458	3,522,542	176	3,523,274	124	3,522,982
100	3,522,962	278	3,522,467	599	3,523,228	328– 37	3,523,252	340– 1	3,523,275	146	3,522,983
290– 52	3,523,192	315– 3	3,522,468	601	3,523,229	133	3,522,543	3	3,522,580	157	3,522,984
292– 83	3,522,963	.5	3,522,469	603	3,523,230	138	3,522,544		3,523,276		3,522,985
294– 1	3,522,964	10	3,523,208	608	3,523,231	165	3,522,545	15.5	3,523,277	214	3,522,986
50.7	3,522,965	71	3,522,470	611	3,523,232		3,523,253	37	3,522,581	281	3,522,987
110	3,522,966	84.6	3,522,471	619	3,523,233	167	3,522,546	72	3,522,582	352– 8	3,522,988
296– 23	3,522,967	111	3,523,209	681	3,523,234	330– 5.5	3,522,547	98	3,522,583	353–116	3,522,989
97	3,522,968		3,523,210	320– 31	3,522,507	23	3,522,548		3,522,584	355– 3	3,522,990
297– 85	3,522,969	126	3,522,472	39	3,522,508	29	3,523,254	146.1	3,523,278	83	3,522,991
335	3,522,970	169	3,522,473	321– 2	3,522,509	331– 17	3,522,549		3,523,279	356– 5	3,522,992
301– 43	3,522,971		3,522,474		3,522,510	56	3,523,255	.3	3,522,585	97	3,522,739
302– 49	3,522,972	209	3,523,211		3,523,235	88	3,522,550		3,522,586	248	3,522,993
303– 21	3,522,973	239	3,522,475	5	3,522,511	94.5	3,522,551		3,523,280	415– 53	3,522,994
307– 29	3,522,439	291	3,523,212	8	3,522,512		3,522,552	147	3,522,587	72	3,522,997
38	3,522,440	317– 13	3,522,476		3,522,513		3,522,553		3,522,588	417– 55	3,522,995
88	3,522,441		3,522,477	9	3,523,236		3,523,256	151	3,523,281	221	3,522,998
115	3,522,442	18	3,522,478	14	3,522,514	107	3,523,257	172.5	3,522,589	282	3,522,999
116	3,523,193		3,522,479		3,522,515	116	3,522,554		3,523,282	404	3,522,996
203	3,522,443	20	3,522,480	15	3,522,516		3,523,258		3,523,283	477	3,523,000
207	3,522,444	27	3,523,213		3,523,237	332– 9	3,523,259	173	3,522,590	489	3,523,001
211	3,522,445	31	3,522,481	16	3,522,517	333– 1.1	3,522,555		3,523,284	534	3,523,002
214	3,523,194		3,522,482	18	3,522,518	9	3,522,556	.1	3,522,591	418–195	3,523,003
215	3,522,446	99	3,522,483	44	3,522,519	26	3,523,260	174	3,522,592	424– 47	3,523,153
228	3,522,447		3,523,214	322– 28	3,522,520	30	3,522,557		3,522,593	52	3,523,154
229	3,523,195	100	3,523,215	323– 6	3,523,238	31	3,522,558		3,523,286	92	3,523,155
232	3,522,458	101	3,522,484	20	3,523,239	33	3,522,559	.1	3,522,594	431–116	3,523,004
233	3,522,448		3,522,485	22	3,522,521	73	3,522,560		3,523,285	344	3,523,005
235	3,522,449		3,522,486		3,522,522	95	3,522,561		3,523,287		3,523,006
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1 : 3,522,895	6 : 3,522,894	7 : 3,522,879	17 : 3,522,484	17 : 3,523,279	24 : 3,523,009
3,523,007	3,522,903	8 : 3,522,669	3,522,511	3,523,295	3,523,093
3,523,228	3,522,909	3,522,671	3,522,515	18 : 3,522,421	3,523,257
4 : 3,522,482	3,522,918	3,522,691	3,522,601	3,522,424	25 : 3,522,444
3,522,652	3,522,919	3,522,789	3,522,612	3,522,473	3,522,459
3,522,723	3,522,921	3,523,288	3,522,617	3,522,506	3,522,464
3,522,729	3,522,926	3,523,289	3,522,650	3,522,569	3,522,470
3,522,733	3,522,954	9 : 3,522,411	3,522,676	3,522,595	3,522,485
3,523,230	3,522,957	3,522,574	3,522,678	3,522,607	3,522,491
3,523,283	3,522,960	3,522,644	3,522,683	3,522,661	3,522,493
6 : 3,522,404	3,522,963	3,522,720	3,522,704	3,522,662	3,522,501
3,522,412	3,522,975	3,522,730	3,522,740	3,522,712	3,522,526
3,522,416	3,522,979	3,522,908	3,522,750	3,522,907	3,522,541
3,522,433	3,522,980	3,523,043	3,522,769	3,522,910	3,522,588
3,522,445	3,522,992	3,523,147	3,522,770	3,523,000	3,522,589
3,522,467	3,522,995	3,523,160	3,522,774	3,523,004	3,522,594
3,522,469	3,522,999	3,523,164	3,522,787	3,523,041	3,522,602
3,522,480	3,523,003	3,523,166	3,522,792	3,523,123	3,522,606
3,522,497	3,523,005	3,523,212	3,522,819	3,523,134	3,522,616
3,522,509	3,523,006	3,523,259	3,522,827	3,523,201	3,522,665
3,522,516	3,523,042	3,523,281	3,522,861	3,523,202	3,522,701
3,522,528	3,523,045	10 : 3,523,107	3,522,863	3,523,253	3,522,725
3,522,531	3,523,054	3,523,126	3,522,868	3,523,258	3,522,734
3,522,532	3,523,070	3,523,137	3,522,872	3,523,268	3,522,763
3,522,533	3,523,076	11 : 3,522,434	3,522,885	19 : 3,522,448	3,522,764
3,522,539	3,523,077	3,522,603	3,522,888	3,522,581	3,522,765
3,522,549	3,523,156	3,522,613	3,522,891	3,522,622	3,522,766
3,522,556	3,523,158	12 : 3,522,477	3,522,893	3,522,693	3,522,804
3,522,572	3,523,170	3,522,536	3,522,897	3,522,873	3,522,808
3,522,573	3,523,176	3,522,697	3,522,900	3,522,892	3,522,946
3,522,576	3,523,179	3,522,801	3,522,915	3,522,998	3,522,969
3,522,580	3,523,188	3,522,833	3,522,917	3,523,061	3,522,984
3,522,604	3,523,189	3,522,922	3,522,933	20 : 3,522,713	3,522,985
3,522,648	3,523,196	3,523,031	3,522,939	3,522,759	3,523,028
3,522,672	3,523,205	3,523,068	3,522,943	3,522,927	3,523,050
3,522,682	3,523,206	3,523,090	3,522,944	21 : 3,522,414	3,523,103
3,522,684	3,523,209	3,523,096	3,522,955	3,522,798	3,523,111
3,522,696	3,523,210	3,523,113	3,522,962	3,522,812	3,523,159
3,522,728	3,523,216	3,523,139	3,522,976	3,522,906	3,523,173
3,522,731	3,523,229	3,523,197	3,522,977	3,523,287	3,523,180
3,522,735	3,523,236	3,523,248	3,523,053	22 : 3,522,790	3,523,220
3,522,752	3,523,256	3,523,250	3,523,073	3,522,799	3,523,221
3,522,773	3,523,260	13 : 3,522,623	3,523,082	3,523,033	3,523,224
3,522,800	3,523,263	3,522,675	3,523,084	23 : 3,522,641	3,523,225
3,522,810	3,523,271	15 : 3,522,932	3,523,162	3,522,870	3,523,244
3,522,822	3,523,278	16 : 3,522,797	3,523,168	24 : 3,522,457	3,523,255
3,522,840	3,523,282	17 : 3,522,401	3,523,178	3,522,489	3,523,275
3,522,886	3,523,285	3,522,410	3,523,181	3,522,538	3,523,292
3,522,887	3,523,290	3,522,458	3,523,192	3,522,935	26 : 3,522,422
3,522,890	3,523,297	3,522,481	3,523,233	3,523,001	3,522,456

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A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

August 4, 1970 Volume 877 Number 1

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 324,549 (LI'L ABNER), United Feature Syndicate, Inc., Comic drawings published in a series in a newspaper; **Reg. No. 353,990** (DESIGN PORTRAIT OF LI'L ABNER), same, Comic drawings published in a series in daily and Sunday newspapers; **Reg. No. 354,567** (DESIGN PORTRAIT OF PAPPY), same; **Reg. No. 355,412** (DESIGN OF GIRL), same; **Reg. No. 355,657** (DESIGN OF WOMAN), same; **Reg. No. 359,227** (ADVICE FO' CHILLUN), same, **filed** Aug. 20, 1969, D.C., S.D. Fla. (Miami), Doc. 69–996–C–CA, *Li'l Abner Restaurant System, Inc. et al. v. Abner's International, Inc. et al.* Consent judgment, mark LI'L ABNER used by plaintiffs does not infringe, May 6, 1970.

Reg. No. 335,323 (TIP-TOP), Tip-Top Products Company, Non-electrical hair curlers; **Reg. No. 594,280,** same, Combs, barrettes, curl clips and hair rollers; **Reg. No. 705,969,** same, Sun sets comprised of sun glasses and barrettes, **filed** Apr. 26, 1967, D.C.N.J. (Newark), Doc. 463–67, *Tip-Top Products Company v. Tip Top Brush Co., Inc.* Stipulation and consent judgment for permanent injunction, Apr. 27, 1970.

Reg. No. 353,990. (See Reg. No. 324,549.)

Reg. No. 354,567. (See Reg. No. 324,549.)

Reg. No. 355,412. (See Reg. No. 324,549.)

Reg. No. 355,657. (See Reg. No. 324,549.)

Reg. No. 359,227. (See Reg. No. 324,549.)

Reg. No. 568,874 (SAKRETE), Sakrete, Inc., Mixtures of cement, sand and aggregate, cement and sand and cement, sand and mortar; **Reg. No. 819,750** (MISCELLANEOUS DESIGN), same, Building and construction materials—namely, mixtures of sand and aggregate, cement and sand, cement, sand and mortar, asphalt and aggregate, liquid blacktop surface sealer and mixtures of plaster and aggregate, **filed** Feb. 24, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70–400–IH, *Sakrete, Inc. and Sakrete of Northern California v. Bay Cities Sak-O-Mix Corp. and Eichrome Building Materials.*

Reg. No. 594,280. (See Reg. No. 335,323.)

Reg. No. 617,131 (VOLKSWAGEN), Volkswagenwerk, GmbH, Vehicles—namely, automobiles and trucks, aircraft, boats, and parts of and accessories for automobiles—namely, radiators, direction indicators, windshield defrosters, anti-dazzle appliances, windshield wipers, shock absorbers, brakes, and baggage racks; **Reg. No. 631,649** (VW IN CIRCLE), same; **Reg. No. 653,695** (VW), same; **Reg. No. 790,621** (VOLKSWAGEN), same, Automobiles and trucks, aircraft, and boats; and parts of and accessories for automobiles—namely, radiators, direction indicators, windshield defrosters, anti-dazzle appliances, windshield wipers, shock absorbers, brakes, and baggage racks; **Reg. No. 790,959** (VW AND DESIGN), same; **Reg. No. 791,311** (VW), same; **Reg. No. 804,869** (VW AND DESIGN), same, Repair and reconditioning of motor vehicles, aircraft and boats; **Reg. No. 808,381** (VOLKSWAGEN), same.

CONDITION OF TRADEMARK APPLICATIONS AS OF JUNE 30, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)] ---------- 24,142
Date of oldest new application ---------- June 13, 1969
Date of oldest amended application (filing date) ---------- September 27, 1965

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 17, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	9–24–69	11–30–67
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	11–3–69	9–27–65
(III) C. R. FOWLER, Classes 12, 16, 19, 21, 23, 26, 31, 34, 35, 36	12–24–69	6–19–67
(IV) M. E. ABRAMSON, Classes 13, 14, 20, 22, 24, 25, 29; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	6–13–69	5–18–67
Renewals (All Classes)	5–11–70	----------
Sec. 12(c) Publications (All Classes)	5–15–70	----------

Applications filed during the month of June 1970—3,042

Registrations Issued ---------- 473—No. 895,778 to No. 896,250
Renewals Issued ---------- 140

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

Vehicles—namely, automobiles and trucks, aircraft and boats; and parts and accessories for automobiles and trucks, aircraft and boats—namely, radiators, direction indicators, windshield wipers, shock absorbers, brakes and baggage racks; **Reg. No. 815,632** (VW), same, Repair, reconditioning and replacement of motors and accessories and parts thereof, and repair and reconditioning of motor vehicles, aircraft, and boats; **Reg. No. 819,297** (VOLKSWAGEN), same, **filed** May 27, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70–1186–AAH, *Volkswagenwerk Aktiengesellschaft* v. *Robert Hawkins, Automotive Technicians et al.* **Same, filed** June 8, 1970, D.C., S.D. Calif. (San Diego), Doc. 70–164–T, *Volkswagenwerk Aktiengesellschaft* v. *Putt-Putt Shops, Inc. et al.*

Reg. No. 631,649. (See Reg. No. 617,131.)

Reg. No. 653,695. (See Reg. No. 617,131.)

Reg. No. 670,135 (SLIM MINT), Thompson Medical Company, Inc., Medicated chewing gum for aiding appetite control, **filed** Nov. 8, 1967, D.C., S.D.N.Y., Doc. 67–C–4382, *Thompson Medical Company, Inc.* v. *Hall's Albany Drug Corp. and Adams Drug Company, Inc.* Final judgment, defendants are restrained and enjoined, May 14, 1970.

Reg. No. 684,132 (RICE-A-RONI), Golden Grain Macaroni Co., Prepared packaged rice and vermicelli dinner, **filed** Feb. 7, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c275, *Golden Grain Macaroni Company* v. *I. J. Grass Noodle Company, Inc.* Consent judgment, defendant enjoined, May 19, 1970.

Reg. No. 691,712 ("DEE-CEE"), Washington Manufacturing Company, Shirts, jackets, slacks, shorts, and dungarees for men, women, and children; **Reg. No. 791,077**, same, Shirts, jackets, slacks, shorts, dungarees, and pajamas for men, women, and children; **Reg. No. 794,102** (MR. DEE CEE), same, Sport shirts and pajamas; **Reg. No. 850,643**, same, Men's and boys' sport shirts, dress shirts, slacks, walk shorts, pajamas, and western shirts, **filed** May 21, 1970, D.C., S.D.N.Y., Doc. 70–C–2075, *Washington Manufacturing Company* v. *C.D.C. Merchandising Corp.*

Reg. No. 705,969. (See Reg. No. 335,323.)

Reg. No. 764,837 (REPRESENTATION OF BUILDING), McDonald's Corporation, Drive-In restaurant services, **filed** Aug. 5, 1966, D.C., W.D. Ky. (Owensboro), Doc. 2139, *McDonald's Corporation* v. *N. J. McDonald et al.* Consent judgment, defendants permanently enjoined, Sept. 18, 1967.

Reg. No. 790,621. (See Reg. No. 617,131.)

Reg. No. 790,959. (See Reg. No. 617,131.)

Reg. No. 791,077. (See Reg. No. 691,712.)

Reg. No. 791,311. (See Reg. No. 617,131.)

Reg. No. 794,102. (See Reg. No. 691,712.)

Reg. No. 804,869. (See Reg. No. 617,131.)

Reg. No. 808,381. (See Reg. No. 617,131.)

Reg. No. 811,124 (VINYL COLOR), Pacific Coast Company, doing business as Westley Industries, Spray coating to renew and recolor vinyl plastic, synthetic fabrics and rubber products, **filed** May 27, 1970, D.C., N.D. Ohio (Cleveland), Doc. C70–499, *Pacific Coast Company* v. *Alco Standard Corporation.*

Reg. No. 815,632. (See Reg. No. 617,131.)

Reg. No. 819,297. (See Reg. No. 617,131.)

Reg. No. 819,750. (See Reg. No. 568,874.)

Reg. No. 834,842 (CHEEZELETS), Jays Foods, Inc., Cheese flavored extruded fried corn snack food preparation, **filed** July 7, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1178, *Jays Foods, Inc.* v. *Sunshine Biscuits, Inc.* Stipulation and order, dismissed without prejudice, Mar. 7, 1970.

Reg. No. 850,643. (See Reg. No. 691,712.)

Reg. No. 878,691 (ICE), Integrated Circuit Engineering Corp., Textbooks, treatises, periodic reports, manuals, bibliographies, all relating to design, fabrication, testing application and marketing of electronic apparatus and devices; **Reg. No. 881,044**, same, Consultation services relating to the design and fabrication of electronic circuits (Class 100); Consultation services relating to the marketing of electronic circuits (Class 101), **filed** Feb. 27, 1970, D.C., District of Columbia (Washington), Doc. 604–70, *Integrated Circuit Engineering Corporation* v. *International Computer Equipment, Incorporated.*

Reg. No. 881,044. (See 878,691.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 253,832. Analog Technology Corporation, Pasadena, Calif. Filed Sept. 6, 1966.



Class 21—Electrical Apparatus, Machines, and Supplies

For Pulse Amplifiers, Operational Amplifiers, Power Supplies, DC-DC Converters, and Pulsed High Voltage Power Supplies (Int. Cl. 9).

First use June 30, 1966.

Class 100—Miscellaneous

For Services of Consultation, Planning, Designing and Analyzing Scientific Instruments, Satellite Instrument Packages, and Experiment Systems Involving Such Instruments and Packages (Int. Cl. 42).

First use May 1, 1965.

SN 280,391. Campbell Group, Detroit, Mich. Filed Sept. 15, 1967.



The mark comprises a fanciful representation of the letters "CG."

Class 100—Miscellaneous

For Site Selection, Facility Planning and Design, and Plant Layout for Industrial Plants (Int. Cl. 42).

Class 102—Insurance and Financial

For Financing Industrial Plants and Arranging for the Financing Thereof (Int. Cl. 36).

Class 103—Construction and Repair

For Construction of Industrial Plants and Installation of Equipment Therein (Int. Cl. 37).

First use Aug. 22, 1967.

SN 301,107. Walnut Acres Incorporated, Penns Creek, Pa. Filed June 21, 1968.

Walnut Acres



Class 18—Medicines and Pharmaceutical Preparations

For Food Supplements for Human Consumption—Namely, Vitamin and Mineral Preparations (Int. Cl. 5).

First use on or about Sept. 15, 1960.

Class 46—Foods and Ingredients of Foods

For Organically Grown Grain Products and Products Made Therefrom—Namely, Flours, Cereals, Pancake and Bread Mixes, Bread, Cake and Cookies; Canned Frozen and Fresh Meats; Peanut, Cashew and Apple Butter, Jams and Jellies Made from Organically Grown Fruit; Honey; Sugar; Food Syrups and Cooking Vegetable Oils (Int. Cls. 29 and 30).

First use October 1948.

SN 307,906. McCrory Corporation, New York, N.Y. Filed Sept. 23, 1968.



Class 100—Miscellaneous

For Restaurant Services (Int. Cl. 42).

Class 101—Advertising and Business

For 5c and 10c Variety Store Services (Int. Cl. 35).

First use Jan. 1, 1966.

SN 309,398. The Reynolds & Reynolds Company, Dayton, Ohio. Filed Oct. 10, 1968.

DUPLI-RITER

Class 11—Inks and Inking Materials

For Duplicating Fluid (Int. Cl. 16).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Hand applicator for Applying Fluid to Surfaces for Reproducing Addresses and the Like (Int. Cl. 16).

Class 37—Paper and Stationery

For Paper Record Cards and Adhesive Backed Paper Labels (Int. Cl. 16).

First use Feb. 1, 1953.

SN 310,514. Fields and Company of Lubbock, Inc., Lubbock, Tex. Filed Oct. 25, 1968.

LIVING CENTER

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Builders' Hardware (Int. Cl. 6).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Air Conditioners, Heaters and Humidifiers (Int. Cl. 11).

First use July 1, 1967.

SN 313,876. Tracor Computing Corporation, Austin, Tex. Filed Dec. 9, 1968.

TCC

Class 100—Miscellaneous

For Computer Services on a Machine Time Availability Basis (Int. Cl. 42).

Class 101—Advertising and Business

For Computer Programming Services and Computer Systems Management Services (Int. Cl. 35).

First use at least as early as Nov. 1, 1968.

SN 324,557. Dimensional Packaging, Inc., Fresh Meadows, N.Y. Filed Apr. 15, 1969.

dpi

Class 2—Receptacles

For Containers—Namely, Cardboard and Corrugated Board Boxes, Plastic Boxes, Plastic Bottles and Jars, and Plastic and Paper Bags (Int. Cls. 16, 20, and 21).

Class 7—Cordage

For Tying Ribbons and Twine (Int. Cls. 22 and 26).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Cosmetic Mixing Equipment for Industrial Use—Namely, Vats, and Mixing Spoons and Spatulas (Int. Cls. 7 and 8).

Class 32—Furniture and Upholstery

For Advertising and Merchandise Display and Display Stands and Easels and Boards (Int. Cl. 20).

Class 37—Paper and Stationery

For Gift Wrapping Paper (Int. Cl. 16).

Class 38—Prints and Publications

For Printed Tags, Labels, Prints, Circulars, Folders and Brochures (Int. Cl. 16).

Class 50—Merchandise Not Otherwise Classified

For Box, Jar and Bottle Closure Caps (Int. Cls. 6 and 20).

First use on or about Mar. 1, 1968.

SN 324,619. ABC Stenoscript Shorthand, Inc., Evanston, Ill. Filed Apr. 16, 1969.



The shorthand symbol portrayed in the mark is the lower case letter "s."

Class 38—Prints and Publications

For Shorthand Instruction Manuals (Int. Cl. 16).

Class 107—Education and Entertainment

For Teaching a Method of Shorthand (Int. Cl. 41).

First use as early as Oct. 1, 1968.

SN 324,776. Minitek Inc., Great Neck, N.Y. Filed Apr. 17, 1969.

MINITEK

Class 26—Measuring and Scientific Appliances

For automated Theatrical Sound Track and Film Projection Apparatus Including a Control Panel with Manual and Automated Controls for Music, Lighting, Picture and Sound for Audience Entertainment (Int. Cl. 9).

First use Mar. 3, 1969.

Class 103—Construction and Repair

For Installation of Automated Film Projecting Apparatus (and Parts of Same) in Theaters and the Like as a Service Mark (Int. Cl. 37).

First use Mar. 24, 1969.

SN 329,929. Sperry Rand Corporation, New York, N.Y. Filed June 13, 1969.

SPERRY RAND

Owner of Reg. Nos. 861,348, 872,908, 878,588, and others.

Class 21—Electrical Apparatus, Machines, and Supplies

For Antennn Couplers, Controls, and Components (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Data Processing Equipment and Parts Thereof Comprising: Computers, Tabulating Machines, Tape Handling Units, Printers, Display Plotters, Key Sets, Memory Devices, Data Conversion Equipment, Data Communication Equipment, Counters and Indicators, Magnetic Cores, Pulse Amplifiers, and Control Panels (Int. Cl. 9).

Class 100—Miscellaneous

For Consultations and Advice in Planning and Installing Data Processing Equipment, Leasing and Time Sharing of Data Processing Equipment (Int. Cl. 42).

Class 101—Advertising and Business

For Computer Programming Services for Others (Int. Cl. 35).

First use Sept. 30, 1968.

SN 329,931. Sperry Rand Corporation, New York, N.Y. Filed June 13, 1969.

SPERRY RAND

Class 21—Electrical Apparatus, Machines, and Supplies

For Antenna Couplers, Controls, and Components (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Data Processing Equipment and Parts Thereof Comprising: Computers, Tabulating Machines, Tape Handling Units, Printers, Display Plotters, Key Sets, Memory Devices, Data Conversion Equipment, Data Communication Equipment, Counters and Indicators, Magnetic Cores, Pulse Amplifiers, and Control Panels (Int. Cl. 9).

Class 100—Miscellaneous

For Consultations and Advice in Planning and Installing Data Processing Equipment, Leasing and Time Sharing of Data Processing Equipment (Int. Cl. 42).

Class 101—Advertising and Business

For Computer Programming Services for Others (Int. Cl. 35).

First use Sept. 30, 1968.

SN 327,964. Southwestern Drug Corporation, Dallas, Tex. Filed May 21, 1969.

Family Health Center

The term "Health Center" and the pictorial representation of a wheelchair and a hospital bed, are disclaimed apart from the mark as shown.

Class 100—Miscellaneous

For Rental of Medical Health Equipment (Int. Cl. 42).

Class 101—Advertising and Business

For Retail Medical Health Store Services (Int. Cl. 35).

First use Feb. 1, 1969.

SN 330,854. Semblex Corporation, Beacon Falls, Conn. Filed June 24, 1969.

RIVEX

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Fasteners and Fastening Accessories—Namely, Rivets and Rivet Mandrels Fabricated of Steel, Aluminum, Copper or Stainless Steel (Int. Cl. 6).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Manual Mechanical and Pneumatic Rivet Setting Tools, Nosepieces and Related Fastener Setting and Installing Accessories (Int. Cls. 7 and 8).

First use May 13, 1969.

SN 334,246. Minor Rubber Company, Inc., Bloomfield, N.J. Filed Aug. 1, 1969.

MINORIZED

Class 1—Raw or Partly Prepared Materials

For Industrial Natural Rubber and Synthetic Rubber Polymers for Use in the Industrial Arts (Int. Cl. 1).

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Natural Rubber and Synthetic Rubber Products—Namely, Packing, Seals, Gaskets, Bumpers, Grommets, Bellows and Diaphragms (Int. Cl. 17).

First use February 1968.

SN 336,424. Continental Telephone Corporation, St. Louis, Mo. Filed Aug. 27, 1969.



Owner of Reg. Nos. 881,884 and 882,758.

Class 101—Advertising and Business

For Purchasing Communication Goods for Others (Int. Cl. 35).

Class 105—Transportation and Storage

For Warehousing, Shipping and Distributing Communication Goods for Others (Int. Cl. 39).

First use August 1969.

SN 336,640. Monitair Corp., Valley Cottage, N.Y. Filed Aug. 29, 1969.

MONITAIR

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Components—Namely, Circuit Boxes for Angles of Attack Measuring and Indicating Systems (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Angle of Attack Measuring Systems for Aircraft Comprising Simple Electronic Computer Units, and Electrically Operated Cockpit Indicators and Parts Therefor (Int. Cl. 9).

First use on or about Nov. 15, 1963.

SN 337,743. E + E Systems Corporation, San Rafael, Calif. Filed Sept. 12, 1969.

E+E

Class 37—Paper and Stationery

For Reporting and Record Keeping Forms, and Cards and Essentially Blank Notebooks (Int. Cl. 16).

Class 38—Prints and Publications

For Books, Booklets, Manuals and Loseleaf Notebooks Containing Information Relating to Financial Management (Int. Cl. 16).

Class 102—Insurance and Financial

For Financial Management Consultant Services (Int. Cl. 36).

First use Nov. 25, 1967.

SN 349,044. Sekisui Kagaku Kogyo Kabushiki Kaisha, d.b.a. Sekisui Chemical Company, Ltd., Kitaku, Osaka, Japan. Filed Jan. 20, 1970.

'S'-LON

Class 12—Construction Materials

For Plastic Panels, Plate and Sheet (Int. Cl. 19).
First use July 4, 1958; in commerce July 4, 1958.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Rigid Plastic Pipe and Fittings Therefor (Int. Cl. 17).
First use Apr. 4, 1958; in commerce Apr. 4, 1958.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 281,980. Gregoire's Flowers, Inc., San Francisco, Calif. Filed Oct. 6, 1967.

Gregoire's Flowers, Inc.

The representation of a flower and the word Flowers are disclaimed apart from the mark as shown.
For Cut Fresh Flowers (Int. Cl. 31).
First use Apr. 1, 1963; 1882, as to "Gregoire's."

SN 334,708. General Mills, Inc., Minneapolis, Minn. Filed Aug. 7, 1969.

WATERPOXY

For Synthetic Resins (Int. Cl. 1).
First use June 24, 1969.

SN 339,586. Mobil Oil Corporation, New York, N.Y. Filed Oct. 2, 1969.

BICOR

For Plastic Film (Int. Cl. 17).
First use June 29, 1965.

SN 339,729. Le Carbone-Lorraine, Paris, France. Filed Oct. 3, 1969.

RIGILOR

Priority claimed under Sec. 44(d) on French Reg. No. 764,372, dated June 6, 1969.
For Carbon or Graphite Fibers Having High Mechanical Characteristics (Int. Cl. 1).

Class 2—Receptacles

SN 322,986. International Paper Company, New York, N.Y. Filed Mar. 27, 1969.

BULK PAK

The word "Pak" is disclaimed apart from the mark as shown.
For Cartons for Business Papers in Cut Sizes (Int. Cl. 16).
First use Nov. 27, 1968.

SN 326,408. Modern Packaging, Inc., Mount Holly, N.J. Filed May 5, 1969.

CHEVRON

For Pouches of Paper and/or Plastic Material (Int. Cl. 20).
First use on or about Nov. 12, 1963.

SN 341,384. W. R. Grace & Co., Duncan, S.C. Filed Oct. 22, 1969.

MARKET-READY

For Plastic Bags (Int. Cl. 20).
First use Dec. 26, 1968.

SN 347,150. Crown Zellerbach Corporation, San Francisco, Calif. Filed Dec. 29, 1969.



The mark consists of a fanciful representation of the letters "CZ." Owner of Reg. No. 616,568.
For Paperboard Boxes, Paper Bags and Plastic Bags (Int. Cl. 16).
First use Nov. 28, 1969.

SN 347,989. Westvaco Corporation, New York, N.Y. Filed Jan. 7, 1970.

REDI-LIFT

For Corrugated Cargo Containers (Int. Cl. 16).
First use Oct. 2, 1969.

SN 348,414. Eagle Manufacturing Company, Wellsburg, W. Va. Filed Jan. 13, 1970.

THE GASSER

For Portable Gasoline Storage Cans (Int. Cl. 21).
First use on or about Dec. 1, 1969.

SN 350,079. Gary Plastic Packaging Corp., Long Island, N.Y. Filed Jan. 30, 1970.

THE REGAL LINE

For Rigid Plastic Boxes (Int. Cl. 20).
First use Jan. 8, 1970.

SN 352,735. S. E. Rykoff & Co., Los Angeles, Calif. Filed Mar. 2, 1970.

SERCOFOAM

Owner of Reg. Nos. 770,093, 775,814, and 798,347.
For Plastic Drinking Cups (Int. Cl. 21).
First use Feb. 13, 1970.

Class 4—Abrasives and Polishing Materials

SN 321,145. Frederick B. Anthon, d.b.a. Frederick B. Anthon Enterprises Polysand-Division, Beverly Hills, Calif. Filed Mar. 10, 1969.

Sheen-ex

Applicant disclaims the representations of uses of the product apart from the mark as shown.
For Polishing Material—Namely, a Cushioned Abrasive Cloth Having a Non-Woven Fabric Backing (Int. Cl. 21).
First use April 1968.

SN 321,146. Frederick B. Anthon, d.b.a. Frederick B. Anthon Enterprises Polysand-Division, Beverly Hills, Calif. Filed Mar. 10, 1969.

Sheentex

Applicant disclaims the representations of uses of the product apart from the mark as shown.
For Polishing Material—Namely, a Cushioned Abrasive Cloth Having a Non-Woven Fabric Backing (Int. Cl. 21).
First use April 1968.

Class 6—Chemicals and Chemical Compositions

SN 304,833. Standard Oil Company, Flemington, N.J. Filed Aug. 9, 1968.

MLO

For Insecticides and Pesticides in the Nature of Larvicides, Pupacides and Ovacides (Int. Cl. 5).
First use May 20, 1968.

SN 319,962. Rowco, Inc., San Antonio, Tex. Filed Feb. 24, 1969.

ROWCHEM-LTA

For Liquid Thickening Agent for Use With Herbicides Along Rights-of-Way (Int. Cl. 5).
First use Jan. 1, 1969.

SN 344,672. CPC International Inc., Englewood Cliffs, N.J. Filed Nov. 26, 1969.

CORD

For Polyethers and Polyesthers Made From Methyl Glucoside, Starches or Sugar (Int. Cl. 1).
First use at least as early as Oct. 2, 1969.

SN 345,395. Union Carbide Corporation, New York, N.Y. Filed Dec. 4, 1969.

UCON

Owner of Reg. Nos. 432,570 and 678,701.
For Hydrocarbon Liquefied Petroleum Gases for Use as Refrigerants and Propellents and for Other Uses in the Industrial Arts (Int. Cl. 1).
First use on about July 17, 1969.

SN 345,722. Industrial Colloids & Chemicals, Inc., Knoxville, Tenn. Filed Dec. 9, 1969.

314

For Denaturant in the Form of a Concentrated Chemical Compound for Spraying When Mixed With Water on Condemned Animal Carcasses to Render the Same Unfit for Human Consumption (Int. Cl. 1).
First use Aug. 20, 1968.

SN 347,152. Crown Zellerbach Corporation, San Francisco, Calif. Filed Dec. 29, 1969.



The mark consists of a fanciful representation of the letters "CZ." Owner of Reg. No. 641,933.
For Phenolic Sulphur Chemicals for Use as Intermediates in the Manufacture of Dyes and Herbicides (Int. Cl. 1).
First use Nov. 26, 1969.

SN 351,395. Universal Oil Products Company, Des Plaines, Ill. Filed Feb. 16, 1970.

CLT-150

For Chemical Corrosion Inhibiting Compound for Condensate, Steam and Water Vapor Lines (Int. Cl. 2).
First use on or prior to May 6, 1969.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 336,314. Wilhelm Brenneke KG, Berlin, Germany. Filed Aug 26, 1969.

TIG

For Bullets, Shot Gun Slugs, Soft Point Bullets, Cartridges (Int. Cl. 13).
First use 1917; in commerce 1927.

Class 12 — Construction Materials

SN 317,935. Crowe-Gulde Cement Company, Amarillo, Tex. Filed Jan. 30, 1969.

FOUNDER'S CONCRETE BRICK

Applicant disclaims the words "Concrete Brick" apart from the association shown, without waiving of applicant's common law rights.
For Color-Impregnated Concrete Bricks (Int. Cl. 19).
First use Dec. 30, 1968; May 5, 1965 in a different form.

SN 319,299. Farmaster Products, Inc., Shenandoah, Iowa. Filed Feb. 17, 1969.

ECON-O-STALL

Owner of Reg. No. 786,278.
For Hog Farrowing Stalls and Equipment and Accessories Therefore (Int. Cl. 19).
First use Jan. 2, 1963.

SN 338,096. Simpson Timber Company, Seattle Wash. Filed Sept. 17, 1969.

MADRID

For Wood Doors for Interior and Exterior Use (Int. Cl. 19).
First use Jan. 13, 1969.

SN 338,496. Simpson Timber Company, Seattle, Wash. Filed Sept. 22, 1969.

LORRAINE

For Wood Doors for Interior and Exterior Use (Int. Cl. 19).
First use Jan. 13, 1969.

SN 339,105. Simpson Timber Company, Seattle, Wash., Filed Sept. 29, 1969.

MOROCCO

For Wood Doors for Interior and Exterior Use (Int. Cl. 19).
First use Jan. 13, 1969.

SN 339,288. Simpson Timber Company, Seattle, Wash. Filed Sept. 30, 1969.

FLAMENCO

For Wood Doors for Interior and Exterior Use (Int. Cl. 19).
First use Dec. 14, 1967.

SN 345,903. Simpson Timber Company, Seattle, Wash. Filed Dec. 11, 1969.

FLORENTINE

For Wood Doors for Interior and Exterior Use (Int. Cl. 19).
First use Jan. 13, 1969.

SN 350,411. D. A. White Inc., New York, N.Y. Filed Feb. 3, 1970.

TEXTURE VEIN

For Ceramic Tile (Int. Cl. 19).
First use May 29, 1967.

SN 350,740. GAF Corporation, New York, N.Y. Filed Feb. 6, 1970.

CLIPTFAST

For Asphalt Shingles (Int. Cl. 19).
First use on or about Nov. 14, 1963.

SN 350,860. Armstrong Cork Company, Lancaster, Pa. Filed Feb. 9, 1970.

ARMAFLEX

Owner of Reg. No. 627,713.
For Foamed Plastic Insulating Materials (Int. Cl. 17).
First use Feb. 14, 1955.

SN 351,244. Whittlewood Corporation, Albuquerque, N. Mex. Filed Feb. 12, 1970.

WHITTLEWOOD

For Doors (Int. Cl. 19).
First use Dec. 8, 1969.

SN 351,694. Foam-Form Canada, Limited, Oakville, Ontario, Canada. Filed Feb. 18, 1970.

FOAM-FORM

Priority claimed under Sec. 44(d) on Canadian application, filed Oct. 25, 1968; Reg. No. 164,509, dated Aug. 8, 1969.
For Wallboards, Blocks and Wall Panels (Int. Cl. 19).

SN 358,370. Controlled Acoustics Corporation, New York, N.Y. Filed Apr. 30, 1970.

QUIETDAMP

For Acoustical Dampening and Anti-Vibration Paste Material (Int. Cl. 19).
First use Apr. 24, 1970.

SN 358,371. Controlled Acoustics Corporation, New York, N.Y. Filed Apr. 30, 1970.

QUIETSEAL

For Acoustical Gasketing (Int. Cl. 17).
First use Apr. 23, 1970.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 323,813. Hill Fastener Corporation, Rock Falls, Ill. Filed Apr. 7, 1969.



No claim is made to the nut and bolt configuration apart from the mark as shown.
For Fasteners and Wire Products—Namely, Hex Screws, Carriage Screws, Square Head Screws, Lag Screws, Plow Screws, Indented Hex Screws, Elevator Screws, Step Screws, Flat Head Screws, Indented Hex Flange Screws, and Hex Washer Head Screws (Int. Cl. 6).
First use March 1965, April 1957 in a different form.

SN 334,915. Aero Cast, Inc., Miami, Fla. Filed Aug. 11, 1969.

Aero Cast

For Hooks, Latches, Elbows, Hydraulic Fittings, Valve Housings and Valve Guides (Int. Cl. 6).
First use April 1967.

SN 337,839. Textron Inc., Providence, R.I. Filed Sept. 12, 1969.

CIRCUM SEAL

For Pipe Repair Clamps (Int. Cl. 6).
First use at least as early as May 1969.

SN 338,066. Rockford Products Corporation, Rockford, Ill., by merger from Rockford Screw Products Co., Rockford, Ill. Filed Sept. 16, 1969.



Owner of Reg. Nos. 555,318, 579,449, and 814,283.
For Machine and Wood Screws, Machine Screw Nuts, Socket Head Screws, Drive Screws, Cap Screws, Set Screws, Drilled Head Screws and Bolts; Aircraft Screws, Bolts, and Pins; Sheet Metal Screws, Studs, Stove Bolts, Wing Nuts, Nuts of Various Shapes, Washers, Cotter Pins, Carriage Bolts, Pins, and Clevises (Int. Cl. 6).
First use July 24, 1969.

SN 345,381. Samson Plastics, Inc., Cherry Hill, N.J. Filed Dec. 4, 1969.

COSMEDIKIT

For Wash Basins With Attached Mirror and Soap Dish, Sold as a Unit (Int. Cl. 21).
First use Nov. 19, 1969.

SN 350,428. Semblex Corporation, Elmhurst, Ill. Filed Feb. 4, 1970.



For Cold- and Warm-Formed Metal Parts—Namely, Threaded and Unthreaded, and Standard and Non-Standard Bolts and Screws (Int. Cl. 6).
First use on or before Mar. 4, 1969.

SN 352,718. Clayton Mark & Company, Evanston, Ill. Filed Mar. 2, 1970.

WOODMANSE

For Hydrants (Int. Cl. 11).
First use at least as early as Feb. 5, 1970.

Class 15 — Oils and Greases

SN 333,673. Arthur N. Luke, West Yarmouth, Mass., assignee of A. Harold Castonguay, d.b.a. Micro-Moly Products, Hyannis, Mass. Filed July 28, 1969.



The representations of an automobile, truck, boat, and tractor, and the word "Plates Moving Parts" are disclaimed apart from the mark as shown without waiving any common law rights therein. Owner of Reg. No. 693,063.
For Additive for General Purpose Lubricating Oils and Greases (Int. Cl. 1).
First use Apr. 14, 1959.

SN 337,706. Sun Oil Company, Philadelphia, Pa. Filed Sept. 11, 1969.

ROZA

For Hydraulic Oils (Int. Cl. 4).
First use June 7, 1965.

SN 338,191. Sun Oil Company, Philadelphia, Pa. Filed Sept. 17, 1969.

SUNFLEX

Owner of Reg. Nos. 432,877, 397,094, and others.
For Process Oil Primarily Used in the Processing of Rubber (Int. Cl. 4).
First use July 27, 1969.

SN 340,884. Marathon Oil Company, Findlay, Ohio. Filed Oct. 16, 1969.

MARACOTE

Owner of Reg. Nos. 783,505, 869,614, and others.
For Oil and Grease Lubricants (Int. Cl. 4).
First use on or prior to Apr. 9, 1969.

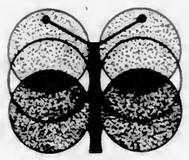
Class 16—Protective and Decorative Coatings

SN 339,520. Zayre Corp., Natick, Mass. Filed Oct. 2, 1969.

ZAYRE

Owner of Reg. No. 675,020.
For Paint (Int. Cl. 2).
First use at least as early as December 1962.

SN 341,443. Davis Paint Company, Kansas City, Mo. Filed Oct. 20, 1969.



The stippling in the mark, on the drawing, is for shading purposes only.
For Paint, Varnish, Stain, Pain Enamel, Lacquer, Paint and Varnish Remover, Paint Drier and Wood Fillers of the Paint Type (Int. Cl. 2).
First use Oct. 1, 1969.

Class 17—Tobacco Products

SN 334,918. Brown & Williamson Tobacco Corporation, Louisville, Ky. Filed Aug. 11, 1969.

COUGAR

For Cigarettes (Int. Cl. 34).
First use July 25, 1969.

Class 18—Medicines and Pharmaceutical Preparations

SN 305,154. The Norwich Pharmacal Company (Delaware corporation), Norwich, N.Y., assignee of The Norwich Pharmacal Company (New York corporation), Norwich, N.Y. Filed Aug. 14, 1968.



For Ethical Pharmaceutical Preparations (Int. Cl. 5).
First use prior to March of 1968.

SN 307,245. Standard Chemical Manufacturing Company, Omaha, Nebr. Filed Sept. 12, 1968.



Applicant disclaims the words "Feed," "Quality," and "Premixes" apart from the mark as shown. Owner of Reg. No. 372,102.
For Animal Medicines and Antibiotics for Livestock Including Sheep, Cattle, Cows, Hogs, Poultry, and Mink; Feed Premixes Containing Vitamins, Antibiotics, Proteins, or Minerals for Livestock Including Sheep, Cattle, Cows, Hogs, Poultry, and Mink (Int. Cl. 5).
First use at least as early as Apr. 1, 1967.

SN 328,867. Billings Lee, Billings, Mont. Filed June 2, 1969.

THREE LOST LINKS

For Medicinal Preparation for a Tonic for Use by Humans in Improving Body Tone (Int. Cl. 5).
First use June 11, 1955.

SN 332,864. Star Health Aids, Inc., Yonkers, N.Y. Filed July 17, 1969.

PERFORMA

For Vitamin Tablets (Int. Cl. 5).
First use July 3, 1969.

SN 339,821. Ralston Purina Company, St. Louis, Mo. Filed Oct. 6, 1969.

POULTRY-PLUS

Owner of Reg. Nos. 663,362, 873,725, and others.
For Medicated Poultry Feed (Int. Cl. 5).
First use February 1965.

SN 339,823. Ralston Purina Company, St. Louis, Mo. Filed Oct. 6, 1969.

CHINCHILLA-PLUS

Owner of Reg. Nos. 663,369, 873,725, and others.
For Medicated Chinchilla Feed (Int. Cl. 5).
First use February 1968.

SN 341,341. Thompson Medical Company, Inc., New York, N.Y. Filed Oct. 22, 1969.

ARIZONA

For Preparation for the Relief of Nasal Congestion (Int. Cl. 5).
First use Oct. 25, 1968.

SN 350,434. The Upjohn Company, Kalamazoo, Mich. Filed Feb. 4, 1970.

MEDROL ACNE LOTION

The words "Acne Lotion" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 657,022, 759,108, and others.
For Medicated Skin Preparation for the Treatment of Acne (Int. Cl. 5).
First use Nov. 17, 1969.

SN 352,048. The Upjohn Company, Kalamazoo, Mich. Filed Feb. 24, 1970.

LINCO-SPECTIN

Owner of Reg. Nos. 827,777, 850,478, and others.
For Antibiotic Preparation for Use in Treatment and Prevention of Animal and Poultry Diseases (Int. Cl. 5).
First use Nov. 17, 1969.

SN 352,050. The Upjohn Company, Kalamazoo, Mich. Filed Feb. 24, 1970.

CHOPAQUE

For Contrast Medium for Gall Bladder Diagnosis (Int. Cl. 5).
First use Jan. 16, 1963.

Class 19—Vehicles

SN 324,820. Laher Spring & Electric Car Corp., Oakland, Calif. Filed Apr. 17, 1969.

ST AN UP&GO

For Small Electrical Vehicles—Namely, Personnel Carriers' (Int. Cl. 12).
First use during August 1964.

SN 346,162. Albee Homes, Inc., Niles, Ohio. Filed Dec. 15, 1969.

TRAVELAGE

For Camping Trailers (Int. Cl. 12).
First use Mar. 24, 1969.

SN 348,535. Michael Herhager, d.b.a. Oriole Camper Manufacturing Company, New Boston, Mich. Filed Jan. 14, 1970.



For Pickup Campers and Camping Trailers (Int. Cl. 12).
First use on or about Nov. 22, 1969.

SN 353,745. Richard J. Forger, Liverpool, N.Y. Filed Mar. 11, 1970.

Glasshawk

For Boats (Int. Cl. 12).
First use Jan. 30, 1961.

SN 356,070. Ford Motor Company, Dearborn, Mich. Filed Apr. 6, 1970.

PACER

For Automobiles (Int. Cl. 12).
First use on or about June 14, 1956.

SN 356,085. The J. H. Holland Company, Norman, Okla. Filed Apr. 6, 1970.

FLOW BOY

For Semi-Trailers (Int. Cl. 12).
First use Feb. 28, 1970.

SN 356,816. North American Car Corporation, Chicago, Ill. Filed Apr. 7, 1970.

THERMINAL

For Railroad Cars (Int. Cl. 12).
First use Feb. 9, 1970.

SN 359,226. Harry Green, Rochester, N.Y. Filed May 8, 1970.

TEAR DROP

For Hub Caps for Motor Vehicles (Int. Cl. 12).
First use May 1, 1970.

SN 359,290. Fairchild Hiller Corporation, Germantown, Md. Filed May 11, 1970.

PEACEMAKER

For Aircraft and Parts Therefor (Int. Cl. 12).
First use May 8, 1970.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 296,778. Standard Oil Company, Flemington, N.J. Filed Apr. 29, 1968.

EXXON

For Storage Batteries (Int. Cl. 9).
First use Apr. 17, 1968.

SN 332,975. North American Rockwell Corporation, Pittsburgh, Pa. Filed July 18, 1969.



Owner of Reg. Nos. 890,815 and 891,505.
For Electric Motors and Motor Controls and Electric Lamps (Int. Cls. 7 and 11).
First use Mar. 11, 1969.

SN 339,049. Transformer-Electronics Company, Boulder, Colo. Filed Sept. 26, 1969.

TECNETICS

For Electronic Apparatus—Namely, Regulated Power Supply Units in the Nature of Transformers, Converters, Photomultiplier Circuit Breakers, Modulators, Filters, Switches, Couplers and Amplifiers (Int. Cl. 9).
First use on or about July 1, 1969.

SN 344,780. Fedtro, Inc., Rockville Centre, N.Y. Filed Nov. 28, 1969.

EXTEND-A-PHONE

Owner of Reg. Nos. 845,808, 855,476, and 864,171.
For Telephone Extension Outlets and Telephone Extension Plugs (Int. Cl. 9).
First use June 2, 1969.

SN 345,335. General Battery Corporation, Reading, Pa. Filed Dec. 4, 1969.

DYNAMO

For Storage Batteries (Int. Cl. 9).
First use Sept. 25, 1969.

SN 346,916. Lear Siegler, Inc., Toledo, Ohio. Filed Dec. 22, 1969.

CRITI COLOR

Applicant disclaims the word "Color" apart from the mark as shown.
For Fluorescent Lamps (Int. Cl. 11).
First use during April 1966.

Class 22 — Games, Toys, and Sporting Goods

SN 316,261. Donald A. Valway, d.b.a. Dedsa Associates of Hopkinton, Concord, N.H. Filed Jan. 9, 1969.

SHAPES IN SPACES

For Equipment Sold as a Unit for Playing a Board Game With Movable Pieces (Int. Cl. 28).
First use Dec. 9, 1968.

SN 321,628. Cameo Doll Products Co., Inc., Port Allegany, Pa. Filed Mar. 13, 1969.



For Dolls (Int. Cl. 28).
First use 1946.

SN 328,182. Herbert L. Hutton, d.b.a. Fire in the Hole Carp Bait Co., Kansas City, Mo. Filed May 23, 1969.

FIRE IN THE HOLE

For Fish Bait of Prepared Dough Type (Int. Cl. 28).
First use Apr. 14, 1958.

SN 328,274. Compatible Design, Sebastopol, Calif. Filed May 26, 1969.



For General Line of Playthings and Toys and Parlor-Type Games of Amusement and Skill (Int. Cl. 28).
First use as early as 1966.

SN 329,983. Independent Retailers Syndicate, Inc., New York, N.Y. Filed June 13, 1969.

CHILD'S PLAY

For Dolls (Int. Cl. 28).
First use June 1948.

SN 330,799. Western Publishing Company, Inc., Racine, Wis. Filed June 23, 1969.



Applicant disclaims its exclusive rights in the word "Games" apart from the mark as shown.
For Series of Children's Board Games, Parlor Games and Action Games; and Equipment, Apparatus, Pieces and Accessories Necessary to the Play Thereof (Int. Cl. 28).
First use June 2, 1969.

SN 331,874. Creston Industries, Inc., Passaic, N.J. Filed July 7, 1969.

NEMO

For Equipment Sold as a Unit for Playing an Astrology-Type Question and Answer Game (Int. Cl. 28).
First use June 23, 1969.

SN 332,408. Bomber Bait Company, Gainesville, Tex. Filed July 14, 1969.

SLAB SPOON

No claim of exclusive right is made to "Spoon" apart from the mark.
For Fishing Lures (Int. Cl. 28).
First use on or before Jan. 1, 1961.

SN 333,307. Shakespeare Company, Kalamazoo, Mich. Filed July 23, 1969.

"SHAKESPEARE BACK COUNTRY SPECIAL"

No claim of exclusive right is made to "Special" apart from the mark as shown. Owner of Reg. Nos. 282,509, 858,862, and others.
For Fishing Rods (Int. Cl. 28).
First use Aug. 1, 1968.

SN 333,435. Playskool, Inc., Chicago, Ill. Filed July 24, 1969.

COL-O-ROL WAGON

No claim of exclusive right is made to "Wagon" for the goods recited.
For Educational Toy Comprising, a Wagon Containing Colored Rods and Colored Apertured Cylinders and Cubes Sleevable on the Rods (Int. Cl. 28).
First use Dec. 31, 1939.

SN 333,545. Empire Plastic Corp., New York, N.Y. Filed July 25, 1969.

BOP HOCKEY

The word "Hockey" is disclaimed apart from the mark as shown.
For Equipment Sold as a Unit for Playing a Hockey Type Parlor Game (Int. Cl. 28).
First use Feb. 24, 1968.

SN 334,199. The "Bingo King" Company, Incorporated, Englewood, Colo. Filed Aug. 1, 1969.

BINGO KING

No claim of exclusive right is made to "Bingo" for the goods recited.
For Bingo Number Selection Apparatus, Scoreboards for Bingo Games, Markers, Cages, Balls, Crayons and Marking Tubes (Int. Cl. 28).
First use during the year 1948.

SN 334,519. Mattel, Inc., Hawthorne, Calif. Filed Aug. 6, 1969.

CARTOON MAKER

Applicant makes no claim to the word "Makes" apart from the mark.
For Toy Kit Comprising a Heating Unit, Molds, and Plastic Molding Materials (Int. Cl. 28).
First use June 18, 1969.

SN 336,065. Lawrence M. Mason, Atlanta, Ga. Filed Aug. 25, 1969.

1ST AND 10

For Equipment for Playing a Simulated Football Game Comprising a Playing Board, Position Markers and Decks of Offense and Defense Play Cards (Int. Cl. 28).
First use July 1, 1969.

SN 336,985. Mattel, Inc., Hawthorne, Calif. Filed Sept. 4, 1969.

BABY SO-SOFT

No claim of exclusive right is made for the word "Baby" apart from the mark. Owner of Reg. No. 857,426.
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use June 18, 1969.

SN 338,482. Mattel, Inc., Hawthorne, Calif. Filed Sept. 22, 1969.

BEDDY-BYE TALK

Applicant makes no exclusive claim to the word "Talk" apart from the mark.
For Talking Stuffed Pillow Doll (Int. Cl. 28).
First use Aug. 14, 1969.

SN 339,672. Eldon Industries, Inc., Hawthorne, Calif. Filed Oct. 3, 1969.

POWERIDE

For Rechargeable Battery Powered Toy Vehicles (Int. Cl. 28).
First use June 10, 1969.

SN 340,326. Parker Brothers, Inc., Salem, Mass. Filed Oct. 10, 1969.

LEAPIN' LETTERS

Applicant disclaims any registration rights in the word "Letters" apart from the mark as shown.
For Equipment for Playing a Funny Word Game (Int. Cl. 28).
First use Mar. 28, 1969.

SN 340,331. Parker Brothers, Inc., Salem, Mass. Filed Oct. 10, 1969.

CROWN RED

Applicant disclaims any registration rights in the word "Red" apart from the mark as shown.
For Equipment for Playing a Board Game (Int. Cl. 28).
First use Jan. 16, 1969.

SN 342,355. Foursmiths & Company, Arlington, Va. Filed Nov. 3, 1969.

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SMITHS
COMPANY

For Equipment and Container for a Variety of Games (Int. Cl. 28).
First use Oct. 21, 1969.

SN 344,362. Franklin Stores Corporation, Bronx, N.Y. Filed Nov. 24, 1969.

SPORTRON

For Sporting Goods—Namely, Baseballs, Softballs, Baseball Gloves, Tennis Balls, Tennis Rackets, Golf Balls, Golf Gloves, Golf Clubs, Table Tennis Balls, Table Tennis Sets, Air Mattresses for Camping, Sleeping Bags, Fishing Reels, Fishing Rods, Terminal Tackle, Swim Fins, Swim Masks, Snorkels, Ice Skates, Baseball Shoes, Basketball, Badminton Sets, Shuttlecocks, and Badminton Rackets (Int. Cl. 28).
First use March 1969.

SN 346,031. Mattel, Inc., Hawthorne, Calif. Filed Dec. 12, 1969.

BARRY

Owner of Reg. No. 877,356.
For Toy Plush Bear (Int. Cl. 28).
First use Oct. 30, 1969.

SN 346,032. Mattel, Inc., Hawthorne, Calif. Filed Dec. 12, 1969.

SWING-DRIVE

For Control for Attachment to Toy Miniature Automobiles and Comprising an Elastic Band With a Handle on the Unattached End (Int. Cl. 28).
First use Nov. 11, 1969.

SN 346,084. Ideal Toy Corporation, Hollis, N.Y. Filed Dec. 12, 1969.

CRISSY

For Dolls and Doll Accessories—Namely, Doll Clothing (Int. Cl. 28).
First use on or before Mar. 1, 1969.

SN 347,165. Mattel, Inc., Hawthorne, Calif. Filed Dec. 29, 1969.

CHECKLE HECKLE

For Puzzle Comprised of a Multiplicity of Block Parts Adapted To Be Arranged in Specific Designs (Int. Cl. 28).
First use Oct. 24, 1969.

SN 347,168. Mattel, Inc., Hawthorne, Calif. Filed Dec. 29, 1969.

BLOCK SHOCK

Applicant makes no exclusive claim to the word "Block" apart from the mark.
For Puzzles Comprised of a Multiplicity of Block Parts Adapted To Be Arranged in Specific Designs (Int. Cl. 28).
First use Oct. 29, 1969.

SN 347,643. Regent Sports Corp., Hauppauge, N.Y. Filed Jan. 2, 1970.



No claim is made to the word "Hinged" apart from the mark as shown.
For Baseball Gloves and Mitts (Int. Cl. 28).
First use Nov. 7, 1967.

SN 349,737. Mattel, Inc., Hawthorne, Calif. Filed Dec. 12, 1969.

SPRING-BAR

For An Axle and Axle Suspension for Toy Miniature Automobiles (Int. Cl. 28).
First use Nov. 11, 1969.

SN 357,181. Mattel, Inc., Hawthorne, Calif. Filed Apr. 17, 1970.

BABY BEANS

No claim of exclusive right is made for the word "Baby" apart from the mark.
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Feb. 27, 1970.

SN 357,182. Mattel, Inc., Hawthorne, Calif. Filed Apr. 17, 1970.

SPEED DEMON

For Toy Automobile (Int. Cl. 28).
First use Mar. 3, 1970.

SN 357,183. Mattel, Inc., Hawthorne, Calif. Filed Apr. 17, 1970.

WAY-OUT

For Toy Automobile (Int. Cl. 28).
First use Mar. 10, 1970.

SN 357,185. Mattel, Inc., Hawthorne, Calif. Filed Apr. 17, 1970.

U.S./8

For Toy Automobile Racing Set (Int. Cl. 28).
First use Mar. 10, 1970.

SN 357,282. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Apr. 20, 1970.

SUM-UP

For Apparatus Sold as a Unit for Playing a Card Game (Int. Cl. 28).
First use Oct. 29, 1969.

SN 357,562. Mattel, Inc., Hawthorne, Calif. Filed Apr. 22, 1970.

ROARIN' 20'S

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Mar. 5, 1969.

SN 357,925. Parker Brothers, Inc., Salem, Mass. Filed Apr. 27, 1970.

BUCKSHOT!

For Equipment for Playing a Board Game (Int. Cl. 28).
First use Apr. 13, 1970.

SN 358,503. Mattel, Inc., Hawthorne, Calif. Filed May 1, 1970.

TRACK TRIALS

For Toy Automobile Racing Set (Int. Cl. 28).
First use Mar. 10, 1970.

SN 358,504. Mattel, Inc., Hawthorne, Calif. Filed May 1, 1970.

FUEL INJECTOR

For Toy Battery Charger (Int. Cl. 28).
First use Mar. 10, 1970.

SN 359,679. Mattel, Inc., Hawthorne, Calif. Filed May 14, 1970.

CALIFORNIA/8

For Toy Automobile Racing Set (Int. Cl. 28).
First use Feb. 17, 1970.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 297,362. American Road Equipment Co., Omaha, Nebr. Filed May 6, 1968.



The drawing is lined for the color orange, but no claim is made to color.
For Vehicles—Namely, Hay Loaders, Hay and Straw Stackers, and Rakes (Int. Cl. 7).
First use Dec. 1, 1967.

SN 341,310. Diamond Shamrock Corporation, Cleveland, Ohio. Filed Oct. 22, 1969.

SANURIL

For Chlorinator for Use in Disinfecting or Sanitizing Wastewater (Int. Cl. 11).
First use Oct. 6, 1969.

SN 346,501. Pelton & Crane Company, Charlotte, N.C. Filed Dec. 17, 1969.

HUSTLER

For Air Compressors (Int. Cl. 7).
First use Nov. 19, 1969.

SN 359,175. A-T-O Inc., Cleveland, Ohio. Filed May 8, 1970.

PROTEXALL

For Fire Extinguishers (Int. Cl. 9).
First use Feb. 23, 1970.

Class 25 — Locks and Safes

SN 339,613. The United Seal Company, Columbus, Ohio. Filed Oct. 2, 1969.

PLASTIXLOX

For Padlock-Type Seals for Meter Boxes and Other Closable Receptacles (Int. Cl. 6).
First use Oct. 15, 1967.

SN 348,311. The Mosler Safe Company, Hamilton, Ohio. Filed Jan. 12, 1970.

TRUK-LOKR

For Locking Receptacles for Receiving and Securing Cash and Other Collections (Int. Cl. 6).
First use Dec. 10, 1969.

Class 26 — Measuring and Scientific Appliances

SN 269,426. I-T-E Imperial Corporation, Philadelphia, Pa., assignee of Imperial-Eastman Corporation, Chicago, Ill. Filed Apr. 18, 1967.



For Fluid Control Valves and/or Interconnecting Circuitry Hardware.
First use June 1966.

SN 317,601. Opancol Limited, London, England. Filed Jan. 27, 1969.

QUICKTEST

For Instruments for Gauging Moisture Content of Crops—Namely, Moisture Testers (Int. Cl. 9).
First use on or about Jan. 1, 1953; in commerce on or about Jan. 1, 1958.

SN 323,386. The Telex Corporation, Tulsa, Okla. Filed Apr. 1, 1969.

TELEX

Owner of Reg. Nos. 439,711 and 517,386.
For Data Processing Equipment, Computer Peripheral Equipment and Computer Terminal Apparatus—Namely, Computers, Digital Tape Transports, Disk Storage Drives and Electronic File Control Units; Apparatus and Instruments for Data Acquisition—Namely, Data Tape Recorders, Data Tape Recorders-Reproducers, Oscillographs and Galvanometers; Eye Glasses and Eye Glass Frames; and Components and Parts for all of Said Equipment, Apparatus and Instruments (Int. Cl. 9).
First use at least as early as 1940.

SN 324,197. Insta Vision Corporation, Minneapolis, Minn. Filed Apr. 10, 1969.

INSTA VISION

Applicant disclaims the word "Vision" apart from the mark as shown.
For Audio-Visual Projectors With Synchronized Film and Sound (Int. Cl. 9).
First use July 1966.

SN 325,093. Thiokol Chemical Corporation, Bristol, Pa. Filed Apr. 21, 1969.

SNO-PLATE

For Snow Depth Measuring Transducers (Int. Cl. 9).
First use Jan. 9, 1968.

SN 332,358. C. W. McMath, d.b.a. Argyle Manufacturing Company, Denton, Tex. Filed July 11, 1969.

BINATROL

For Pressure Sensitive Switch (Int. Cl. 9).
First use at least as early as 1948.

SN 359,058. La Lunette de Paris, Inc., Glen Head, N.Y. Filed May 7, 1970.

SILOR

For Spectacles and Optical Lenses Therefor (Int. Cl. 9).
First use Apr. 13, 1970.

Class 29 — Brooms, Brushes, and Dusters

SN 339,331. Laitner Brush Company, Detroit, Mich. Filed Sept. 30, 1969.

RED DIAL

For Fountain Brushes (Int. Cl. 21).
First use Jan. 12, 1960.

SN 339,517. Zayre Corp., Natick, Mass. Filed Oct. 2, 1969.

ZAYRE

Owner of Reg. No. 675,020.
For Paint Brushes (Int. Cl. 16).
First use at least as early as December 1962.

Class 32 — Furniture and Upholstery

SN 321,998. Steelcase, Inc., Grand Rapids, Mich. Filed Mar. 17, 1969.

EMBER CHROME

Applicant disclaims the word "Chrome" apart from the use of the mark as shown.
For Metallic Finishes Sold Only as Applied to Office Furniture (Int. Cl. 20).
First use on or about Oct. 27, 1967.

SN 339,524. Zayre Corp., Natick, Mass. Filed Oct. 2, 1969.

ZAYRE

Owner of Reg. No. 675,020.
For Mattresses (Int. Cl. 20).
First use at least as early as December 1968.

Class 33 — Glassware

SN 328,451. The Sierracin Corporation, Sylmar, Calif. Filed May 27, 1969.



For Monolithic and Laminated Sheet Glass (Int. Cl. 21).
First use Nov. 12, 1968.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 317,370. Poweray Infrared Corporation, Farmingdale, N.Y. Filed Jan. 23, 1969.

POWERAY

Owner of Reg. No. 831,801.
For Surfacing Restoration Equipment—Namely, Radiant Energy Heaters for Road Surfacing Materials, and Storage Receptacles for Road Surfacing Materials With and Without Heat Generating Elements (Int. Cl. 11).
First use Jan. 17, 1969.

SN 330,523. Lear Siegler, Inc., Minneapolis, Minn., assignee of Mammoth Industries, Inc., Minneapolis, Minn. Filed June 19, 1969.

ADAPTA-ZONE

Owner of Reg. Nos. 635,941 and 763,945.
For Forced Air Units Capable of Heating, Cooling, and Delivering Outside Air to Buildings (Int. Cl. 11).
First use May 24, 1969.

SN 343,117. The Harris Calorific Company, Cleveland, Ohio. Filed Nov. 10, 1969.

THRIF-T-TIP

For Replaceable Nozzles for Gas Fired Torches (Int. Cl. 11).
First use at least as early as Oct. 28, 1969.

SN 347,387. Berns Air King Corporation, Chicago, Ill. Filed Dec. 30, 1969.

AQUA-RING

For Humidifiers (Int. Cl. 11).
First use Aug. 19, 1969.

SN 351,409. American Standard Inc., New York, N.Y. Filed Feb. 16, 1970.

GPM

For Boilers (Int. Cl. 11).
First use on or about Jan. 3, 1969.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 314,336. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Dec. 12, 1968.

G88

Owner of Reg. Nos. 749,129 and 860,086.
For Tires (Int. Cl. 12).
First use Nov. 22, 1968.

SN 327,616. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed May 19, 1969.

PATHMAKER

Owner of Reg. No. 244,710.
Fir Tires (Int. Cl. 12).
First use Mar. 2, 1969.

SN 331,192. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed June 27, 1969.

CRAZY WHEELS

The word "Wheels" is disclaimed apart from the mark as shown.
For Bicycle Tires (Int. Cl. 12).
First use May 27, 1969.

Class 36 — Musical Instruments and Supplies

SN 315,964. Transcriber Company, Inc., Attleboro, Mass. Filed Jan. 6, 1969.

TRANSCRIBER

Owner of Reg. Nos. 715,803, 809,271, and 829,093.
For Phonograph Accessories—Namely, Phonograph Record Inserts, Phonograph Turntable Spindle Adaptors, Phonograph Turntable Levels, Phonograph Record Brushes Including a Tone Arm Attachment Clip, Phonograph Cartridges, Phonograph Styli Pressure Gauges, Phonograph Turntable Protective Cushions, Graduated Discs for Attachment to Phonograph Turntable Spindles to Indicate Turntable Speed When Illuminated by Stroboscopic Light, Record Sleeves, Magnetic Tape Recorder Accessories—Namely, Magnetic Tape Cleaning Probes, Protective Dust Caps for Magnetic Tape Cartridges, Magnetic Tape Cartridge Racks, Magnetic Tape Reels, Magnetic Tape Reel Holders, Magnetic Tape Leader Strips, Magnetic Tape Splicers, Replacement Magnetic Tape Splicer Cutting Pads, Lapel Microphones for Attachment to Magnetic Tape Recorders, Telephone Pick-Up Coils for Attachment to Magnetic Tape Recorders and Speakers for Use With Home and Auto Magnetic Tape Recorders (Int. Cl. 9).
First use Aug. 28, 1964.

SN 353,917. Sarex Corporation, North Bergen, N.J. Filed Mar. 12, 1970.

TALKASSETTE

For Magnetic Tape Recording and Playback Cassettes (Int. Cl. 9).
First use Feb. 25, 1970.

Class 37 — Paper and Stationery

SN 324,835. Prudent Publishing Co., Inc., Englewood Cliffs, N.J. Filed Apr. 17, 1969.



For Advertising Material—Namely, Envelopes, Diaries, and Mailing Labels (Int. Cl. 16).
First use Mar. 19, 1968.

SN 335,423. Boorum & Pease Company, Brooklyn, N.Y. Filed Aug. 15, 1969.

VIZ A FICHE

For Index Sheet Having Pockets, for Receiving Cards for Loose Leaf Book or File (Int. Cl. 16).
First use Apr. 1, 1969.

SN 335,470. Rudco Industries, Inc., Teaneck, N.J. Filed Aug. 15, 1969.



For Printed Checks, Checkbooks, and Envelopes (Int. Cl. 16).
First use March 1969.

SN 344,384. Kane Systems, Downers Grove, Ill. Filed Nov. 24, 1969.

STOCK-MATE

For Record Keeping Forms Particularly Adapted for Investment Records, Such as Securities (Int. Cl. 16).
First use October 1969.

Class 38 — Prints and Publications

SN 323,122. The Petroleum Publishing Company, Tulsa, Okla. Filed Mar. 28, 1969.



Owner of Reg. No. 508,769.
For Magazine Published at Regular Intervals (Int. Cl. 16).
First use January 1961.

SN 324,131. Elmcraft, Inc., Chicago, Ill. Filed Apr. 10, 1969.

CHRISTMAS TREASURES

For Albums Containing Christmas Cards for Selection of Card Styles Therefrom by Purchasers (Int. Cl. 16).
First use May 3, 1968.

SN 330,814. American Society for Testing and Materials, Philadelphia, Pa. Filed June 24, 1969.



Owner of Reg. No. 381,909.
For Publications—Namely, Magazines, Books, Pamphlets and the Like, Relating to Testing Methods, Specifications and Standards in Engineering, Industrial and Allied Fields, Published From Time to Time (Int. Cl. 16).
First use Mar. 15, 1965; 1919, in a different form.

SN 335,906. Views and Reviews, Inc., Milwaukee, Wis. Filed Aug. 21, 1969.

VIEWS & REVIEWS

For Magazine Published Periodically (Int. Cl. 16).
First use Aug. 8, 1969.

SN 341,282. The Petroleum Publishing Company, Tulsa, Okla. Filed Oct. 21, 1969.

PETROLEO INTERAMERICANO

For Magazine Published at Regular Intervals (Int. Cl. 16).
First use in the year 1943.

SN 354,885. Stella Powell, Parma Heights, Ohio. Filed Mar. 23, 1970.

PERSONAL HANG-UPS

For Astrology Charts (Int. Cl. 16).
First use Mar. 5, 1970.

Class 39 — Clothing

SN 304,522. Wycoa Specialties, Inc., Laramie, Wyo. Filed Aug. 6, 1968.

THE RANDY-BAND

For Multiple Purpose Fur Band for Use as Hat Band, Scarf, Head Band and the Like (Int. Cl. 25).
First use Mar. 16, 1968.
Subj. to Intf. with SN 304,121.

SN 328,951. Collegiate Cap & Gown Company, Champaign, Ill. Filed June 3, 1969.

CORONADO

For Caps and Gowns (Int. Cl. 25).
First use at least as early as Aug. 31, 1955.

SN 328,952. Collegiate Cap & Gown Company, Campaign, Ill. Filed June 3, 1969.

CORONET

For Caps and Gowns (Int. Cl. 25).
First use at least as early as Oct. 31, 1957.

SN 328,953. Collegiate Cap & Gown Company, Champaign, Ill. Filed June 3, 1969.

CONTINENTAL

For Caps and Gowns (Int. Cl. 25).
First use at least as early as Aug. 31, 1963.

SN 328,954. Collegiate Cap & Gown Company, Champaign, Ill. Filed June 3, 1969.

COLLEGIATE

For Caps, Gowns, Judicial Robes, Clerical Robes, Choir Robes, Nurses Capes, Surplices, Cottas, Rabats, and Stoles (Int. Cl. 25).
First use at least as early as Oct. 31, 1941.

SN 341,975. Consolidated Foods Corporation, Chicago, Ill. Filed Oct. 29, 1969.

HAND AID EXERCISE GLOVE

The words "Exercise Glove" are disclaimed apart from its use in the mark.
For Stretch Fabric Gloves (Int. Cl. 25).
First use July 19, 1969.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 359,781. Deering Milliken, Inc., New York, N.Y. Filed May 15, 1970.

ASTARTE

For Textile Fabrics Made of Wool, Cotton and Synthetic Fibers and Combinations Thereof (Int. Cl. 24).
First use May 7, 1970.

Class 44 — Dental, Medical, and Surgical Appliances

SN 346,534. The University of Alabama, Birmingham, Ala. Filed Dec. 17, 1969.

DENTASSIST

For Holder for Hose and/or Wire Attached Dental Instruments (Int. Cl. 10).
First use Feb. 1, 1966.

SN 346,600. Cameron-Miller Surgical Instruments Company, Chicago, Ill. Filed Dec. 18, 1969.

FLEXBEAM

For Fiber Optic Illuminating Devices for Medical Applications, Specifically Including Headlights, Snares, and Illuminating Devices for Surgical Instruments Adapted for Use Within a Human Body Cavity (Int. Cl. 10).
First use Nov. 24, 1969.

SN 347,255. Fenwood Laboratories, Inc., Pittsburgh, Pa. Filed Dec. 29, 1969.

FETO-TECT

For Medical Diagnostic Laboratory Kit for Detection of Alpha-Fetoglobin in Human Serum (Int. Cls. 5 and 10).
First use Nov. 16, 1969.

Class 46 — Foods and Ingredients of Foods

SN 293,938. Jet Chef Division of Mack Brothers, Ltd., Goshen, N.Y. Filed Mar. 22, 1968.

JET CHEF

For Frozen Prepared Meals Consisting of Appetizers, Salads, Entrees, Deserts and Breads Which are Served by Airlines in Flight, Hospitals, Industrial Plants and Other Places of Business and in the Home, The Appetizers Consist of Shrimps Estorii (Shrimps in Spicy Tomato Sauce), Curried Crabmeat Crepe, Quiche Lorraine (Pie Shell Filled With Bacon and Egg Custard), Quiche Bolognese (Pie Filled With Meat Sauce and Egg Custard), and Bouche a la Reine (Pastry Shell Filled With Creamed Chicken); the Salads Consist of Potato Salad, Macaroni Salad and Waldorf Salad; the Entrees Consist of Either Meat, Poultry or Fish; and the Desserts Consist of Mocha Torte, Fruit Log (Sponge Cake, Whipped Cream and Fruit), Peach Melba, Pear Helen (Vanilla Ice Cream, Pear and Hot Fudge Sauce), Caramel Custard, Bavarian Cream, Crepe Almondine and Crepe Lucullus (Crepe Filled With Chopped Nuts in Caramel Sugar) (Int. Cls. 29, 30, and 31).
First use Jan. 12, 1968.

SN 299,439. Deep Deep Ocean Products, Inc., Boston, Mass. Filed May 31, 1968.

DEEP DEEP OCEAN PRODUCTS

For Seafood—Namely, Fresh Lobsters, Shrimp, Crabs, Clams, Oysters and Frozen Packaged Meat of Lobsters and Crabs (Int. Cl. 29).
First use Apr. 9, 1968.

SN 324,949. Vabising, Inc., Robbinsville, N.J. Filed Apr. 18, 1969.

BONITA

For Fresh Citrus Fruits and for Fesh Vegetables (Int. Cl. 31).
First use at least as early as January 1925, on fresh vegetables.

SN 333,429. P. J. Co., Inc., Mitchellville, Iowa. Filed July 24, 1969.

PERKY JERKY

Applicant disclaims the word "Jerky" apart from the mark as shown without disclaiming its common law rights.
For Beef Jerky (Int. Cl. 29).
First use in or about February 1966.

SN 333,615. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed July 25, 1969.

NAME DROPPERS

For Candy (Int. Cl. 30).
First use Apr. 25, 1969.

SN 335,503. General Mills, Inc., Minneapolis, Minn. Filed Aug. 18, 1969.

AHOY

For Pet Food for Dogs and Cats (Int. Cl. 31).
First use on or about June 25, 1969.

SN 335,506. General Mills, Inc., Minneapolis, Minn. Filed Aug. 18, 1969.

BUTCHER BOY

For Pet Food for Dogs and Cats (Int. Cl. 31).
First use on or about June 25, 1969.

SN 335,508. General Mills, Inc., Minneapolis, Minn. Filed Aug. 18, 1969.

HIGH TIME

For Pet Food for Dogs and Cats (Int. Cl. 31).
First use on or about June 25, 1969.

SN 335,509. General Mills, Inc., Minneapolis, Minn. Filed Aug. 18, 1969.

PRO BOWL

Owner of Reg. No. 724,897.
For Pet Food for Dogs and Cats (Int. Cl. 31).
First use on or about June 25, 1969.

SN 335,513. General Mills, Inc., Minneapolis, Minn. Filed Aug. 18, 1969.

TOTAL PRO

Owner of Reg. Nos. 235,000, 800,075, and others.
For Pet Food for Dogs and Cats (Int. Cl. 31).
First use on or about June 25, 1969.

SN 338,997. Carnation Company, Los Angeles, Calif. Filed Sept. 26, 1969.

DIET COUNT

The word "Diet" is disclaimed separate and apart from the mark as a whole, but the applicant waives none of its common law rights in the mark shown in the drawing or any feature thereof.
For Dietetic Ice Cream (Int. Cl. 5).
First use at least as early as Aug. 12, 1969.

SN 343,663. Coburg Dairy, Incorporated, Charleston, S.C. Filed Nov. 17, 1969.



For Dairy Products—Namely, Fluid Milk (Int. Cl. 29).
First use Jan. 14, 1959.

SN 344,052. P. Ferrero & C. S.p.A., Alba, Cuneo, Italy. Filed Nov. 20, 1969.

HANUTA

Owner of Italian Reg. No. 158,787, dated Jan. 23, 1962.
For Confectionery—Namely, Chocolate and Nut Wafers (Int. Cl. 30).

SN 348,104. Black Angus Franchise System, Inc., Miami, Fla. Filed Jan. 9, 1970.

"THIS IS NO BUM STEER"

For Candy Mints (Int. Cl. 30).
First use 1959.

SN 358,255. Sunnyland Refining Company, Inc., Birmingham, Ala. Filed Apr. 29, 1970.

JONES VALLEY

For Margarine (Int. Cl. 29).
First use 1948.

SN 359,548. General Mills, Inc., Minneapolis, Minn. Filed May 13, 1970.

GOOD TIME THINGS

For Cereal Derived Ready-to-Eat Snack (Int. Cl. 30).
First use on or about Apr. 3, 1970.

Class 47 — Wines

SN 272,412. Societe en Nom Collectif Raymond Thuilier et Theodore Moscoloni, Bouches-du-Rhone, Les-Baux-en-Provence, France. Filed May 25, 1967.

BAUMANIERE

Owner of French Reg. No. 715,020, dated May 9, 1966.
For Wines (Int. Cl. 33).

Class 51 — Cosmetics and Toilet Preparations

SN 290,292. Helene Curtis Industries, Inc., d.b.a. Helene Curtis, Chicago, Ill. Filed Feb. 5, 1968.

SET 'N CARE

Without waiving common law rights therein applicant disclaims "Set" apart from the mark as shown.
For Wave Setting Preparation (Int. Cl. 3).
First use on or about Jan. 10, 1968.

SN 301,559. Trendsetters, Inc., Northridge, Calif. Filed June 27, 1968.

TRENDSETTERS

For Cosmetic Skin Cleanser and Skin Freshener, Lipsticks, Nail Polishes, Face and Body Powders, Eyebrow Pencils, Eye Make-Up, Creams and Fluid Make-Ups, and Eyeshadow (Int. Cl. 3).
First use June 3, 1968.

SN 322,364. Tropical Soap Company, Monroe, Mich. Filed Mar. 20, 1969.



The word "Sirena" is the Spanish word for "mermaid."
For Cosmetic Preparations—Namely, Skin Moisturizer Lotion, Suntan Lotion, Facial Cleanser, Make-Up Base, Hand and Body Lotion, and Night Cream (Int. Cl. 3).
First use July 18, 1960.

SN 329,380. Dorothy Perkins Cosmetics, Inc., New York, N.Y. Filed June 6, 1969.

PARFUM DEW

The word Parfum is French and means "perfume, odour, scent, fragrance; flavour, bouquet. . . ." The term "Parfum" is disclaimed from the mark as shown.
For Scented Body Oil, Bath Oil, and Cologne (Int. Cl. 3).
First use January 1967.

SN 332,711. Herba Corporation, New York, N.Y. Filed July 16, 1969.

FRACAS

For Perfumes (Int. Cl. 3).
First use July 5, 1945.

SN 335,912. Colgate-Palmolive Company, New York, N.Y. Filed Aug. 22, 1969.

QUADRANT

For Dentifrice (Int. Cl. 3).
First use July 29, 1969.

SN 335,913. Colgate-Palmolive Company, New York, N.Y. Filed Aug. 22, 1969.

PERIGARD

For Dentifrice (Int. Cl. 3).
First use July 29, 1969.

SN 337,966. Plough, Inc., Memphis, Tenn. Filed Sept. 15, 1969.

MT 3000

For Suntan Creams (Int. Cl. 3).
First use Aug. 25, 1969.

SN 338,669. Faberge, Incorporated, New York, N.Y. Filed Sept. 23, 1969.

FORSOOTH

For Shave Balm (Int. Cl. 3).
First use July 15, 1969.

SN 344,631. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 26, 1969.

START SOFT

Applicant disclaims the word "Soft" apart from the mark.
For Hand Lotion (Int. Cl. 3).
First use Oct. 30, 1969.

SN 345,261. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Dec. 4, 1969.

JIU JUTSU

Owner of Reg. No. 879,247.
For After Shave Lotion (Int. Cl. 3).
First use Nov. 5, 1968.

SN 346,434. Guerlain, Inc., New York, N.Y. Filed Dec. 17, 1969.

CHAMADE

"Chamade" is a French word meaning "roll of drums."
For Perfumes (Int. Cl. 3).
First use Apr. 11, 1969.

SN 349,535. American Home Products Corporation, New York, N.Y. Filed Jan. 26, 1970.

LIVELY LIME

Applicant disclaims the word "Lime" apart from the mark as shown.
For Shave Cream (Int. Cl. 3).
First use Oct. 16, 1969.

SN 351,384. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Feb. 16, 1970.

SWEDISH TANNING SECRET

Applicant disclaims the word "Tanning" apart from the mark as shown. Owner of Reg. No. 884,768.
For Sun Tanning Preparations (Int. Cl. 3).
First use Feb. 18, 1969.

SN 352,044. Union Carbide Corporation, New York, N.Y. Filed Feb. 24, 1970.

JACQUES

"Jacques" is a French word meaning "James."
For Personal Deodorant (Int. Cl. 5).
First use on or about Feb. 2, 1970.

Class 52 — Detergents and Soaps

SN 320,851. PDR Manufacturing Corporation, Denver, Colo. Filed Mar. 5, 1969.

JET-X

Owner of Reg. No. 870,828.
For Detergents—Namely, Detergents for Use in a Pressure Spray Washer, as a Household Cleaner, as an Animal Shampoo, as an Industrial Cleaner and as a Wax Stripper (Int. Cl. 3).
First use Nov. 1, 1966.

SN 323,878. Economics Laboratory, Inc., St. Paul, Minn. Filed Apr. 4, 1969.

KLEER-KLENZ

For Detergent for Use on Farm, Dairy and Food Processing Equipment (Int. Cl. 3).
First use July 1939.

SN 342,984. Lien Chemical Company, Franklin Park, Ill. Filed Nov. 7, 1969.



The drawing is lined for the colors red and blue. Owner of Reg. Nos. 585,575, 615,466, and others.
For All Purpose Cleaners and Detergents; Drain Pipe Opener; Preparations for Removing Spots From Hard Surfaces, Rugs, Upholstery and Fabrics; Rust, Lime and Stain Remover; Wax Stripping Preparation; Machine Dishwashing Compound; Preparation for Cleaning Trucks; Toilet Bowl Cleaner; Hand Cleaners; Medicated Lotion Soap; Hand Soaps; Preparation for Cleaning and Preserving Leather and Plastic Upholstery; and Sweeping Compounds (Int. Cls. 3 and 4).
First use Apr. 11, 1953.

SN 350,822. Kimberly-Clark Corporation, Neenah, Wis. Filed Feb. 9, 1970.

DELSEY

For Preparation in Lotion-Like Form Designed Especially for Cleaning the Anal and Vaginal Areas of the Skin (Int. Cl. 3).
First use Jan. 31, 1969.

SERVICE MARKS

Class 100 — Miscellaneous

SN 298,842. Molecular Design Inc., Cleveland, Ohio. Filed May 22, 1968.

MDI

For Consulting in the Field of Engineering and Particularly in the Field of Polymer Sciences and Plastic Engineering (Int. Cl. 42).
First use at least as early as Apr. 5, 1968.

SN 304,360. Litchfield Park Properties, Litchfield Park, Ariz. Filed Aug. 5, 1968.



For Residential, Commercial and Industrial Land Development for Others (Int. Cl. 42).
First use Oct. 9, 1966.

SN 312,082. Sperry Rand Corporation, Troy, Mich. Filed Nov. 13, 1968.

THINK CUSTOMER

For Research, Development, Design, Engineering and Consultation Services in the Hydraulics and Electrical Field (Int. Cl. 42).
First use Apr. 1, 1966.

SN 312,084. Sperry Rand Corporation, Troy, Mich. Filed Nov. 13, 1968.



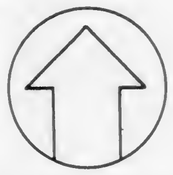
For Research, Development, Design, Engineering and Consultation Services in the Hydraulics and Electrical Field (Int. Cl. 42).
First use Apr. 1, 1966.

SN 312,491. Outdoor Enterprises of America, Inc., Prairie Village, Kans. Filed Nov. 18, 1968.



The words "Tent Lodge" are disclaimed apart from the mark as shown.
For Furnishing Camping Accommodations (Int. Cl. 42).
First use June 1967.

SN 312,767. P. B. Gast & Sons, Inc., Grand Rapids, Mich. Filed Nov. 21, 1968.



For Consulting, Designing and Implementing Sanitation and Cleaning Systems for Others and Replenishing Supplies as Needed (Int. Cl. 42).
First use on or about Apr. 1, 1968.

SN 313,928. Vincent J. Gentile, Springfield, Mass. Filed Dec. 9, 1968.

PIZA TOWERS

The term "Piza" is disclaimed apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use November 1965.

SN 314,335. Geoservices, Paris, France. Filed Dec. 12, 1968.

GASMAP

Priority claimed under Sec. 44(d) on French Reg. No. 759,059, dated June 27, 1968. Owner of French Reg. No. 46,441, dated June 27, 1968.
For Geophysical and Geochemical Exploration and the Preparation of Reports Based on Statistical Data Resulting From Such Exploration, for Others (Int. Cl. 42).

SN 316,330. National Assistance League, Hollywood, Calif. Filed Jan. 10, 1969. COLLECTIVE MARK.

OPERATION SCHOOL BELL

For Philanthropic Services Directed to Supplying Needy Children With Clothing (Int. Cl. 42).
First use May 28, 1958.

SN 316,973. Joseph G. Bacevius, d.b.a. Design International, Bridgeport, Conn. Filed Jan. 21, 1969.



For Consultation in Developing Related or Allied Products of a Given Client and Thereafter Performing the Services Effecting the Design, Development and Planning for the Manufacture of Said New Products (Int. Cl. 42).
First use Oct. 28, 1968.

SN 317,716. The Chicken Chef Systems Incorporated, Jackson, Miss. Filed Jan. 28, 1969.

SO GOOD IT'S HABIT FORMING

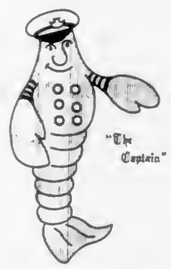
For Restaurant Services (Int. Cl. 42).
First use June 6, 1968.

SN 318,587. Signatron, Inc., Lexington, Mass. Filed Feb. 6, 1969.



The mark consists of the stylized representation of the letter "S."
For Consulting and Design Services in Engineering, Scientific, Management, and Computer Fields (Int. Cl. 42).
First use on or about June 18, 1968.

SN 327,433. Warmuth's Restaurant, Inc., Boston, Mass. Filed May 15, 1969.



The drawing is lined for the color red.
For Restaurant Services (Int. Cl. 42).
First use about Apr. 1, 1969.

SN 328,152. Association of Operating Room Nurses, Inc., New York, N.Y. Filed May 23, 1969.



The drawing is lined for the color blue. All matter appearing beyond the circle in the drawing is merely background and not a part of the mark.
For Association's Services—Namely, Promoting the Profession of Operating Room Nurses by: Maintaining a Compact Group for the Safer Care of the Operating Room Patient; To Exchange Knowledge and Experience Among its Members; To Collect, Consolidate and Disseminate Knowledge and Information Relating to the Operating Room; To Hold Forums, Seminars and Classes; To Keep the Operating Room Nurses Current in Their Professional Knowledge; To Cooperate with other Professional Groups, Organizations and Government Policies; and To Publish and Distribute an Association Journal and Other Manuals, Books and Pamphlets (Int. Cl. 42).
First use November 1966.

SN 328,416. Burger King Corporation, Miami, Fla. Filed May 27, 1969.

BURGER KING

Without waiving common law rights, applicant disclaims the word "Burger" apart from the mark as shown. Owner of Reg. Nos. 722,375 and 869,775.
For Restaurant Services, More Specifically Self-Service Restaurants (Int. Cl. 42).
First use Dec. 6, 1968.

SN 329,803. Chris McGuire, Inc., Fort Lauderdale, Fla. Filed June 12, 1969.



The drawing is lined for the color red.
For Restaurant and Cocktail Lounge Services (Int. Cl. 42).
First use Aug. 29, 1968.

SN 334,042. Burgundy Bull, Inc., Edina, Minn. Filed July 31, 1969.

BURGUNDY BULL

For Restaurant Services (Int. Cl. 42).
First use on or about Oct. 10, 1968.

SN 334,123. Rix Systems, Incorporated, Indianapolis, Ind. Filed July 31, 1969.



For Drive-In Restaurant Services (Int. Cl. 42).
First use on or about Apr. 16, 1969.

SN 334,529. Universal Oil Products Company, Des Plaines, Ill. Filed Aug. 6, 1969.

AIRPOLLUTIONOMICS

For Consulting and Advisatory Services To Prevent and/or Control Industrial Pollution of the Environment (Int. Cl. 42).
First use on or prior to July 29, 1969.

SN 334,587. Carl Karcher Enterprises, Inc., Anaheim, Calif. Filed Aug. 6, 1969.

CARL'S JR.

For Restaurant Services (Int. Cl. 42).
First use on or before February 1964.

SN 341,578. Dream Merchants, Inc., Raytown, Mo., assignee of Ronald L. Downing, d.b.a. Dream Merchants, Inc., Raytown, Mo. Filed Oct. 24, 1969.

Dream Merchants, Inc.

Owner of Reg. No. 875,806.
For Background, Personality and Date Matching Services (Int. Cl. 42).
First use Mar. 7, 1969.

SN 346,028. Griffith Drugs, Inc., Council Bluffs, Iowa. Filed Dec. 12, 1969.



The drawing is lined for the color gray, but no claim is made to color. Applicant disclaims the letters "RX" apart from the mark as shown.
For Drug Store Services (Int. Cl. 42).
First use at least as early as January 1966.

SN 347,806. American Fishing Association, Springdale, Ark. Filed Jan. 6, 1970.



Owner of Reg. No. 879,647.
For Association Services—Namely, Furnishing Information and Publication to Members and Promoting Sport Fishing by Fishing Contests and the Like (Int. Cl. 42).
First use Mar. 26, 1968.

SN 355,980. Mayflower Restaurant Enterprises, Inc., New York, N.Y. Filed Apr. 6, 1970.

SERCLES

For Restaurant Services (Int. Cl. 42).
First use on or about Jan. 5, 1970.

SN 357,918. Marriott Corporation, Washington, D.C. Filed Apr. 27, 1970.

CAPRICCIO

For Restaurant Services (Int. Cl. 42).
First use at least as early as January 1970.

Class 101 — Advertising and Business

SN 280,994. Wells Fargo & Company, San Francisco, Calif., assignee of Wells Fargo Bank, San Francisco, Calif. Filed Sept. 22, 1967.

MONEY MANAGEMENT SERVICE



The drawing contains stippling for shading purposes. For the purposes of registration, no claim is made to the exclusive right to use the words "Money Management Service" except as a part of the mark as shown, but applicant waives none of its common law rights therein.

For Computerized Record Keeping Services for Others (Int. Cl. 35).

First use Feb. 1, 1967.

SN 296,716. Rack Rite Distributors, Inc., Harrisburg, Pa. Filed Apr. 26, 1968.

RITE AID

For Retail Drug Store Services (Int. Cl. 35).

First use at least as early as Jan. 3, 1966.

SN 301,535. Lincoln-Hall Co., Chicago, Ill. Filed June 27, 1968.

LINCOLN-HALL

For Furnishing Temporary Help and Employment Agency Services (Int. Cl. 35)

First use January 1968.

SN 305,961. National Executive Services, Inc., Birmingham, Ala. Filed Aug. 26, 1968.

NATEX

For Providing Office Space, Conference Rooms, and the Services of an Office Staff (Int. Cl. 35).

First use Sept. 15, 1967.

SN 306,462. Computer Resources Corporation, Wilton, Conn. Filed Sept. 3, 1968.

AUDIT-THRU

For Computer Programming Services (Int. Cl. 35).

First use Feb. 9, 1968.

SN 306,821. Transamerica Corporation, San Francisco, Calif. Filed Sept. 6, 1968.



The mark consists of the fanciful representation of the letter "T."

For Real Estate Tax Reporting Services (Int. Cl. 35).

First use on or about July 1, 1968.

SN 309,777. Medical Information, Inc., Dallas, Tex. Filed Oct. 16, 1968.

MI

For Computer Programming and Data Processing Services (Int. Cl. 35).

First use at least as early as August 1967.

SN 312,702. Secretaries, Inc., Chicago, Ill. Filed Nov. 20, 1968.



For Employment Agency Services (Int. Cl. 35).

First use Sept. 29, 1968.

SN 313,261. Caper House, Inc., Greenville, S.C. Filed Nov. 29, 1968.

CAPER HOUSE

Applicant disclaims the word "House" apart from the mark as shown.

For Retail Food Store Services (Int. Cl. 35).

First use Jan. 31, 1968.

SN 313,460. Vestart, Inc., Lakewood, Ohio. Filed Dec. 2, 1968.



The drawing is lined for the color brown.

For Art Gallery Services—Namely, Displaying and Distributing Objects of Art of Others and Buying and Selling Art Works for Others (Int. Cl. 35).

First use Oct. 11, 1968.

SN 314,551. Glendinning Companies, Inc., Westport, Conn. Filed Dec. 16, 1968.

DOUBLE SAVINGS

For Promoting the Sale of Goods and/or Services of Others Through the Distribution of Printed Materials and Advertising Designed for Promotional Contests (Int. Cl. 35).

First use Oct. 11, 1968.

SN 315,527. Automatic Vendors of America, Inc., Atlanta, Ga. Filed Jan. 2, 1969.



For Brokerage Services in Stocks for Vending Machines (Int. Cl. 35).

First use at least as early as May 1966.

SN 315,886. Dade Wholesale Products, Inc., Opa Locka, Fla. Filed Jan. 6, 1969.



Applicant disclaims the phrase "Saves You More" apart from the mark as shown and without prejudice to its common law rights therein.

For Retail Department Store Services (Int. Cl. 35).

First use Sept. 1, 1967.

SN 316,100. Robert Jorrie, San Antonio, Tex. Filed Jan. 8, 1969.



For Retail Furniture Store Services (Int. Cl. 35).

First use Jan. 15, 1966.

SN 317,102. Property Damage Appraisers, Inc., Fort Worth, Tex. Filed Jan. 21, 1969.



For Rendering Appraisals for Property Damage to Automobiles, Buildings and Dwellings for Insurance Claims (Int. Cl. 35).

First use Sept. 3, 1963.

SN 322,094. Save Way Barber & Beauty Supplies, Inc., Hialeah, Fla. Filed Mar. 18, 1969.

WINDMERE

For Mail Order Sale of Barbering and Beauty Supplies (Int. Cl. 35).

First use on or about Dec. 1, 1968.

SN 323,770. Regency Chauffeurs Services, Inc., Bronx, N.Y. Filed Apr. 3, 1969.

REGENCY CHAUFFEURS

The words "Chauffeurs" is disclaimed apart from the mark as shown.

For Furnishing Chauffers and Drivers to Others (Int. Cl. 35).

First use Apr. 24, 1968.

SN 324,315. Travelers' Bucks, Incorporated, Portland, Oreg. Filed Apr. 11, 1969.

TRAVELERS' BUCK

For Promoting the Sales of Goods and/or Services of Others Through the Distribution of Redeemable Coupons (Int. Cl. 35).

First use Mar. 24, 1968.

SN 325,209. The Master Press, Inc., Milwaukee, Wis. Filed Apr. 22, 1969.



No claim is made to the words "Pronto Print" apart from the mark as shown.

For Custom Printing (Int. Cl. 35).

First use May 13, 1966.

SN 326,086. Fanning Personnel Agency, Inc., New York, N.Y. Filed May 1, 1969.

DIAL-A-TEMP-JOB

Owner of Reg. No. 859,823.

For Employment Agency Services (Int. Cl. 35).

First use on or about Jan. 5, 1969.

SN 326,144. System Development Corporation, Santa Monica, Calif. Filed May 1, 1969.

EXTRA

For Providing Educational Information and Analysis Thereof to Schools and Like Institutions Through Computers (Int. Cl. 35).

First use Feb. 28, 1969.

SN 326,326. Stratmar Systems Inc., New York, N.Y. Filed May 5, 1969.

INTERCEPT

For Distribution of Samples and Coupons of the Goods of Others to Potential Purchasers by Personal Contact (Int. Cl. 35).

First use Mar. 10, 1969.

SN 326,886. Koscot Interplanetary, Inc., Winter Park, Fla. Filed May 9, 1969.



The mark comprises a fanciful representation of the letter "K."

For Rendering Technical Assistance in the Establishment and Operation of Retail Cosmetic Outlets (Int. Cl. 35).

First use at least as early as Dec. 30, 1968.

SN 328,079. Skibell's of Amarillo, Inc., Lubbock, Tex. Filed May 22, 1969.

SUMWEAR

For Retail Clothing Store Services (Int. Cl. 35).

First use Oct. 10, 1968.

SN 328,543. Executives Consultants, Inc., Washington, D.C. Filed May 28, 1969.

ECI MEMBERSHIP OPINION INDEX

The term "Membership Opinion Index" is disclaimed apart from the mark as shown.

For Determining and Analyzing the Opinions, Attitudes and Needs of Association Members by Computer in Order to Acquaint Association Executives With Their Members (Int. Cl. 35).

First use Mar. 1, 1969.

SN 328,966. Digicon, Inc., Houston, Tex. Filed June 3, 1969.



For Providing Consultancy Services in Connection With the Acquisition, Programming and Interpretation of Data by Means of Computer and Electronic Systems (Int. Cl. 35).
First use September 1965.

SN 333,064. Stratmar Systems, Inc., New York, N.Y. Filed July 22, 1969.

MICRO-MARKETS

For Testing Products for Consumer Reaction (Int. Cl. 35).
First use Apr. 15, 1969.

SN 333,121. Gamble-Skogmo, Inc., d.b.a. Eisen Mercantile, Minneapolis, Minn. Filed July 22, 1969.

EMCO

Owner of Reg. No. 822,938.
For Retail Supply Stores Offering Piece Goods for Making Into Garments, Slip Covers, Draperies, Upholstering, Bed Spreads, Table Covers, Trimmings, Sewing Notions and the Like (Int. Cl. 35).
First use in or about December 1958.

SN 342,357. General Disposables, Inc., Dallas, Tex. Filed Nov. 3, 1969.

CHANGE-IN-TIMES

For Retail Clothing Store Services (Int. Cl. 35).
First use at least as early as November 1968.

SN 346,555. Lynn Carol, Inc., Van Nuys, Calif. Filed Dec. 18, 1969.

ZIP GIRL

Applicant claims the word "Girl" only as a part of its mark "Zip Girl," and disclaims the word "Girl" apart from the mark as shown.
For Providing Personnel for Temporary Employment by Others (Int. Cl. 35).
First use Nov. 7, 1966.

SN 349,142. Strategic Merchandising Corporation, New York, N.Y. Filed Jan. 21, 1970.

TRIM-A-TREE

For Promoting the Sale of the Goods and Services of Others Through the Distribution of Printed Materials and Advertising Designed for Promotional Contests (Int. Cl. 35).
First use July 2, 1969.

SN 349,144. Strategic Merchandising Corporation, New York, N.Y. Filed Jan. 21, 1970.

BANK VAULT BINGO

Applicant disclaims the term "Bingo" apart from the mark as shown.
For Promoting the Sale of the Goods and Services of Others Through the Distribution of Printed Materials and Advertising Designed for Promotional Contests (Int. Cl. 35).
First use April 1969.

SN 351,389. Regensteiner Publishing Enterprises, Inc., Chicago, Ill. Filed Feb. 16, 1970.



For Lithography, Printing, Publication Development, and Photo Typesetting Services and in Connection With Direct Mail Advertising, Mail Order Selling and Distribution, and Book and Pamphlet Manufacturing Services (Int. Cl. 35).
First use no later than about July 29, 1968.

SN 353,158. Blue Bell, Inc., Greensboro, N.C. Filed Mar. 5, 1970.

THE WRANCH HOUSE

For Retail Clothing Outlets (Int. Cl. 35).
First use November 1966.

SN 355,847. Task Force, Inc., Edina, Minn. Filed Apr. 3, 1970.

THE DOERS

For Employment Agency Services—Namely, Providing Temporary Employees (Int. Cl. 35).
First use on or before Feb. 1, 1970.

Class 102 — Insurance and Financial

SN 300,476. Mr. Insurance, Inc., Springfield, Ohio. Filed June 14, 1968.



Applicant disclaims the words "Resident Guaranty Plan" apart from the mark as shown, expressly reserving applicant's rights at common law.
For Insurance Brokerage Services (Int. Cl. 36).
First use at least as early as Apr. 19, 1968.

SN 347,337. The Davidge Fund, Washington, D.C. Filed Dec. 31, 1969.



For Investment Management (Int. Cl. 36).
First use Mar. 10, 1969.

SN 348,475. Continental Assurance Company, Chicago, Ill. Filed Jan. 14, 1970.

ANSWER

For Providing Employee Retirement Planning for Corporations (Int. Cl. 36).
First use Nov. 7, 1969.

SN 348,476. Continental Assurance Company, Chicago, Ill. Filed Jan. 14, 1970.



Applicant disclaims the words "Action Now Safeguards Worthwhile Employee Retirement" apart from the mark as shown.
For Providing Employee Retirement Planning for Corporations (Int. Cl. 36).
First use Nov. 7, 1969.

SN 354,343. Am-Banks Service Corporation, Boston, Mass. Filed Mar. 18, 1970.

AM·BANKS

For Travelers Check Services (Int. Cl. 36).
First use at least as early as Dec. 24, 1969.

Class 103 — Construction and Repair

SN 324,036. The Buerger Company, Inc., Glenside, Pa. Filed Apr. 9, 1969.



The drawing is lined for the color green. In actuality, the color utilized is a bluish-green.
For Repairing the Optical and Photo Edging Equipment of Others for Industrial Usage (Int. Cl. 37).
First use Sept. 13, 1966.

SN 326,277. Lennox Industries Inc., Marshalltown, Iowa. Filed May 2, 1969.



The words "Planned" and "Service" are disclaimed apart from the mark as shown.
For Air Conditioning and heating Equipment Maintenance Services (Int. Cl. 37).
First use Dec. 3, 1967.

SN 327,746. Development Engineering Incorporated, Denver, Colo. Filed May 20, 1969.



For Custom Building of Kilns, Material Handling and Process Equipment (Int. Cl. 37).
First use on or about Jan. 3, 1966.

SN 327,798. Halliburton Company, d.b.a. Halliburton Services, Duncan, Okla. Filed July 9, 1969.



The drawing is stippled for shading only. The mark comprises, in part, a fanciful representation of the letters "ICS."
For Cleaning of Industrial Facilities (Int. Cl. 37).
First use August 1964.

Class 104 — Communication

SN 308,087. The Bunker-Ramo Corporation, Oak Brook, Ill. Filed Sept. 24, 1968.

TOPS

For Data Processing and Communication Service for the Financial Community (Int. Cl. 38).
First use Nov. 4, 1965.

SN 343,913. Lakewood Broadcasting Service, Inc., Jefferson City, Colo. Filed Nov. 19, 1969.



No claim is made to the letters "KJ" apart from the mark as shown.
For Radio Broadcasting Services (Int. Cl. 38).
First use Apr. 25, 1969.

Class 106 — Material Treatment

SN 350,995. The Coca-Cola Company, Atlanta, Ga. Filed Feb. 10, 1970.



For Full Line of Photographic Processing Services (Int. Cl. 40).
First use Aug. 19, 1969.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 298,974. Sprayed Mineral Fiber Manufacturers Association, Inc. Filed May 23, 1968.

SMFMA

For Indicating Membership in Applicant.
First use Dec. 1, 1967.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

895,778. PLAZA. Pfister & Vogel Tanning Co., Inc. SN 326,120. Pub. 5–19–70. Filed 5–1–69.

895,779. ESTERLITE. Betfara Corp. SN 326,335. Pub. 5–19–70. Filed 5–5–69.

895,780. GREEN BOND. Ashland Oil, Inc., by change of name from Ashland Oil & Refining Company. SN 333,654. Pub. 5–12–70. Filed 7–28–69.

895,781. FLOMAT. Fothergill and Harvey Limited. SN 333,704. Pub. 5–19–70. Filed 7–28–69.

895,782. FORTREL. Fiber Industries, Inc. SN 335,445. Pub. 5–19–70. Filed 8–14–69.

895,783. POZNILON. Nylon Engineering, Inc. SN 335,464. Pub. 5–19–70. Filed 8–15–69.

895,784. NOVELTAN. Ocean Leather Corp. SN 336,273. Pub. 5–19–70. Filed 8–13–69.

895,785. EXOLITE. Exomet, Inc. SN 336,562. Pub. 5–19–70. Filed 8–28–69.

Class 2 — Receptacles

895,786. SIMONSEN. Simonsen Metal Products Corporation. MULTIPLE CLASS (Classes 2, 22, and 32). SN 316,687. Pub. 5–19–70. Filed 1–15–69.

895,787. RED DOT AND DESIGN. Med-A-Safe. SN 317,248. Pub. 5–19–70. Filed 1–22–69.

895,788. CLUSTER-CLIP. The Mead Corporation. SN 319,927. Pub. 5–19–70. Filed 2–24–69.

895,789. SERCO CO-POLY. S. E. Rykoff & Co. SN 325,670. Pub. 5–19–70. Filed 4–28–69.

895,790. HOM-AIDS AND DESIGN. Mitsui & Co., Ltd. SN 326,900. Pub. 5–19–70. Filed 5–9–69.

895,791. SANI-WAY. Lawrence E. Smithers. SN 327,691. Pub. 5–19–70. Filed 5–19–69.

895,792. BENNETT. Growth International Industries Corp., by merger and change of name from Bennett Industries, Inc. SN 334,760. Pub. 5–19–70. Filed 8–8–69.

895,793. DURALAST. NVF Company. SN 342,884. Pub. 5–19–70. Filed 11–6–69.

895,794. LOPLAX. Monsanto Company. SN 343,574. Pub. 5–19–70. Filed 11–14–69.

895,795. DROP-AWAY. Mipro Corporation. SN 344,402. Pub. 5–19–70. Filed 11–24–69.

895,796. FRIGIPAK. Container Corporation of America. SN 344,952. Pub. 5–19–70. Filed 12–1–69.

895,797. CAPER. Scott Paper Company. SN 345,019. Pub. 5–19–70. Filed 12–1–69.

895,798. ALPHA. Union Carbide Corporation. SN 345,219. Pub. 5–19–70. Filed 12–3–69.

895,799. CRIB SET. Hankscraft Company. SN 345,721. Pub. 5–19–70. Filed 12–9–69.

895,800. BISON. Union Camp Corporation. SN 345,880. Pub. 5–19–70. Filed 12–10–69.

895,801. KYS-GLAS. Keyes Fibre Company. SN 346,484. Pub. 5–19–70. Filed 12–17–69.

895,802. KYS-CORK. Keyes Fibre Company. SN 346,485. Pub. 5–19–70. Filed 12–17–69.

895,803. RAIN COTE AND DESIGN. Love Box Company, Inc. SN 347,292. Pub. 5–19–70. Filed 12–29–69.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

895,804. PORTA-KENNEL. New York Wire Works Limited. SN 321,398. Pub. 5–19–70. Filed 3–11–69.

895,805. JP AND DESIGN. Jay Plastics Inc. SN 327,386. Pub. 5–19–70. Filed 5–15–69.

895,806. SOFTPROTECT. Adidas-Fabrique de Chaussures de Sport. SN 329,323. Pub. 5–19–70. Filed 6–6–69.

895,807. DISPATCHE. Hartmann Luggage Company. SN 330,282. Pub. 5–19–70. Filed 6–17–69.

895,808. TOTE-TACHE. Hartmann Luggage Company. SN 330,283. Pub. 5–19–70. Filed 6–17–69.

Class 4 — Abrasives and Polishing Materials

895,809. GRIT-GARD. Clevepak Corporation. SN 320,796. Pub. 5–19–70. Filed 3–5–69.

895,810. SEXAUER PRODUCTS AND DESIGN. J. A. Sexauer Mfg. Co., Inc. SN 328,593. Pub. 5–19–70. Filed 5–28–69.

Class 5 — Adhesives

895,811. "TIMBER." Kasen Industries. SN 328,307. Pub. 5–19–70. Filed 5–26–69.

895,812. MARK I. Impact Plastics, Incorporated. SN 340,017. Pub. 5–19–70. Filed 10–7–69.

895,813. ARIDRY. Arid Sand Company, Inc. SN 342,816. Pub. 5–19–70. Filed 11–6–69.

895,814. TACKIT. Morgan Adhesives Company. SN 344,408. Pub. 5–19–70. Filed 11–24–69.

895,815. MOBILBOND. Tanner Chemical Co., Inc. SN 346,521. Pub. 5–19–70. Filed 12–17–69.

895,816. COLONIAL. Shuford Mills, Inc. SN 347,331. Pub. 5–19–70. Filed 12–29–69.

Class 6 — Chemicals and Chemical Compositions

895,817. PHARMACOAT. Shin-Etsu Chemical Company. SN 289,342. Pub. 5–19–70. Filed 1–22–68.

895,818. S-K-H. S-K-H Corporation. SN 314,620. Pub. 5–19–70. Filed 12–16–68.

895,819. BUFFER-X. Colloidal Products Corporation. SN 319,133. Pub. 5–19–70. Filed 2–14–69.

895,820. FASHION GARD. Dockside Research, Inc. SN 319,292. Pub. 5–19–70. Filed 2–17–69.

895,821. TIE GARD. Dockside Research, Inc. SN 319,293. Pub. 5–19–70. Filed 2–17–69.

895,822. MUD-NOX. Cotey Chemical Corporation. SN 324,179. Pub. 5–19–70. Filed 4–10–69.

895,823. DE-FEND. Thompson-Hayward Chemical Company. SN 325,903. Pub. 5–19–70. Filed 4–29–69.

895,824. LIQUEFASE. Standard Brands Incorporated, d.b.a. Clinton Corn Processing Company. SN 327,305. Pub. 5–19–70. Filed 5–14–69.

895,825. MYSTIC. Fitzgerald Enterprises, Inc. SN 332,469. Pub. 5–19–70. Filed 7–14–69.

895,826. NATIONAL. National Foam System, Inc. SN 333,169. Pub. 5–19–70. Filed 7–22–69.

895,827. GASLIGHT. Norda Essential Oil & Chemical Company, Inc. SN 333,290. Pub. 5–19–70. Filed 7–23–69.

895,828. TANGELO. Norda Essential Oil & Chemical Company, Inc. SN 333,291. Pub. 5–19–70. Filed 7–23–69.

895,829. WARDEN–50. Sterwin Laboratories Inc. SN 334,394. Pub. 5–19–70. Filed 8–4–69.

895,830. AIR FREE. Vigilant Products Company, Inc. SN 335,278. Pub. 5–19–70. Filed 8–13–69.

895,831. IREX. American Cyanamid Company. SN 335,731. Pub. 5–19–70. Filed 8–20–69.

Class 7 — Cordage

895,832. LEOPARD AND DESIGN. John Shaw Limited. SN 326,103. Pub. 5–19–70. Filed 5–1–69.

Class 8 — Smokers' Articles, Not Including Tobacco Products

895,833. BENLOW. Colibri Lighters Limited. SN 323,534. Pub. 5–19–70. Filed 4–3–69.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

895,834. LANCE. D & M Distributing Co., Inc. SN 319,145. Pub. 5–19–70. Filed 2–14–69.

895,835. EEMCO AND OVAL DESIGN. Electronic Specialty Co. SN 343,961. Pub. 5–19–70. Filed 11–19–69.

895,836. LPV. Canadian Industries Limited. SN 346,054. Pub. 5–19–70. Filed 12–12–69.

Class 11 — Inks and Inking Materials

895,837. FLEX VAC. Sun Chemical Corporation. SN 334,131. Pub. 5–19–70. Filed 7–31–69.

895,838. PRINT LITH. Sun Chemical Corporation. SN 334,133. Pub. 5–19–70. Filed 7–31–69.

Class 12 — Construction Materials

895,839. GEOMETRIC DESIGN. Keith Barry Critchlow. SN 305,407. Pub. 5–19–70. Filed 8–19–68.

895,840. MISCELLANEOUS DESIGN. The Alumiline Corporation. SN 305,905. Pub. 5–19–70. Filed 8–26–68.

895,841. GYP-SHEET. Paulsel Lumber Company. SN 312,907. Pub. 5–19–70. Filed 11–22–68.

895,842. CC AND DESIGN. Cumberland Corporation. SN 327,865. Pub. 5–19–70. Filed 5–21–69.

895,843. FASTENNA. Marvin T. Reed, d.b.a. Fastenna Mount. SN 328,586. Pub. 5–19–70. Filed 5–28–69.

895,844. DORIC AND DESIGN. E. L. Bruce Co., Inc., assignee of E. L. Bruce Co. (Incorporated). SN 331,107. Pub. 5–19–70. Filed 6–27–69.

895,845. PBH AND DESIGN. Pre-Built Homes, Inc. SN 345,670. Pub. 5–19–70. Filed 12–8–69.

895,846. SILVERSPUN. Boise Cascade Corporation. SN 346,599. Pub. 5–19–70. Filed 12–18–69.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

895,847. AQUA-WHIRL. Robert A. Gilmour, d.b.a. Gilmour Manufacturing Co. SN 273,764. Pub. 4–9–68. Filed 6–13–67.

895,848. VIGILANTE. Numatics, Incorporated. SN 275,455. Pub. 5–19–70. Filed 7–6–67.

895,849. BAR-O-MATIC. Bar-O-Matic Sales Co., d.b.a. Bar-O-Matic Dispensers. SN 306,329. Pub. 5–19–70. Filed 8–30–68.

895,850. PIONEER SCREW. Pioneer Screw & Nut Co. SN 310,690. Pub. 9–16–69. Filed 10–28–68.

895,851. BRYCE. Bryce Berger Limited. SN 312,747. Pub. 5–19–70. Filed 11–21–68.

895,852. SEA-LECT. Dart Union Company. SN 313,914. Pub. 5–19–70. Filed 12–9–68.

895,853. "THE SIGN OF A GOOD HOSE CLAMP" AND DESIGN. Punch-Lok Company. SN 314,613. Pub. 5–19–70. Filed 12–16–68.

895,854. VALTEK AND DESIGN. Valtek Incorporated. SN 316,489. Pub. 5–19–70. Filed 1–13–69.

895,855. Z AND DESIGN. Zimmer Manufacturing Industries, Inc. SN 319,219. Pub. 5–19–70. Filed 2–14–69.

895,856. WIND-O-LOK. Ajax Hardware Corporation. SN 320,926. Pub. 5–19–70. Filed 3–6–69.

895,857. TEXTRON AND DESIGN. Textron Inc. SN 321,099. Pub. 5–19–70. Filed 3–7–69.

895,858. TOWER AND DESIGN. The Midland Metal Spinning Company Limited. SN 322,078. Pub. 5–19–70. Filed 3–18–69.

895,859. TRIPLE CONCEPT. American Standard Inc. SN 322,397. Pub. 5–19–70. Filed 3–21–69.

895,860. KURV-ANCHOR. Henry A. Patnaude. SN 324,603. Pub. 5–19–70. Filed 4–15–69.

895,861. PUROFLEX HT. Purolator, Inc. SN 324,752. Pub. 5–19–70. Filed 4–16–69.

895,862. HANG UPS. Elpo Industries, Inc. SN 325,132. Pub. 5–19–70. Filed 4–22–69.

895,863. MACRO. Scovill Manufacturing Company. SN 325,401. Pub. 5–19–70. Filed 4–23–69.

895,864. FULL-FLOW. Sealed Unit Parts Co., Inc. SN 325,896. Pub. 5–19–70. Filed 4–29–69.

895,865. RAPID-LINK. Industrial Sales Co., Inc. SN 326,768. Pub. 5–19–70. Filed 5–8–69.

895,866. BIG INCH. Halliburton Company, d.b.a. Halliburton Services. SN 327,796. Pub. 5–19–70. Filed 7–9–69.

895,867. CROWN AND WREATH DESIGN. Cole National Corporation. SN 330,357. Pub. 5–19–70. Filed 6–18–69.

895,868. CARP. Fuji Kinzoku Kosaku Kabushiki Kaisha (Fuji Metal Mfg. Co., Ltd.). SN 332,100. Pub. 5–19–70. Filed 7–9–69.

895,869. EXPELLO. Reef-Baker Corporation. SN 338,929. Pub. 5–19–70. Filed 9–25–69.

895,870. THERMO-EXPELLO. Reef-Baker Corporation. SN 338,930. Pub. 5–19–70. Filed 9–25–69.

895,871. PERMA-PULL. Textron Inc. SN 340,050. Pub. 5–19–70. Filed 10–7–69.

895,872. PLUMBERGENCY. Unipak, Inc. SN 340,056. Pub. 5–19–70. Filed 10–7–69.

895,873. NU-RE-NU. American Standard Inc. SN 340,490. Pub. 5–19–70. Filed 10–13–69.

895,874. CHEMEX. Chemex Corporation. SN 348,474. Pub. 5–19–70. Filed 1–14–70.

Class 14 — Metals and Metal Castings and Forgings

895,875. TITAN–60. Adamas Carbide Corporation. SN 304,193. Pub. 5–19–70. Filed 8–2–68.

Class 16 — Protective and Decorative Coatings

895,876. TRU-OIL. Fuller Laboratories, Inc. SN 310,078. Pub. 5–19–70. Filed 10–21–68.

895,877. ACRYLART. Stafford-Reeves Inc. SN 330,641. Pub. 5–19–70. Filed 6–20–69.

895,878. PRO-PAINT. California Products Corporation. SN 333,807. Pub. 5–19–70. Filed 7–29–69.

895,879. HANCOCK AND DESIGN. Hancock Paint & Varnish Co. SN 334,584. Pub. 5–19–70. Filed 8–6–69.

895,880. STAN-BUFF. Standard T Chemical Company, Inc. SN 334,793. Pub. 5–19–70. Filed 8–8–69.

Class 17 — Tobacco Products

895,881. COLLIE 62. Reemtsma Cigarettenfabriken G.m.b.H. SN 318,822. Pub. 5–19–70. Filed S.R. 2–10–69; Am. P.R. 10–3–69.

895,882. GREAT SMOKIES. Loew's Theatres, Inc. SN 338,012. Pub. 5–19–70. Filed 9–16–69.

895,883. MILLHILL. American Brands, Inc. SN 349,420. Pub. 5–19–70. Filed 1–23–70.

Class 18 — Medicines and Pharmaceutical Preparations

895,884. RACEPIN. Thayer Laboratories, Inc. SN 326,926. Pub. 5–19–70. Filed 5–9–69.

895,885. BRADILAN. Bracco Industria Chimica S.p.A. SN 327,353. Pub. 5–19–70. Filed 5–15–69.

Class 19 — Vehicles

895,886. WILSON AND DESIGN. The Wilson Motor Bodies Limited. SN 289,438. Pub. 5–19–70. Filed 1–23–68.

895,887. SUPER-COOLER. Opti-Cap Inc. SN 305,971. Pub. 5–19–70. Filed 8–26–68.

895,888. TUNING FORKS DESIGN. Yamaha Hatsudoki Kabushiki Kaisha. MULTIPLE CLASS (Classes 19 and 23). SN 319,096. Pub. 5–19–70. Filed 2–13–69.

895,889. F–28. Fairchild Hiller Corporation. SN 344,285. Pub. 5–19–70. Filed 11–24–69.

Class 21 — Electrical Apparatus, Machines, and Supplies

895,890. TIGER ALARM ETC. AND DESIGN. Anthony R. and Julia M. Digiovanni (joint owners), d.b.a. Tiger Alarms. SN 272,594. Pub. 5–19–70. Filed 5–29–67.

895,891. CAM-LOK. KDI Sealtron Corporation, assignee of Empire Products, Inc. SN 290,593. Pub. 8–12–69. Filed 2–8–68.

895,892. FOSTORIA. McGraw-Edison Company. MULTIPLE CLASS (Classes 21, 23, and 44). SN 320,168. Pub. 5–19–70. Filed 2–26–69.

895,893. MOTAK. Jones Motrola Corporation. SN 339,019. Pub. 5–19–70. Filed 9–26–69.

895,894. UNIMOUNT. Car Tapes, Inc. SN 343,514. Pub. 5–19–70. Filed 11–14–69.

895,895. VERTOL. The Edwin F. Guth Company. SN 344,978. Pub. 5–19–70. Filed 12–1–69.

895,896. PLATE MASTER. McGraw-Edison Company. SN 345,189 Pub. 5–19–70. Filed 12–3–69.

895,897. SCRAP MASTER. McGraw-Edison Company. SN 345,190. Pub. 5–19–70. Filed 12–3–69.

Class 22 — Games, Toys, and Sporting Goods

895,786. (See Class 2 for this trademark.)

895,898. UNI-BALL. Plymouth Golf Ball Sales Company. SN 280,967. Pub. 5–28–68 Filed 9–22–67.

895,899. POPCAR. Pop Corporation. SN 284,393. Pub. 1–20–70. Filed 11–8–67.

895,900. MADDIE MOD. Princess Grace Doll, Inc. SN 287,494 Pub. 12–17–68. Filed 12–26–67.

895,901. SILVER GOOSE. John Letters & Company Limited. SN 293,833. Pub. 5–19–70. Filed 3–21–68.

895,902. PERMA-LAC. Northwestern Golf Company. SN 299,374. Pub. 5–19–70 Filed 5–29–68.

895,903. POPPIN' FRESH. The Pillsbury Company. SN 307,131. Pub. 4–8–69. Filed 9–11–68.

895,904. FANCIFUL OVAL DESIGN. W. J. Voit Rubber Corp. SN 308,550. Pub. 5–19–70. Filed 9–30–68.

895,905. TOY BLOCK BUILDING DESIGN. Artur Fischer, d.b.a. Artur Fischer Feinmechanik, Plastiwerk, Werkzeugbau. SN 315,072. Pub. 5–19–70. Filed 12–23–68.

895,906. GRADUAL DESPAIR. Alex D. Palmer, d.b.a Tek Method Company. SN 315,437. Pub. 5–19–70. Filed 12–30–68.

895,907. HERCULES. Carron Net Company, Inc SN 315,520. Pub. 5–19–70. Filed 1–2–69.

895,908. SWINGDOM KINGDOM. Gym Dandy, Inc. SN 315,757. Pub. 5–19–70. Filed 1–3–69.

895,909 OLSAM. A & A Mfg. Co. SN 317,191. Pub. 5–19–70. Filed 1–22–69.

895,910. BID-ASK. George O. Charrier. SN 317,205. Pub. 5–19–70. Filed 1–22–69.

895,911. CHESS-NUTS. Murray Laufer, d.b.a. Gem Precision. SN 318,556. Pub. 5–19–70. Filed 2–6–69.

895,912 ONE WAY. Wilbur Henry Adams. SN 319,097. Pub. 5–19–70. Filed 3–7–69.

895,913. TROJAN AND DESIGN. Southern Athletic Service, Inc. SN 321,286. Pub. 5–19–70. Filed 3–10–69.

895,914. THE SMASHER. A. G. Spalding & Bros. Inc. SN 322,356. Pub. 5–19–70. Filed 3–20–69

895,915. POOZLE. Skor-Mor Corporation. SN 322,491. Pub. 5–19–70. Filed 3–21–69.

895,916. AMI AND DESIGN. Aero Mini Incorporated SN 322,536. Pub. 5–19–70. Filed 3–24–69.

895,917. K MART AND DESIGN. S. S. Kresge Company. SN 322,873. Pub. 5–19–70. Filed 3–26–69.

895,918. KEWPIE GAL AND DESIGN. Cameo Doll Products Co., Inc. SN 323,532. Pub. 5–19–70. Filed 4–3–69.

895,919. INFO-MANIA. Createk. SN 323,799. Pub. 5–19–70. Filed 4–7–69.

895,920. SPLURGE. Createk. SN 323,800. Pub. 5–19–70. Filed 4–7–69.

895,921. PENETRATION. Createk. SN 323,801. Pub. 5–19–70. Filed 4–7–69.

895,922. AD·DIC'TION. Createk. SN 323,802. Pub. 5–19–70. Filed 4–7–69.

895,923. ZOOMEROO. Deli Plastics Company, Inc. SN 323,944. Pub. 5–19–70. Filed 4–8–69.

895,924. BONNIE BELLE. Raybestos-Manhattan, Inc. SN 325,219. Pub. 5–19–70. Filed 4–22–69.

895,925. GOLDEN STALLION. Fil-Back Company, Inc. SN 325,479. Pub. 5–19–70. Filed 4–24–69.

895,926. SPACE PROBE. Crestline Manufacturing Company. SN 325,725. Pub. 5–19–70. Filed 4–28–69.

895,927. TENNIS PRIDE. Eaton Yale & Towne Inc. SN 326,213. Pub. 5–19–70. Filed 5–2–69.

895,928. GALAXY. Dayton-Hudson Corporation, by change of name from Dayton Corporation. SN 330,114. Pub. 5–19–70. Filed 6–16–69.

895,929. PIGTAIL PETS. Emile Bernat & Sons Co. SN 330,659. Pub. 5–19–70. Filed 6–23–69.

895,930. NOBLE KNIGHT. Louis Marx & Co., Inc. SN 335,412. Pub. 5–19–70. Filed 8–15–69.

895,931. ANIMAL SACKERS. Kal Kan Foods, Inc. SN 335,517. Pub. 5–19–70. Filed 8–18–69.

895,932. CON-TAC-TIX. Parker Brothers, Inc. SN 340,328. Pub. 5–19–70. Filed 10–10–69.

895,933. SITZSKI SS AND DESIGN. Spectra Sports, Inc. SN 341,213. Pub. 5–19–70. Filed 10–20–69.

895,934. SIZZLERS. Mattel, Inc. SN 345,245. Pub. 5–19–70. Filed 12–4–69.

895,935. SHOW STOPPERS. Mattel, Inc. SN 345,246. Pub. 5–19–70. Filed 12–4–69.

895,936. SORCERER'S SURPRISE. Mattel, Inc. SN 345,249. Pub. 5–19–70. Filed 12–4–69.

895,937. VAMPIRE. Mattel, Inc. SN 345,252. Pub. 5–19–70. Filed 12–4–69.

895,938. DOMINATOR. Mattel, Inc. SN 345,253. Pub. 5–19–70. Filed 12–4–69.

895,939. REV RUNNER. Mattel, Inc. SN 345,760. Pub. 5–19–70. Filed 12–10–69.

895,940. SPOIL SPORT. Mattel, Inc. SN 346,181. Pub. 5–19–70. Filed 12–15–69.

895,941. HITHERY THITHERY. Mattel, Inc. SN 346,565. Pub. 5–19–70. Filed 12–18–69.

895,942. DARTING DAREDEVIL. Mattel, Inc. SN 346,571. Pub. 5–19–70. Filed 12–18–69.

895,943. REVVIN' HEAVEN. Mattel, Inc. SN 346,573. Pub. 5–19–70. Filed 12–18–69.

895,944. MANTIS. Mattel, Inc. SN 346,574. Pub. 5–19–70. Filed 12–18–69.

895,945. REARIN' END. Mattel, Inc. SN 346,575. Pub. 5–19–70. Filed 12–18–69.

895,946. HOT HEAD. Mattel, Inc. SN 346,696. Pub. 5–19–70. Filed 12–19–69.

895,947. PEEPING BOMB. Mattel, Inc. SN 346,697. Pub. 5–19–70. Filed 12–19–69.

895,948. WHIP CREAMER. Mattel, Inc. SN 346,698. Pub. 5–19–70. Filed 12–19–69.

895,949. INDY TRAIL. Mattel, Inc. SN 347,170. Pub. 5–19–70. Filed 12–29–69.

895,950. CHILDHOOD CLASSICS. Mattel, Inc. SN 349,425. Pub. 5–19–70. Filed 1–23–70.

895,951. LPG. Montgomery Ward & Co., Incorporated. SN 349,926. Pub. 5–19–70. Filed 1–29–70.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

895,888. (See Class 19 for this trademark.)

895,982. (See Class 21 for this trademark.)

895,952. PIONEER. Pioneer Motor Bearing Co. SN 295,553. Pub. 7–22–69. Filed 4–12–68.

895,953. FUKUBA AND DESIGN. Hiroshi Fukuba. SN 297,667. Pub. 5–19–70. Filed 5–8–68.

895,954. GEMCO. Gemco-Ware, Inc. MULTIPLE CLASS (Classes 23 and 33). SN 299,227. Pub. 3–10–70. Filed 5–28–68.

895,955. DEFECAMAT. G. D. Peters & Co. (Engineering) Limited. SN 310,248. Pub. 5–19–70. Filed 10–22–68.

895,956. TEC AND GLOBE DESIGN. The Entwistle Company. SN 318,177. Pub. 5–19–70. Filed 2–3–69.

895,957. TELELIFT AND DESIGN. Buro Patent AG. SN 321,345. Pub. 5–19–70. Filed 1–31–69.

895,958. ADJUST-O-PEG. Hazel Pearson Handicrafts, Inc. SN 325,774. Pub. 5–19–70. Filed 4–28–69.

895,959. GULFLO. SCM Corporation. SN 328,498. Pub. 5–19–70. Filed 5–28–69.

895,960. COLORFLEX. Wood Industries, Inc. SN 333,860. Pub. 5–19–70. Filed 7–29–69.

895,961. COMPSTAR. Star-New Era, Inc. SN 339,604. Pub. 5–19–70. Filed 10–2–69.

895,962. JED. Benfur Engineering Company. SN 340,760. Pub. 5–19–70. Filed 10–15–69.

895,963. PULSATROL. Interpace Corporation. SN 342,472. Pub. 5–19–70. Filed 11–3–69.

895,964. CARPETMATIC. Studebaker Corporation. SN 342,532. Pub. 5–19–70. Filed 11–3–69.

895,965. MINI-MATIC. Studebaker Corporation. SN 342,537. Pub. 5–19–70. Filed 11–3–69.

895,966. NAPSAC. Studebaker Corporation. SN 342,538. Pub. 5–19–70. Filed 11–3–69.

895,967. SUBURBAN. North American Rockwell Corporation, assignee of Miehle-Goss-Dexter, Incorporated. SN 343,319. Pub. 5–19–70. Filed 11–12–69.

895,968. VALENTINE. Ing. C. Olivetti & C., S.p.A. SN 343,709. Pub. 5–19–70. Filed 11–17–69.

895,969. LITE-A-LOY. Power-Pak Products, Inc. SN 344,015. Pub. 5–19–70. Filed 11–19–69.

895,970. GOLD MEDALLION. Scovill Manufacturing Company. SN 344,438. Pub. 5–19–70. Filed 11–24–69.

895,971. KOEBAU COMODORE. Schnellpressenfabrik Koenig & Bauer Aktiengesellschaft. SN 348,226. Pub. 5–19–70. Filed 1–12–70.

895,972. WALTHAM. Waltham Machine Works, Inc. SN 349,147. Pub. 5–19–70. Filed 1–21–70.

Class 25 — Locks and Safes

895,973. LION. Domestic Broom and Brush Co., Inc. SN 342,149. Pub. 5–19–70. Filed 10–30–69.

Class 26 — Measuring and Scientific Appliances

895,974. HYDRO-SEIN. Western Geophysical Company of America, assignee of Marine Geophysical Services Corporation. SN 285,566. Pub. 5–19–70. Filed 11–24–67.

895,975. AUTOGRAT. British Aircraft Corporation (Operating) Limited. SN 297,486. Pub. 5–19–70. Filed 5–7–68.

895,976. MOBILITY SYSTEMS. Mobility Systems, Inc. SN 305,561. Pub. 5–19–70. Filed 8–20–68.

895,977. GLASS GARD AND DESIGN. Seron Manufacturing Company. SN 309,994. Pub. 5–19–70. Filed 10–18–68.

895,978. D AND DESIGN. Dymedia, Incorporated. SN 311,022. Pub. 5–19–70. Filed 10–31–68.

895,979. DYMEDIA. Dymedia, Incorporated. SN 311,023. Pub. 5–19–70. Filed 10–31–68.

895,980. JEFFREY. Jeffrey Galion Inc. SN 314,080. Pub. 5–19–70. Filed 12–10–68.

895,981. INSPECTOR. Ing. C. Olivetti & C., S.p.A. SN 314,357. Pub. 5–19–70. Filed 12–12–68.

895,982. CANDAHAR. Parfumhaus Gottschalk. SN 315,494. Pub. 5–19–70. Filed 12–31–68.

895,983. RI AND ELECTRON DESIGN. Radiation Machinery Corporation. SN 317,379. Pub. 5–19–70. Filed 1–23–69.

895,984. GAMMATOR. Radiation Machinery Corporation. SN 317,380. Pub. 5–19–70. Filed 1–23–69.

895,985. IRASCOPE. Spiras Systems, Inc., assignee of Ira Systems, Inc. SN 324,137. Pub. 5–19–70. Filed 4–10–69.

895,986. WESLEY-JESSEN. The Plastic Contact Lens Company. SN 324,490. Pub. 5–19–70. Filed 4–14–69.

895,987. AUDIBANK. Duncan Audio-Visual, Inc. SN 326,209. Pub. 5–19–70. Filed 5–2–69.

895,988. MISCELLANEOUS DESIGN. Societe des Lunetiers. SN 326,556. Pub. 5–19–70. Filed 5–6–69.

895,989. VRC. Helen D. Farnsworth. SN 327,250. Pub. 5–19–70. Filed 5–14–69.

895,990. LEVELGUARD. Mechtron-Genco Corporation. SN 327,646. Pub. 5–19–70. Filed 5–19–69.

895,991. OPIC I. Excellon Industries. SN 327,873. Pub. 5–19–70. Filed 5–21–69.

895,992. ADLER MARK 12. Adlerwerke vorm. Heinrich Kleyer Aktiengesellschaft. SN 328,396. Pub. 5–19–70. Filed 5–27–69.

895,993. INFOTECHNICS AND DESIGN. Infotechnics, Inc. SN 329,359. Pub. 5–19–70. Filed 6–6–69.

895,994. BONUS PHOTO AND DESIGN. Bremson Research. SN 329,434. Pub. 5–19–70. Filed 6–9–69.

895,995. DETECTRON. Electronic Detection Corp. SN 329,705. Pub. 5–19–70. Filed 6–11–69.

895,996. AGL. Blount & George, Inc. SN 330,902. Pub. 5–19–70. Filed 6–25–69.

895,997. DIGILAB. Block Engineering, Inc. SN 331,584. Pub. 5–19–70. Filed 7–2–69.

895,998. COMPUTAR. Burleigh Brooks, Inc. SN 331,722. Pub. 5–19–70. Filed 7–3–69.

895,999. WATER WAITER. Ansan Tool and Manufacturing Company, Inc. SN 332,439. Pub. 5–19–70. Filed 7–14–69.

896,000. SPINVISION. Comstock & Westcott, Inc. SN 333,249. Pub. 5–19–70. Filed 7–23–69.

896,001. OCLI-LENS. Optical Coating Laboratory, Inc. SN 334,364. Pub. 5–19–70. Filed 8–4–69.

896,002. SERVOSCAN. Servo Corporation of America. SN 336,380. Pub. 5–19–70. Filed 8–27–69.

896,003. BARUFFALDI. Beconta Inc. SN 336,408. Pub. 5–19–70. Filed 8–27–69.

896,004. VEND-O-STAT. American Photocopy Equipment Company. SN 337,503. Pub. 5–19–70. Filed 9–10–69.

896,005. KALAVOX. The Kalart Company Inc. SN 337,940. Pub. 5–19–70. Filed 9–15–69.

896,006. FL AND CIRCLE DESIGN. Flow Laboratories Inc. SN 339,391. Pub. 5–19–70. Filed 10–1–69.

896,007. RAP. Elements, Inc. SN 341,105. Pub. 5–19–70. Filed 10–20–69.

896,008. CAM-WIDE. Security Systems, Inc. SN 342,183. Pub. 5–19–70. Filed 10–30–69.

896,009. CELSTIR. Wheaton Glass Company. SN 342,686. Pub. 5–19–70. Filed 11–4–69.

896,010. BENNETT AND DIAMOND DESIGN. Bennett Brothers, Inc. SN 343,935. Pub. 5–19–70. Filed 11–19–69.

896,011. MULTI-RANGE. The Plastic Contact Lens Company. SN 344,014. Pub. 5–19–70. Filed 11–19–69.

896,012. UVISIR. Spex Industries, Inc. SN 344,024. Pub. 5–19–70. Filed 11–19–69.

896,013. MICRO-TALLY. Technidyne, Inc. SN 344,460. Pub. 5–19–70. Filed 11–24–69.

896,014. MISCELLANEOUS DESIGN. Kalvar Corporation. SN 345,037. Pub. 5–19–70. Filed 11–18–69.

896,015. KEE LECTRO. Kee Lox Manufacturing Company. SN 345,348. Pub. 5–19–70. Filed 12–4–69.

896,016. TUTOR-SET. Instructional Concepts, Inc. SN 345,634. Pub. 5–19–70. Filed 12–8–69.

896,017. UNI-MIKE. M.T.I. Corporation. SN 346,265. Pub. 5–19–70. Filed 12–15–69.

896,018. INFRA-BAN. ESB Incorporated. SN 349,267. Pub. 5–19–70. Filed 1–22–70.

896,019. FOROX. Forox Corporation. SN 349,964. Pub. 5–19–70. Filed 1–29–70.

Class 27 — Horological Instruments

896,020. MAGNETRON. Rich Company. SN 302,130. Pub. 5–19–70. Filed 7–5–68.

Class 28 — Jewelry and Precious-Metal Ware

896,021. "PENDANT OF LIFE." Zale Corporation. SN 315,193. Pub. 5–19–70. Filed 12–26–68.

896,022. MARBRO. Marbro Mfg., Inc. SN 325,551. Pub. 5–19–70. Filed 4–25–69.

Class 29 — Brooms, Brushes, and Dusters

896,023. FOR FEET'S SAKE. Vitabath Inc. MULTIPLE CLASS (Classes 29 and 51). SN 330,076. Pub. 5–19–70. Filed 6–16–69.

Class 31 — Filters and Refrigerators

896,024. MISCELLANEOUS DESIGN. Millipore Corporation. SN 306,261. Pub. 5–19–70. Filed 8–29–68.

896,025. CHEMEX AND DESIGN. Chemex Corporation. SN 348,473. Pub. 5–19–70. Filed 1–14–70.

896,026. STA-MED. Air Purification Products Co. SN 349,532. Pub. 5–19–70. Filed 1–26–70.

Class 32 — Furniture and Upholstery

895,786. (See Class 2 for this trademark.)

896,027. FERROPLASTIC. Gottlob Gussmann Süddeutsche Bettpolsterfabrik. SN 319,161. Pub. 5–19–70. Filed 2–14–69.

Class 33 — Glassware

895,954. (See Class 23 for this trademark.)

Class 34 — Heating, Lighting, and Ventilating Apparatus

896,028. VAPORATOR. Food Equipment, Inc. SN 323,286. Pub. 5–19–70. Filed 4–1–69.

896,029. VINYTER AND DESIGN. Yamamoto Vinyter Co., Ltd. SN 336,623. Pub. 5–19–70. Filed 8–28–69.

896,030. TETON AND DESIGN. Montgomery Brothers, Inc. SN 341,835. Pub. 5–19–70. Filed 10–27–69.

896,031. THERMOCAL. Procedyne Corporation. SN 342,313. Pub. 5–19–70. Filed 10–31–69.

896,032. POLYFORGE. Weld Mold Company. SN 342,560. Pub. 5–19–70. Filed 11–3–69.

896,033. POLYMATIC. Weld Mold Company. SN 342,561. Pub. 5–19–70. Filed 11–3–69.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

896,034. IRONSIDES. H. K. Porter Company, Inc. SN 335,256. Pub. 5–19–70. Filed 8–13–69.

896,035. FLAT LINE AND DESIGN. Amerace Esna Corporation. SN 335,285. Pub. 5–19–70. Filed 8–14–69.

896,036. OPEN FLOW AND DESIGN. Amerace Esna Corporation. SN 335,287. Pub. 5–19–70. Filed 8–14–69.

896,037. OVAL LINE AND DESIGN. Amerace Esna Corporation. SN 335,311. Pub. 5–19–70. Filed 8–14–69.

896,038. SOKITOOIT. A. J. Sparks and Company. SN 337,205. Pub. 5–19–70. Filed 9–5–69.

896,039. UNIROYAL MINE CUSHION. Uniroyal, Inc. SN 342,770. Pub. 5–19–70. Filed 11–5–69.

896,040. PREMIUM SAFETY PATROL. Uniroyal, Inc. SN 342,771. Pub. 5–19–70. Filed 11–5–69.

896,041. SHOVELER. The Firestone Tire & Rubber Company. SN 343,269. Pub. 5–19–70. Filed 11–12–69.

896,042. SR-780. The Gates Rubber Company. SN 343,694. Pub. 5-19-70. Filed 11-17-69.

896,043. SR-700. The Gates Rubber Company. SN 343,695. Pub. 5-19-70. Filed 11-17-69.

896,044. MINIGROOVE. Reid Enterprises, Inc. SN 343,754. Pub. 5-19-70. Filed 11-17-69.

896,045. CLERO-PAK. The Fitzgerald Manufacturing Company. SN 349,734. Pub. 5-19-70. Filed 1-27-70.

896,046. SCALE BY CHARLES FREDERICK STEIN. Charles Frederick Stein. SN 248,256. Pub. 2-20-68. Filed 6-16-66.

Class 36 — Musical Instruments and Supplies

896,047. ROTO SOUND. James Charles How, d.b.a. James How & Co. SN 286,823. Pub. 5-19-70. Filed 12-13-67.

896,048. MORTONE. Mortone Magnetics, Inc. SN 324,268. Pub. 5-19-70. Filed 4-11-69.

896,049. HEATHKIT. Heath Company. SN 332,347. Pub. 5-19-70. Filed 7-11-69.

896,050. GRT DESIGN. GRT Corporation. SN 335,977. Pub. 5-19-70. Filed 8-22-69.

896,051. RIVERGATE. Richard W. Crampton, d.b.a. Sonic Service. SN 348,271. Pub. 5-19-70. Filed 1-12-70.

896,052. BLUE RIDGE AND DESIGN. Gibson, Inc. SN 348,421. Pub. 5-19-70. Filed 1-13-70.

896,053. EVERLY AND DESIGN. Gibson, Inc. SN 348,422. Pub. 5-19-70. Filed 1-13-70.

896,054. HUMMINGBIRD AND DESIGN. Gibson, Inc. SN 348,423. Pub. 5-19-70. Filed 1-13-70.

896,055. JUBILEE AND DESIGN. Gibson, Inc. SN 348,530. Pub. 5-19-70. Filed 1-14-70.

896,056. HAPPY HOUSE. Haddon Record Corp. SN 349,073. Pub. 5-19-70. Filed 1-20-70.

Class 37 — Paper and Stationery

896,057. SUPERWATERFINISH. The Chesapeake Corporation of Virginia. SN 177,682. Pub. 5-19-70. Filed 9-25-63.

Class 38 — Prints and Publications

896,058. MISCELLANEOUS DESIGN. Bank of Montreal. SN 279,242. Pub. 5-19-70. Filed 6-26-67.

896,059. ECONOMIC S/D TIME AND DESIGN. Henry Wheeler Chase. SN 322,663. Pub. 5-19-70. Filed 3-24-69.

896,060. MARKETIMING. Howard Odzer and Frank A. Peluso (joint venture), d.b.a. Marketiming. SN 325,889. Pub. 5-19-70. Filed 4-29-69.

896,061. FLIGHT GUIDE. Airguide Publications, Inc. SN 329,821. Pub. 5-19-70. Filed 6-12-69.

896,062. OAKLAND SATURDAY TRIBUNE AND DESIGN. The Tribune Publishing Co. SN 330,218. Pub. 5-19-70. Filed 6-16-69.

896,063. OAKLAND SUNDAY TRIBUNE AND DESIGN. The Tribune Publishing Co. SN 330,219. Pub. 5-19-70. Filed 6-16-69.

896,064. IPI. Meredith Corporation. SN 333,735. Pub. 5-19-70. Filed 7-28-69.

896,065. PACIFIC BUSINESS. California State Chamber of Commerce, Agriculture and Industry. SN 336,084. Pub. 5-19-70. Filed 8-25-69.

896,066. ELECTRONICS NEW PRODUCT PREVIEW. McGraw-Hill, Inc. SN 337,820. Pub. 5-19-70. Filed 9-12-69.

896,067. TWENTY DAYS. AFCO Communications Co. SN 340,748. Pub. 5-19-70. Filed 10-15-69.

896,068. GI (DESIGN). Galtech, Inc. SN 347,502. Pub. 5-19-70. Filed 12-31-69.

Class 39 — Clothing

896,069. CHEETAH AND DESIGN. The Pop-Op Corporation. SN 264,097. Pub. 5-19-70. Filed 2-6-67.

896,070. SARANI TAILLEUR. Sarani Tailleur. SN 299,612. Pub. 5-19-70. Filed 5-2-68.

896,071. DELAMO. Broadway-Hale Stores, Inc. SN 309,834. Pub. 5-19-70. Filed 10-17-68.

896,072. SETA DE NOVARRA. Oxxford Clothes, Inc. SN 319,939. Pub. 4-14-70. Filed 2-24-69.

896,073. KICKS-KICKS-KICKS. Caribbean Shoe Corporation. SN 320,031. Pub. 5-19-70. Filed 2-25-69.

896,074. BOOT DESIGN. Uniroyal, Inc. SN 321,343. Pub. 5-19-70. Filed 2-17-69.

896,075. GRIP ALL. John Kiesewetter. SN 325,204. Pub. 5-19-70. Filed 4-22-69.

896,076. MIWON. Miwon Industrial Co., Ltd. SN 327,290. Pub. 5-19-70. Filed 5-14-69.

896,077. ENGINEERED TOP. D'Orsay Mills, Inc. SN 330,993. Pub. 5-19-70. Filed 6-26-69.

896,078. MISCELLANEOUS DESIGN. Alamo Manufacturing Co., Inc. SN 333,868. Pub. 5-19-70. Filed 7-30-69.

896,079. KINSMAN. Melville Shoe Corporation. SN 335,176. Pub. 5-19-70. Filed 8-13-69.

896,080. MINI-TWIN. Pembrooke Lingerie Co., Inc. SN 336,070. Pub. 5-19-70. Filed 8-25-69.

896,081. DIVERTIMENTO. The United States Shoe Corporation. SN 336,990. Pub. 5-19-70. Filed 9-4-69.

896,082. SW1 AND DESIGN. Coterie of London, Ltd. SN 337,639. Pub. 5-19-70. Filed 9-11-69.

896,083. PANTCHO. Joseph Bancroft & Sons Company. SN 338,119. Pub. 5-19-70. Filed 9-17-69.

896,084. COZY GAL. New Process Company. SN 338,600. Pub. 5-19-70. Filed 9-22-69.

896,085. CASUAL GAL. New Process Company. SN 338,601. Pub. 5-19-70. Filed 9-22-69.

896,086. LADY "C." Cheryl Fabrics, Inc. SN 339,137. Pub. 5-19-70. Filed 9-29-69.

896,087. BONWELTS. Barbour Welting Company, Inc. SN 339,702. Pub. 5-19-70. Filed 10-3-69.

896,088. LU DEANE'S. Ludeane H. Benson. SN 340,112. Pub. 5-19-70. Filed 10-8-69.

896,089. SWIMAGINATION. Robby Len, Inc. SN 340,803. Pub. 5-19-70. Filed 10-15-69.

896,090. SUPERTOT. International Paper Company. SN 342,469. Pub. 5-19-70. Filed 11-3-69.

896,091. NEW FREEDOM. Kimberly-Clark Corporation. SN 347,378. Pub. 5-19-70. Filed 12-30-69.

Class 40 — Fancy Goods, Furnishings, and Notions

896,092. CHEETAH. Fashion Tress, Inc. SN 264,138. Pub. 5-19-70. Filed 2-7-67.

896,093. JAMES OF CALIFORNIA. James of California, Inc. SN 315,925. Pub. 5-19-70. Filed 1-6-69.

896,094. ZSA ZSA LASH. Zsa Zsa Limited. SN 329,160. Pub. 5-19-70. Filed 6-4-69.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

896,095. DUST-TEX. American Uniform Company. MULTIPLE CLASS (Classes 42 and 50). SN 311,811. Pub. 5-19-70. Filed 11-12-68.

896,096. SCANDEX-K. Souveran Fabrics Corp. SN 334,392. Pub. 5-19-70 Filed 8-4-69.

Class 44 — Dental, Medical, and Surgical Appliances

895,982. (See Class 21 for this trademark.)

896,097. MEDAIDS. Medaids, Inc. SN 330,675. Pub. 5-19-70. Filed 6-23-69.

896,098. DURA-CUT. The Lawton Company, Inc. SN 335,236. Pub. 5-19-70. Filed 8-13-69.

896,099. MINISURG. Coles Electronic Corporation. SN 337,481. Pub. 5-19-70. Filed 9-10-69.

896,100. RED DEVIL. American Optical Corporation. SN 338,982. Pub. 5-19-70. Filed 9-26-69.

Class 46 — Foods and Ingredients of Foods

896,101. SWEET'N LOW. Cumberland Packing Corp., assignee of Cumberland Packing Company. SN 187,255. Pub. 3-23-65. Filed 2-24-64.

896,102. SWEET'N LOW AND DESIGN. Cumberland Packing Corp., assignee of Cumberland Packing Company. SN 187,256. Pub. 3-23-65. Filed 2-24-64.

896,103. "PIXIE" FRIES. Ore-Ida Foods, Inc. SN 248,358. Pub. 7-15-69. Filed 6-17-66.

896,104. TOWN CRIER. Churny Company, Inc. SN 284,614. Pub. 9-24-68. Filed 11-13-67.

896,105. YODELS. The Borden Company. SN 288,076. Pub. 5-19-70. Filed 1-4-68.

896,106. THE SKINNY FREEZE. Irsin Restaurant Corporation, d.b.a. Peter Pan. SN 311,785. Pub. 5-19-70. Filed 11-12-68.

896,107. CHIP SNACKERS. Hinton & Co., Inc., d.b.a. Pov Products. SN 312,588. Pub. 8-26-69. Filed 11-19-68.

896,108. DESIGN OF A MATADOR AND BULL. El Fenix Corporation, d.b.a. El Fenix Restaurants. MULTIPLE CLASS (Classes 46 and 100). SN 315,653. Pub. 5-19-70. Filed 12-19-68.

896,109. VAN PARK. Whipco Foods, Inc. SN 332,786. Pub. 5-19-70. Filed 7-17-69.

896,110. GRAHAM FARMS AND DESIGN. Graham Cheese Corporation. SN 335,644. Pub. 5-19-70. Filed 8-19-69.

896,111. EAST FLANDERS. Michael J. Cave, d.b.a. Gourmet Foods. SN 341,789. Pub. 5-19-70. Filed 10-27-69.

896,112. MACCHIAROLI AND DESIGN. James W. Macchiaroli, d.b.a. Anthony Brokerage. SN 347,554. Pub. 5-19-70. Filed 1-2-70.

896,113. JOSEF. Reese Finer Foods, Inc. SN 349,930. Pub. 5-19-70. Filed 1-29-70.

Class 47 — Wines

896,114. COSTA DO SOL. M. S. Walker, Inc. SN 323,868. Pub. 5-19-70. Filed 4-7-69.

Class 49 — Distilled Alcoholic Liquors

896,115. LOCHLOMAC. Zimmerman's Cut Rate Liquor Store, Inc., d.b.a. Zimmerman's. SN 272,130. Pub. 7-9-68. Filed 5-22-67.

896,116. CRAIG DUFF. Joseph E. Seagram & Sons, Inc. SN 313,450. Pub. 5-19-70. Filed 12-2-68.

896,117. NORDIC LION. Joseph E. Seagram & Sons, Inc. SN 348,855. Pub. 5-19-70. Filed 1-19-70.

Class 50 — Merchandise Not Otherwise Classified

896,095. (See Class 42 for this trademark.)

896,118. MILLWRIGHT. John Berg Manufacturing Co. SN 291,745. Pub. 5-19-70. Filed 2-23-68.

896,119. STENCILTIQUE. Precision Valve Corporation. SN 322,329. Pub. 5-19-70. Filed 3-20-69.

Class 51 — Cosmetics and Toilet Preparations

896,023. (See Class 29 for this trademark.)

896,120. SCRUBBLES. Scrubbletoys, Inc. SN 337,203. Pub. 5-19-70. Filed 9-5-69.

896,121. EXCITEMENT. Alberto-Culver Company. SN 338,292. Pub. 5-19-70. Filed 9-19-69.

896,122. COULEUR PARISIENNE. Clairol Incorporated. SN 341,909. Pub. 5-19-70. Filed 10-28-69.

896,123. INSTANT YOU. Clairol Incorporated. SN 341,911. Pub. 5-19-70. Filed 10-28-69.

896,124. CURL FREE. The Gillette Company, d.b.a. The Toni Company. SN 342,261. Pub. 5-19-70. Filed 10-31-69.

896,125. SUN AND SNOWFLAKE DESIGN. Holiday Magic. SN 342,453. Pub. 5-19-70. Filed 11-3-69.

896,126. PATCHWORK QUILTS. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 342,574. Pub. 5-19-70. Filed 11-4-69.

896,127. LIP BEAMER. Avon Products, Inc. SN 342,612. Pub. 5-19-70. Filed 11-4-69.

896,128. FAIR WEATHER FRIEND. Avon Products, Inc. SN 342,613. Pub. 5-19-70. Filed 11-4-69.

896,129. ON ICE. Lawrence Palmer, Inc. SN 342,663. Pub. 5-19-70. Filed 11-4-69.

896,130. MR. RIGHT. Lawrence Palmer, Inc. SN 342,664. Pub. 5-19-70. Filed 11-4-69.

896,131. CONCENTRATION. Beecham Inc. SN 342,723. Pub. 5-19-70. Filed 11-5-69.

896,132. HYPO. La Maur, Inc. SN 343,312. Pub. 5-19-70. Filed 11-12-69.

896,133. MASCARETIC. Elizabeth Arden Sales Corporation. SN 343,379. Pub. 5-19-70. Filed 11-13-69.

896,134. RESIST. Helene Curtis Industries, Inc. SN 343,953. Pub. 5-19-70. Filed 11-19-69.

896,135. SOFTIQUE. Bristol-Myers Company. SN 344,090. Pub. 5-19-70. Filed 11-20-69.

896,136. BODY & SOUL. Bristol-Myers Company. SN 344,174. Pub. 5-19-70. Filed 11-20-69.

896,137. TULIPAN NEGRO BRISEIS. Briseis S.A. SN 344,322. Pub. 5-19-70. Filed 11-24-69.

896,138. EMINENCE. L'Oreal. SN 344,392. Pub. 5-19-70. Filed 11-24-69.

896,139. ADD-A-CURL. Avon Products, Inc. SN 344,532. Pub. 5-19-70. Filed 11-25-69.

896,140. SELDOM. Union Carbide Corporation. SN 345,575. Pub. 5-19-70. Filed 12-8-69.

896,141. FIRMESSCENCE 770. Lanvin-Charles of the Ritz, Inc. SN 347,813. Pub. 5-19-70. Filed 1-6-70.

896,142. WINDDRIFT. MEM Company, Inc. SN 348,081. Pub. 5-19-70. Filed 1-9-70.

Class 52 — Detergents and Soaps

896,126. (See Class 51 for this trademark.)

896,143. SOCKO. Servicemaster Industries Inc. (Delaware corporation), assignee of Servicemaster Industries, Inc. (Illinois corporation). SN 281,495. Pub. 5-19-70. Filed 9-29-67.

896,144. SUNGLOW. Samuel Bonat & Bro., Inc. SN 302,583. Pub. 5–19–70. Filed 7–12–68.

896,145. CUT-AWAY. W. R. Grace & Co. SN 324,912. Pub. 5–19–70. Filed 4–18–69.

896,146. SEXAUER PRODUCTS AND DESIGN. J. A. Sexauer Mfg. Co., Inc. SN 328,600. Pub. 5–19–70. Filed 5–28–69.

896,147. AIRKEM ENZYMATIC SYSTEM. Airwick Industries, Inc. SN 335,730. Pub. 5–19–70. Filed 8–20–69.

896,148. BOAST. W. R. Grace & Co. SN 344,374. Pub. 5–19–70. Filed 11–24–69.

896,149. MISCELLANEOUS DESIGN. Morton International, Inc. SN 349,278. Pub. 5–19–70. Filed 1–22–70.

896,150. DYNAMO. Colgate-Palmolive Company. SN 349,542. Pub. 5–19–70. Filed 1–26–70.

Service Marks

Class 100 — Miscellaneous

896,108. (See Class 46 for this trademark.)

896,151. ELECTROZONE. Particle Data Laboratories, Inc. SN 124,750. Pub. 6–19–62. Filed 7–26–61.

896,152. SAN DIEGO 200TH ANNIVERSARY AND DESIGN. San Diego 200th Anniversary, Inc. SN 291,777. Pub. 5–19–70. Filed 2–23–68.

896,153. CER AND DESIGN. CER Geonuclear Corporation. SN 293,352. Pub. 5–19–70. Filed 3–15–68.

896,154. TOP-TEN 10 DRIVE IN AND DESIGN. S and S Distributors, Incorporated, d.b.a. S & S Distributors. SN 296,582. Pub. 5–19–70. Filed 4–25–68.

896,155. GEORGE. Trans World Airlines, Inc. MULTIPLE CLASS (Classes 100 and 105). SN 305,259. Pub. 5–19–70. Filed 8–15–68.

896,156. B & CMA. The Biscuit and Cracker Manufacturers' Association. SN 305,309. Pub. 5–19–70. Filed 8–16–68.

896,157. EAGLE DESIGN. Pitney-Bowes, Inc. MULTIPLE CLASS (Classes 100 and 101). SN 305,488. Pub. 5–19–70. Filed 8–19–68.

896,158. THE BURGERS ARE BIGGER AT BURGER KING. Burger King Corporation. SN 309,233. Pub. 5–19–70. Filed 10–9–68.

896,159. BIG CHICKEN. The Chicken Chef Systems Incorporated. SN 317,718. Pub. 5–19–70. Filed 1–28–69.

896,160. NURSES CHRISTIAN FELLOWSHIP. Inter-Varsity Christian Fellowship of the United States of America. SN 318,910. Pub. 5–19–70. Filed 2–11–69.

896,161. OMNICARE. Omnicare Inc. SN 319,937. Pub. 5–19–70. Filed 2–24–69.

896,162. FANCIFUL GIRL DESIGN. Country Kitchen Incorporated, of Middletown, Ohio. SN 321,607. Pub. 5–19–70. Filed 3–13–69.

896,163. ANSAC. Seismic Computing Corp. SN 323,477. Pub. 5–19–70. Filed 4–2–69.

896,164. "CHECKMATE" ETC. AND DESIGN. Vincent R. Metallo. SN 325,769. Pub. 5–19–70. Filed 4–28–69.

896,165. FLAGSHIP. American Airlines, Inc. SN 326,331. Pub. 5–19–70. Filed 5–5–69.

896,166. REH AND SHIELD DESIGN. Robert E. Hattis Engineers, Inc. SN 326,649. Pub. 5–19–70. Filed 5–7–69.

896,167. PAGE BLOWING HORN (DESIGN). White Palace Systems, Inc. SN 327,185. Pub. 5–19–70. Filed 5–13–69.

896,168. DODGE HOUSE. Julian H. Eady. SN 328,043. Pub. 5–19–70. Filed 5–22–69.

896,169. HOLLY'S. Holly Grills, Inc. SN 328,178. Pub. 5–19–70. Filed 5–23–69.

896,170. HOLLY'S LANDING. Holly Grills, Inc. SN 328,181. Pub. 5–19–70. Filed 5–23–69.

896,171. HOLLY'S LANDING ETC. AND DESIGN. Holly Grills, Inc. SN 328,298. Pub. 5–19–70. Filed 5–26–69.

896,172. SOCIAL DYNAMICS. Social Dynamics, Incorporated. SN 330,809. Pub. 5–19–70. Filed 6–24–69.

896,173. THE CAVE. Cave Inn Corp. SN 330,818. Pub. 5–19–70. Filed 6–24–69.

896,174. MISCELLANEOUS DESIGN. James L. Crawford, d.b.a. Watchbird Systems Company. SN 331,166. Pub. 5–19–70. Filed 6–27–69.

896,175. COSTY'S. Luigi's, Inc. SN 331,628. Pub. 5–19–70. Filed 6–25–69.

896,176. TRAFFIC POWER. William H. Upham. SN 331,951. Pub. 5–19–70. Filed 7–7–69.

896,177. PEACHTREE HOUSE AND TREE DESIGN. Consolidated Equities Corporation. SN 333,045. Pub. 5–19–70. Filed 7–22–69.

896,178. HOST TOWN. Host Enterprises, Inc. SN 346,808. Pub. 5–19–70. Filed 12–22–69.

896,179. MISCELLANEOUS DESIGN. Taco Bell, Inc. SN 349,559. Pub. 5–19–70. Filed 1–26–70.

896,180. PINCH A PENNY. 1254 Limited, d.b.a. Pinch A Penny, Ltd. SN 273,652. Pub. 7–16–68. Filed 6–12–67.

Class 101 — Advertising and Business

896,157. (See Class 100 for this trademark.)

896,181. REPRESENTATION OF THE FRONT ENTRY OF A HOUSE. The Mailing House, Inc. SN 280,614. Pub. 5–19–70. Filed 9–18–67.

896,182. MISCELLANEOUS DESIGN. Stop & Shop, Inc. SN 304,630. Pub. 5–19–70. Filed 8–7–68.

896,183. MISCELLANEOUS DESIGN. Bates & Springer, Inc. SN 311,197. Pub. 5–19–70. Filed 9–26–68.

896,184. WAX & WICKER WORKS. Wax & Wicker Works, Inc. SN 316,264. Pub. 5–19–70. Filed 1–9–69.

896,185. MISCELLANEOUS DESIGN. La Salle-Deitch Company, Inc. SN 316,443. Pub. 5–19–70. Filed 1–13–69.

896,186. MIRACL. Republic Software Products, Inc., assignee of Republic Systems and Programming, Inc. SN 317,873. Pub. 5–19–70. Filed 1–29–69.

896,187. ROYAL BINGO AND DESIGN. Herron-Kienzle, Inc. SN 319,601. Pub. 5–19–70. Filed 2–19–69.

896,188. DRIS. The Reuben H. Donnelley Corporation. SN 321,638. Pub. 5–19–70. Filed 3–13–69.

896,189. GAF. GAF Corporation. SN 321,719. Pub. 5–19–70. Filed 3–14–69.

896,190. WEINSTOCK'S. Broadway-Hale Stores, Inc. SN 321,899. Pub. 5–19–70. Filed 3–17–69.

896,191. DOMENICO'S GONDOLAS. Domenico's Gondola, Inc. SN 322,567. Pub. 5–19–70. Filed 3–24–69.

896,192. VIVA. Petty Geophysical Engineering Company. SN 323,471. Pub. 5–19–70. Filed 4–2–69.

896,193. PLANAGEMENT. Robert M. Randolph, d.b.a. Planagement Associates. SN 323,652. Pub. 5–19–70. Filed 4–4–69.

896,194. CTI AND DESIGN. Cyber-Tronics, Inc. SN 323,942. Pub. 5–19–70. Filed 4–8–69.

896,195. REAL ESTATE CENTRAL. Real Estate Central, Inc. SN 327,170. Pub. 5–19–70. Filed 5–13–69.

896,196. NPC NATIONAL PIZZA AND DESIGN. National Pizza Corporation. SN 333,502. Pub. 5–19–70. Filed 7–25–69.

896,197. COMPUTABOWL. Computer Specialties, Inc. SN 336,542. Pub. 5–19–70. Filed 8–28–69.

896,198. LEONARD'S IS WHAT REAL PIT BARBECUE IS ALL ABOUT. Leonard's Pit Barbecue, Inc. SN 337,406. Pub. 5–19–70. Filed 9–9–69.

896,199. SPEEDWAY PRINTING AND FLAG DESIGN. Case Thompson, Inc. SN 337,596. Pub. 5–19–70. Filed 9–10–69.

896,200. BATTER UP FOR CASH. Petroleum Service Advertising, Inc. SN 339,959. Pub. 5–19–70. Filed 10–7–69.

Class 102 — Insurance and Financial

896,201. SOURCE. Arthur A. Anderson. SN 321,746. Pub. 5–19–70. Filed 3–14–69.

896,202. GENERAL UNITED. General United Group, Incorporated. SN 325,743. Pub. 5–19–70. Filed 4–28–69.

896,203. INDEPENDENT FIRE. Independent Life & Accident Insurance Company. SN 347,812. Pub. 5–19–70. Filed 1–6–70.

Class 103 — Construction and Repair

896,204. PENNY-WISE. Edick Laboratories, Inc., d.b.a. Penny-Wise Car Wash Systems. SN 271,240. Pub. 3–18–69. Filed 5–11–67.

896,205. TERMI-TROL. Josephus Pullen, Jr. SN 311,694. Pub. 5–19–70. Filed 11–8–68.

896,206. GUARDIAN TRANSMISSIONS. Guardian Corporation. SN 314,783. Pub. 5–19–70. Filed 12–18–68.

896,207. AST. Audio Speaker Techtronics, Inc. SN 316,177. Pub. 5–19–70. Filed 1–9–69.

896,208. PASSPOINT. Ron Pass & Associates Ltd. SN 331,776. Pub. 5–19–70. Filed 7–3–69.

896,209. PASSPOINT AND DESIGN. Ron Pass & Associates Ltd. SN 331,777. Pub. 5–19–70. Filed 7–3–69.

896,210. SNOWLIFT. Airway Equipment Rental Co., Inc. SN 342,583. Pub. 5–19–70. Filed 11–4–69.

Class 105 — Transportation and Storage

896,155. (See Class 100 for this trademark.)

896,211. REPRESENTATION OF KANGAROO. Allied Tube & Conduit Corporation. SN 311,998. Pub. 5–19–70. Filed 11–13–68.

896,212. FUN IN THE PUERTO RICO SUN. Fun in the Sun Tours, Inc. SN 324,437. Pub. 5–19–70. Filed 4–14–69.

896,213. FUN IN THE JAMAICAN SUN. Fun in the Sun Tours, Inc. SN 324,439. Pub. 5–19–70. Filed 4–14–69.

896,214. FUN IN THE VIRGIN ISLANDS SUN. Fun in the Sun Tours, Inc. SN 324,441. Pub. 5–19–70. Filed 4–14–69.

Class 106 — Material Treatment

896,215. MISCELLANEOUS DESIGN. Perfection Photo Co., Inc., d.b.a. Pittsburgh Free Film Co. SN 280,628. Pub. 5–19–70. Filed 9–18–67.

896,216. BMT. Brazing & Metal Treating, Inc. SN 322,955. Pub. 5–19–70. Filed 3–27–69.

Class 107 — Education and Entertainment

896,217. STARCH. Daniel Starch & Staff, Inc. SN 308,238. Pub. 5–19–70. Filed 9–25–68.

896,218. DESIGN OF A LAMPLIGHTER LIGHTING A STREET LAMP. The Lamplighter Club, Inc. SN 314,093. Pub. 5–19–70. Filed 12–10–68.

896,219. MOVING SIDEWALKS. Stephen C. Ames. SN 328,640. Pub. 5–19–70. Filed 5–29–69.

896,220. WARRIORS. San Francisco Warriors. SN 340,740. Pub. 5–19–70. Filed 10–15–69.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 2 — Receptacles

896,221. Struthers Wells Corporation, New York, N.Y. SN 305,079. Filed P.R. 8–13–68; Am. S.R. 5–15–70.

MULTIWALL

For Tanks and Pressure Vessels (Int. Cl. 16).
First use Jan. 31, 1965.

896,222. Intra Products, Inc., New York, N.Y. SN 307,332. Filed P.R. 9–13–68; Am. S.R. 5–8–70.

INTRA-LOK

For Unit-Dispenser Packages for Medicinal Containers (Int. Cl. 20).
First use July 10, 1968.

Class 12 — Construction Materials

896,223. Polacoat Incorporated, Blue Ash, Ohio. SN 327,779. Filed 5–20–69.

GLARE-CHECK

For Polarized Architectural Glass (Int. Cl. 19).
First use on or about Jan. 23, 1968.

Class 17 — Tobacco Products

896,224. Larus & Brother Company, Richmond, Va. SN 321,814. Filed P.R. 3–14–69; Am. S.R. 3–13–70.

WORTHINGTON

For Cigarettes and Smoking Tobacco (Int. Cl. 34).
First use Mar. 7, 1969.

Class 39 — Clothing

896,225. Formflex Foundations, Inc., Saddle Brook, N.J. SN 327,252. Filed P.R. 5–14–69; Am. S.R. 5–25–70.

HOLD-TIGHT

For Girdle That Holds Stockings Without Garter (Int. Cl. 25).
First use Apr. 28, 1969.

Class 46 — Foods and Ingredients of Foods

896,226. Foods of All Nations, Inc., Manhasset, N.Y. SN 285,320. Filed P.R. 11-21-67; Am. S.R. 4-16-70.

FOODS NATIONS

For Cheeses, Preserves, Candies, Shelled and Unshelled Nuts, Coffee, Pickles, Olives, Dried Beans, Breads, Biscuits, Cookies, Marinated Vegetables, Stuffed Eggplants (Stuffing Consisting of Celery, Mint, Garlic, Brine and Vinegar), and Grape Vine Leaves (Int. Cls. 29, 30, and 31).

First use June 15, 1963; May 5, 1955, as to the component "Foods of All Nations."

896,227. Gregg's Food Products, Inc., Portland, Oreg. SN 334,082. Filed 7-31-69.

Gold'n Soft

For Mayonnaise (Int. Cl. 29).

First use Mar. 1, 1968.

896,228. National Biscuit Company, New York, N.Y. SN 299,574. Filed P.R. 6-3-68; Am. S.R. 5-11-70.

4 RING ASSORTMENT

Applicant disclaims any exclusive rights to the word "Assortment" apart from the mark as shown.

For Cookies (Int. Cl. 30).

First use May 10, 1968.

Class 47 — Wines

896,229. Lindemans Wines Pty. Limited, Marrickville, New South Wales, Australia. SN 345,418. Filed P.R. 12-5-69; Am. S.R. 5-19-70.

LINDEMANS

Owner of Australian Reg. No. A45,112; dated Aug. 3, 1926.

For Wines (Int. Cl. 33).

First use 1843; in commerce November 1968.

Class 107 — Education and Entertainment

896,230. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,569. Filed P.R. 12-11-67; Am. S.R. 11-29-68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Tennis Tournaments (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,231. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,571. Filed P.R. 12-11-67; Am. S.R. 11-29-68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Pentathlon Events (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,232. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,572. Filed P.R. 12-11-67; Am. S.R. 11-29-68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Fencing Matches (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,233. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,573. Filed P.R. 12-11-67; Am. S.R. 11-29-68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Wrestling Matches (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,234. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,574. Filed P.R. 12-11-67; Am. S.R. 11-29-68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Boxing Matches (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,235. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,575. Filed P.R. 12-11-67; Am. S.R. 11-27-68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Rugby Matches (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,236. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,576. Filed P.R. 12-11-67; Am. S.R. 11-27-68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Hockey Events (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,237. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,577. Filed P.R. 12-11-67; Am. S.R. 11-27-68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Basketball Tournaments (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,238. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,578. Filed P.R. 12-11-67; Am. S.R. 11-27-68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Volleyball Matches (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,239. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,579. Filed P.R. 12-11-67; Am. S.R. 11-27-68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Gymnastic Events (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,240. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,580. Filed P.R. 12-11-67; Am. S.R. 11-27-68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Equestrian Events (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,241. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,581. Filed P.R. 12–11–67; Am. S.R. 11–27–68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Weightlifting Events (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,242. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,582. Filed P.R. 12–11–67; Am. S.R. 11–29–68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Shooting Matches (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,243. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,584. Filed P.R. 12–11–67; Am. S.R. 11–27–68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Swimming and Diving Events (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,244. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,585. Filed P.R. 12–11–67; Am. S.R. 11–27–68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Canoeing Events (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,245. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,586. Filed P.R. 12–11–67; Am. S.R. 11–27–68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Rowing Events (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,246. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,587. Filed P.R. 12–11–67; Am. S.R. 11–27–68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Boating Events (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,247. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,588. Filed P.R. 12–11–67; Am. S.R. 11–29–68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Cycling Events (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,248. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,589. Filed P.R. 12–11–67; Am. S.R. 11–29–68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Track and Field Events (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,249. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,591. Filed P.R. 12–11–67; Am. S.R. 11–29–68.



For Furnishing Entertaiument Services in the Nature of International Amateur Sporting Events—Namely, Water Polo Events (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

896,250. Comite Organizador de los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,647. Filed P.R. 12–11–67; Am. S.R. 11–29–68.



For Furnishing Entertainment Services in the Nature of International Amateur Sporting Events—Namely, Tennis, Paddle Tennis, Jai Alai, and Handball (Int. Cl. 41).

First use on or about Sept. 1, 1967; in commerce at least as early as Sept. 4, 1967.

TRADEMARK REGISTRATIONS RENEWED

35,326. IDEAL AND DRAWING. Cl. 44 (Int. Cl. 21). 10–30–1900.
35,328. "WORLD'S FAIR C.T. CO." ETC. AND DRAWING. Cl. 44 (Int. Cl. 21). 10–30–1900.
78,091. LA PERLE. Cl. 15 (Int. Cl. 4). 5–31–10.
78,096. HEMINGRAY. Cl. 21 (Int. Cls. 9 and 17). 5–31–10.
78,838. VITREOSIL. Cl. 26 (Int. Cl. 9). 7–12–10.
79,010. NEW WRINKLE. Cl. 46 (Int. Cl. 30.) 7–26–10.
79,915. DAG. Cl. 15 (Int. Cl. 4). 10–18–10.
262,659. EASYCOAT. Cl. 16 (Int. Cl. 2). 10–22–29.
266,024. NU-VITA. Cl. 51 (Int. Cl. 3). 1–14–30.
267,419. GITANE. Cl. 51 (Int. Cl. 3). 2–18–30.
267,653. SPORTJAMA. Cl. 39 (Int. Cl. 25). 2–25–30.
269,973. "GIRL SCOUTS" ETC. AND DESIGN. Cl. 23 (Int. Cls. 8 and 21). 4–22–30.
270,049. KROYDON. Cl. 22 (Int. Cl. 28). 4–22–30.
270,478. INCA AND REPRESENTATION OF INDIAN HEAD AND DESIGN. Cl. 21 (Int. Cl. 9). 5–6–30.
270,909. SANI-TISSUE. Cl. 37 (Int. Cl. 16). 5–20–30.
271,408. "BOY-CRAFT" AND DESIGN. Cl. 39 (Int. Cl. 25). 6–3–30.
271,909. C AND DRAWING. Cl. 46 (Int. Cl. 31). 6–17–30.
272,384. LADY ENDICOTT. Cl. 39 (Int. Cl. 25). 7–8–30.
272,435. CROWN. Cl. 46 (Int. Cl. 29). 7–8–30.
272,758. REPRESENTATION OF CROWN WITHIN DESIGN. Cl. 46 (Int. Cl. 29). 7–15–30.
273,115. KAWNEER. Cl. 12 (Int. Cl. 19). 7–22–30.
273,675. RADIOLA. Cl. 36 (Int. Cl. 9). 8–5–30.
273,871. SILVERGLEAM. Cl. 23 (Int. Cl. 6). 8–19–30.
274,638. AROMANT. Cl. 18 (Int. Cl. 5). 9–2–30.
274,689. CHICAGO PNEUMATIC CP AND DESIGN. Cl. 23 (Int. Cls. 7 and 8). 9–2–30.
275,149. OUTGRO. Cl. 18 (Int. Cl. 5). 9–16–30.
275,459. KONDREMUL. Cl. 18 (Int. Cl. 5). 9–23–30.
275,936. SOMASTIC. Cl. 12 (Int. Cl. 19). 10–7–30.
276,102. ERIONAL. Cl. 6 (Int. Cl. 2). 10–7–30.
276,320. SHELTON AND DESIGN. Cl. 39 (Int. Cl. 25). 10–14–30.
276,470. SATINA. Cl. 37 (Int. Cl. 16). 10–21–30.
276,483. EMBECO. Cl. 12 (Int. Cls. 1 and 19). 10–21–30.
443,998. CATER. Cl. 39 (Int. Cl. 25). 5–23–50.
444,059. PLAYETTES AND DESIGN. Cl. 39 (Int. Cl. 25). 6–27–50.
444,104. STEP-WELL AND DESIGN. Cl. 39 (Int. Cl. 25). 7–25–50.
444,199. MULE-HIDE AND DESIGN. Cl. 16 (Int. Cl. 2). 9–5–50.
520,342. BERRYLAND. Cl. 46 (Int. Cl. 29). 1–31–50.
520,793. ENTERPRISE. Cl. 21 (Int. Cl. 11). 2–7–50.
521,228. 18 WEST 57 AND DESIGN. Cl. 39 (Int. Cl. 25). 2–21–50.
521,611. VEY. Cl. 52 (Int. Cl. 3). 2–28–50.
521,812. CONWAY. Cl. 46 (Int. Cls. 29 and 30). 3–7–50.
521,916. MARKET ETC. AND DESIGN. Cl. 37 (Int. Cl. 16). 3–7–50.
522,135. PLYMOUTH. Cl. 51 (Int. Cl. 3). 3–14–50.
522,300. ORAVISUAL. Cl. 32 (Int. Cls. 16 and 20). 3–14–50.
522,365. FLEXALUM. Cl. 32 (Int. Cl. 20). 3–14–50.
522,452. STOUTFITTERS. Cl. 39 (Int. Cl. 25). 3–14–50.
522,943. MATISA AND DESIGN. Cl. 23 (Int. Cls. 7 and 12). 3–28–50.
523,294. ESSICK. Cl. 34 (Int. Cl. 11). 4–4–50.
523,752. LAIT DES HESPERIDES. Cl. 51 (Int. Cl. 3). 4–11–50.
523,961. PALOMAR. Cl. 26 (Int. Cl. 9). 4–11–50.
524,266. MERIT. Cl. 15 (Int. Cl. 4). 4–18–50.
524,472. GIBSON. Cl. 11 (Int. Cl. 16). 4–25–50.
524,535. TAFFALLURE. Cl. 42 (Int. Cl. 24). 4–25–50.
524,565. DIAMOND-LOCK. Cl. 28 (Int. Cl. 14). 4–25–50.
524,676. CONTROLATOR. Cl. 19 (Int. Cl. 12). 5–2–50.
524,745. TRIPLTOP. Cl. 37 (Int. Cl. 16). 5–2–50.
524,878. OLD STYLE. Cl. 46 (Int. Cl. 29). 5–2–50.
524,996. WHITTAKER AND DESIGN. Cl. 6 (Int. Cl. 2). 5–9–50.
525,197. GUMP'S. Cl. 23 (Int. Cl. 8). 5–16–50.
525,223. EDITH DALE. Cl. 39 (Int. Cl. 25). 5–16–50.
525,299. KEEP-NEAT. Cl. 51 (Int. Cl. 3). 5–16–50.
525,373. PORUS CRISP AND DESIGN. Cl. 39 (Int. Cl. 25). 5–16–50.
525,386. THERMOLOK. Cl. 12 (Int. Cl. 6). 5–23–50.
525,391. KLEENAIRE. Cl. 6 (Int. Cl. 1). 5–23–50.
525,405. H AND DESIGN. Cl. 46 (Int. Cl. 31). 5–23–50.
525,425. LANOGENE. Cl. 6 (Int. Cl. 1). 5–23–50.
525,664. CREAMONAS. Cl. 46 (Int. Cl. 30). 5–30–50.
525,758. JETEX. Cl. 22 (Int. Cl. 28). 5–30–50.
525,855. CALABRESE. Cl. 46 (Int. Cl. 29). 6–6–50.
525,856. MUENCHENER. Cl. 46 (Int. Cl. 29). 6–6–50.
525,994. RAY. Cl. 21 (Int. Cl. 9). 6–6–50.
526,051. GUMP'S. Cl. 21 (Int. Cl. 11). 6–6–50.
526,304. PETTIJOHNS. Cl. 46 (Int. Cl. 30). 6–13–50.
526,366. SCHIFFS. Cl. 39 (Int. Cl. 25). 6–13–50.
526,396. ALWAYS READY. Cl. 105 (Int. Cl. 39). 6–13–50.
526,483. THE DOT LINE. Cl. 13 (Int. Cls. 6 and 26). 6–20–50.
526,521. BRUCE. Cl. 39 (Int. Cl. 25). 6–20–50.
526,610. REV. PAUL HRITIZAY AND PICTURE DESIGN. Cl. 18 (Int. Cl. 5). 6–20–50.
526,644. JEFFERSON CHEMICALS AND DESIGN. Cl. 6 (Int. Cl. 1). 6–20–50.
526,654. LANOCERIN. Cl. 6 (Int. Cls. 1 and 4). 6–20–50.
526,829. QUAKER AND DESIGN B (CIRCLE). Cl. 46 (Int. Cl. 30). 6–27–50.
526,830. QUAKER AND DESIGN C. Cl. 46 (Int. Cl. 30). 6–27–50.
526,831. QUAKER AND DESIGN D BABY PICTURE. Cl. 46 (Int. Cl. 30). 6–27–50.
526,832. QUAKER AND DESIGN E (LETTERS OVERHEAD). Cl. 46 (Int. Cl. 30). 6–27–50.
526,845. NEOSYN. Cl. 6 (Int. Cl. 2). 6–27–50.
527,019. TOLONA. Cl. 42 (Int. Cl. 24). 6–27–50.
527,489. CREAMETTAS. Cl. 16 (Int. Cl. 30). 7–11–50.
527,627. SOMERDALE. Cl. 46 (Int. Cl. 29). 7–11–50.
527,727. ANTARATE. Cl. 6 (Int. Cl. 1). 7–18–50.
527,733. UNITEX. Cl. 6 (Int. Cl. 1). 8–4–70.
528,097. STRENGTH TELLS AND DESIGN. Cl. 2 (Int. Cl. 20). 7–25–50.
528,294. TAMUL. Cl. 12 (Int. Cl. 19). 8–1–50.

528,360. AMERICAN DUA-LAPS. Cl. 12 (Int. Cl. 19). 8–1–50.
528,553. TRI-SAVER. Cl. 13 (Int. Cl. 21). 8–8–50.
528,557. ESSICK. Cl. 23 (Int. Cl. 7). 8–8–50.
528,592. ALL STAR AND DESIGN. Cl. 16 (Int. Cl. 2). 8–8–50.
528,665. ENAMEL CLAD. Cl. 12 (Int. Cl. 19). 8–8–50.
528,666. MANCO. Cl. 12 (Int. Cl. 19). 8–8–50.
528,717. ARTS AND FLOWERS AND DESIGN. Cl. 50 (Int. Cl. 26. 8–8–50.
528,838. TASIL. Cl. 12 (Int. Cl. 19). 8–8–50.
528,895. SAFE-T-LINE. Cl. 16 (Int. Cl. 2). 8–8–50.
529,003. PLASOLUX. Cl. 16 (Int. Cl. 2). 8–15–50.
529,043. VISI-BAKE. Cl. 34 (Int. Cl. 11). 8–15–50.
529,206. ANTABUSE. Cl. 18 (Int. Cl. 5). 8–15–50.
529,437. LA FRANCE. Cl. 46 (Int. Cl. 30). 8–22–50.
529,512. MASTER SERVICE. Cl. 16 (Int. Cl. 2). 8–22–50.
529,546. GUIDE-STEP. Cl. 39 (Int. Cl. 25). 8–22–50.
529,748. SPARTICLES. Cl. 46 (Int. Cl. 31). 8–29–50.
529,750. TREDAIR. Cl. 39 (Int. Cl. 25). 8–29–50.
529,856. ASTRCAINE. Cl. 18 (Int. Cl. 5). 8–29–50.
529,870. CRINKLE. Cl. 2 (Int. Cls. 16 and 21). 8–29–50.
529,871. OLD MILL DESIGN. Cl. 2. 8–29–50.
529,934. UNITED FAMILY NEWS AND DESIGN. Cl. 38 (Int. Cl. 16). 8–29–50.
530,180. THERMO-BORD. Cl. 12 (Int. Cl. 19). 9–5–50.
530,207. OK DRI-SWEET. Cl. 46. 9–5–50.
530,215. OK DRYSWEET. Cl. 46 (Int. Cl. 30). 9–5–50.
530,815. NASH. Cl. 23 (Int. Cl. 7). 9–19–50.
530,883. DRI-SPOT. Cl. 52. 9–19–50.
531,269. MARY LANE'S COLUMN. Cl. 38 (Int. Cl. 16). 9–26–50.
531,599. MARLBORO. Cl. 46. 10–10–50.
531,605. FASCO. Cl. 21 (Int. Cls. 9 and 12). 10–10–50.
531,608. CAIN'S. Cl. 46 (Int. Cls. 29 and 30). 10–10–50.
531,738. ACTIVI-TEE. Cl. 39 (Int. Cl. 25). 10–10–50.
532,028. DIAFLOTE. Cl. 2 (Int. Cl. 6). 10–17–50.
532,031. COUNTESS. Cl. 32 (Int. Cl. 20). 10–17–50.
532,114. SLEEK. Cl. 51 (Int. Cl. 3). 10–17–50.
532,195. GILBERT. Cl. 37 (Int. Cl. 16). 10–17–50.
532,239. ERIOCHROME. Cl. 6 (Int. Cl. 2). 10–17–50.
532,540. STRIDRITE FIRSTIE. Cl. 39 (Int. Cl. 25). 10–24–50.
532,543. CINDERELLA. Cl. 39 (Int. Cl. 25). 10–24–50.
532,589. CORTEZ. Cl. 46 (Int. Cl. 30). 10–24–50.
532,649. RODERITE. Cl. 12 (Int. Cl. 19). 10–21–50.
532,699. TRET-O-LITE. Cl. 6 (Int. Cl. 1). 10–31–50.
532,764. AUSTEX. Cl. 46 (Int. Cl. 29). 10–31–50.
532,851. BLUE BELL'S WRANGLER. Cl. 39 (Int. Cl. 25). 10–31–50.
532,872. EIMCO. Cl. 31 (Int. Cl. 7). 10–31–50.
532,991. TIFFANY DIVISION. Cl. 12 (Int. Cl. 19). 10–31–50.
533,033. TILLAMOOK. Cl. 46 (Int. Cl. 29). 11–7–50.
533,087. GADDY'S EZ-IT. Cl. 18 (Int. Cl. 5). 11–7–50.
533,378. ATMOS. Cl. 46 (Int. Cl. 30). 11–14–50.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following registrations issued June 16, 1964

771,337. UGIGUM. Cl. 1.
771,340. TETRA-PHEN. Cl. 1.
771,341. TETRA-FOAM. Cl. 1.
771,342. DRI-LITE. Cl. 1.
771,344. KALEIDOSCOPE. Cl. 1.
771,347. OIL IT WELL WITH AN OIL WELL AND DESIGN. Cl. 2.
771,351. MONEYMANAGER. Cl. 3.
771,352. GLYCOSOL. Cl. 6.
771,357. THERMALOAD. Cl. 6.
771,358. HYDROMOL. Cl. 6.
771,363. Q QUAL-CO AND DESIGN. Cl. 6.
771,366. ETERNOL ETC. AND DESIGN. Cl. 6.
771,367. NEOCAL. Cl. 6.
771,372. CUFLUOREX. Cl. 6.
771,374. WATER WHIP. Cl. 6.
771,375. ZYBLOC. Cl. 6.
771,389. FLEXALUM. Cl. 12.
771,391. FEATHER-LITE. Cl. 12.
771,399. PERFECT SEAL AND DESIGN. Cl. 15.
771,403. EQUI-BOMINE. Cl. 18.
771,405. GRID. Cl. 18.
771,407. CARGILL AND DESIGN. Cl. 18.
771,420. D PLUS D AND DESIGN. Cl. 18.
771,421. REVASA. Cl. 18.
771,427. F & M AND DESIGN. Cl. 21.
771,428. MAGNETRIC. Cl. 21.
771,433. RONDO. Cl. 21.
771,434. HIGH GEAR. Cl. 22.
771,436. PIK-A-PAK. Cl. 22.
771,437. BENNY. Cl. 22.
771,438. CHEE-CO AND DESIGN. Cl. 22.
771,439. SHORTY. Cl. 22.
771,440. BAYMINT AND DESIGN. Cl. 22.
771,441. WALK 'N TALK. Cl. 22.
771,442. HAPPY, HAPPY BIRTHDAY. Cl. 22.
771,444. DAISY/MATIC. Cl. 22.
771,445. DIAL-A-SKILL. Cl. 22.
771,448. PUT-N-TAKE. Cl. 22.
771,459. KWIKI-SHOP. Cl. 23.
771,466. DUALEVEL. Cl. 26.
771,467. STYLIZED AI (DESIGN). Cl. 26.
771,470. FALCO. Cl. 28.
771,471. ECLIPSE. Cl. 28.
771,472. SERFILCO. Cl. 31.
771,473. IMPERIAL NINETEEN. Cl. 31.
771,476. GATE WAY OF ST. LOUIS AND DESIGN. Cl. 32.
771,477. ERTEL. Cl. 32.
771,479. ALPHA. Cl. 32.
771,487. STYLIZED AI (DESIGN). Cl. 34.
771,488. PERMA-LITE. Cl. 35.
771,491. BOWL O BRIDGE. Cl. 37.
771,495. CHILLY WILLY. Cl. 39.
771,498. JENNIFER JAMES. Cl. 39.
771,500. THE BUCKS COUNTY MOHAIRLAINE. Cl. 39.
771,501. SKYLARK. Cl. 39.
771,502. FAIRY TALE BOUTIQUE. Cl. 39.
771,504. ALPENJANKER. Cl. 39.
771,505. YODELJANKER. Cl. 39.
771,514. MARKSTAN. Cl. 39.
771,518. VISANTE. Cl. 42.
771,521. WONDAIRE. Cl. 42.
771,524. FIRESTAR. Cl. 42.
771,526. SVELTSUEDE. Cl. 42.
771,527. VELOUR-GLO AND DESIGN. Cl. 42.
771,528. FEATHEREDGE AND DESIGN. Cl. 42.
771,536. SHOPPER'S FAIR. Cl. 44.
771,540. REPRESENTATION OF LEANING TOWER OF PISA. Cl. 46.
771,542. EL CORTEZ AND DESIGN. Cl. 46.
771,543. GLENHAVEN. Cl. 46.
771,544. BLUE CHIP FARM. Cl. 46.
771,545. VERSILAC. Cl. 46.
771,548. VITEX. Cl. 46.
771,549. 3 TRIANGLES AND LINE DESIGN. Cl. 46.
771,550. MEASURED MENU. Cl. 46.
771,551. FRUIT-E-BALL. Cl. 46.
771,561. MINI-CORE. Cl. 46.
771,564. TRICK 'N TREAT. Cl. 46.
771,565. BEEFAGHETTI. Cl. 46.
771,573. OGUARDSO. Cl. 49.
771,576. NESTAID. Cl. 50.
771,578. MARINER. Cl. 50.
771,583. GO-ROUND. Cl. 51.
771,589. R AND DESIGN. Cl. 51.
771,593. DOVER HOUSE. Cl. 51.
771,594. ARCHWAY. Cl. 51.
771,596. GRAND MARCH. Cl. 51.
771,597. PERSIST. Cl. 51.
771,599. PEGGY DUNCAN TEEN TONE FACIAL. Cl. 51.
771,614. CS AND DESIGN. Cl. 100.
771,615. CUSTOMCARE. Cl. 100.
771,622. CPS INC. AND DESIGN. Cl. 101.
771,623. MISCELLANEOUS DESIGN. Cl. 101.

771,624. TEXTAPE. Cl. 101.
771,629. REPRESENTATION OF A GROTESQUE MAN. Cl. 102.
771,630. MR. MONEY. Cl. 102.
771,631. CAMP GUARANTEE INSURANCE CO. AND DESIGN. Cl. 102.
771,633. SPAL. Cl. 105.
771,634. SOUTH PACIFIC AIR LINES. Cl. 105.
771,638. GENI-SCRIBE. Cl. 107.
771,639. READING PLUS. Cl. 107.
771,646. JUST FOR FUN—LIVE IT UP ! Cl. 45.
771,649. PEDI-MASSAGE. Cl. 51.
771,650. MANGO TANGO. Cl. 51.
771,651. MOROCCO COCO. Cl. 51.
771,652. LA DOLCE PINK. Cl. 51.
771,653. DIABOLO PINK. Cl. 51.

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711,899. TEMPO ETC. AND DESIGN. Cl. 39. 2–28–61.
790,991. MISS MARY. Cl. 22. 6–15–65.
801,153. A.O. Cl. 6. 1–4–66.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

244,091. SWANS DOWN AND DESIGN. Cl. 46. 7–10–28. Igleheart Brothers, Inc. General Foods Corporation, White Plains, N.Y. Amended: In the statement, column 2, lines 4 through 10 are deleted, and the drawing is amended to appear:

SWANS DOWN

266,534. GOBLIN AND DESIGN. Cl. 46. 1–28–30. International Milling Company, doing business as Wells Flour Mills. International Multifoods Corporation, Minneapolis, Minn. Amended to appear:

GOBLIN

501,263. MAYFLOWER. Cl. 105. 7–27–48. Aero Mayflower Transit Company. Aero Mayflower Transit Company, Inc., Indianapolis, Ind. Amended to appear.

Mayflower

501,970. MISCELLANEOUS DESIGN. Cl. 105. 8–31–48. Aero Mayflower Transit Company. Aero Mayflower Transit Company, Inc., Indianapolis, Ind. Amended to appear:



513,367. B WITHIN A STAR. Cl. 28. 8–9–49. B. A. Ballou & Co. Incorporated, East Providence, R.I. Amended: In the statement, column 1 line 9, "—namely, anklets, ascot" is deleted, lines 10 through 23 are deleted, and line 24, "pins, and waist coat buttons" is deleted.

518,114. DAVIES' PERFECTION. Cl. 46. 11–29–49. William Davies Co., Inc., Chicago, Ill. Amended to appear:

DAVIES' PERFECTION

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

297,286. SLUMBERLAND. Cl. 32. N. Sumergrade & Sons, Inc. 9–6–32. New Cert. Sec. 7(c) to Slumberland Products Co., Woburn, Mass.
440,624. SOUTHERN COMFORT ETC. AND DESIGN. Cl. 32. Charleston Mattress Mfg. Company. 9–14–48. New Cert. Sec. 7(c) to Waynewood, Inc., Hazelwood, N.C.
506,492. 8 UP. Cl. 46. Hill Packing Company. 2–8–49. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
510,577. SKY-HY. Cl. 46. Hill Packing Company. 6–7–49. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
510,578. HILL'S. Cl. 46. Hill Packing Company. 6–7–49. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
536,011. K/D. Cl. 46. Mark L. Morris. 1–9–51. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
538,128. I/D. Cl. 46. Mark L. Morris. 2–20–51. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
539,129. R/D. Cl. 46. Mark L. Morris. 2–20–51. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
539,608. P/D. Cl. 46. Mark L. Morris. 3–20–51. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
581,424. PRESCRIPTION DIETS. Cl. 38. Mark L. Morris. 10–20–53. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
596,058. C/D. Cl. 46. Mark L. Morris, 9–28–54. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
675,053. F/D. Cl. 46. Mark L. Morris. 3–3–59. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
690,708. PRESCRIPTION DIET. Cl. 46. Mark L. Morris. 12–29–59. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
800,466. EZ/D. Cl. 46. Mark Morris Associates, Inc. 12–14–65. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
804,352. H/D. Cl. 46. Mark Morris Associates, Inc. 2–22–66. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
805,330. SE-LIN. Cl. 52. Scientific Advances, Inc. 3–8–66. New Cert. Sec. 7(c) to Automata Corporation, Richland, Wash.
812,953. SE-LIN. Cl. 23. Scientific Advances, Inc. 8–16–66. New Cert. Sec. 7(c) to Automata Corporation, Richland, Wash.
819,666. READY ROUNDS. Cl. 46. Hill Packing Company. 11–29–66. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
825,003. D/D. Cl. 46. Mark Morris Associates, Inc. 2–28–67. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
839,884. DEVROM. Cl. 18. The Parthenon Company, Inc. 12–5–67. New Cert. Sec. 7(c) to Parthenon Company, Inc., Salt Lake City, Utah.
854,751. INITOL. Cl. 46. Mar-Ko Company. 8–13–68. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
854,752. ANOREK. Cl. 46. Mar-Ko Company. 8–13–68. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
873,158. SCIENCE DIET. C. 46. Mark Morris Associates, assignee of Mark Morris Associates, Inc. 7–15–69. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.
879,204. ZU/PREEM. Cl. 46. Mark Morris Associates, assignee of Mar-Ko Company. 10–21–69. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 2 — Receptades

271,275. May 27, 1930. The Alpha Tank & Sheet Metal Mfg. Co., St. Louis, Mo. Pub. by Alpha Tank & Metals Manufacturing Company, St. Louis, Mo.

AN AA PRODUCT
ALPHA

For Metal Storage Tanks, Bins, Vats (Int. Cl. 6).

Class 16 — Protective and Decorative Coatings

443,842. Mar. 21, 1950. Oliver Reeder & Son, Incorporated, Baltimore, Md. Pub. by registrant.

For Copper Paint, Non-Fouling Paint, etc. (Int. Cl. 2).

Class 18 — Medicines and Pharmaceutical Preparations

310,012. Feb. 6, 1934. The Knox Company, Kansas City, Mo. Pub. by Cooper-Knox International, Inc., Los Angeles, Calif.

Cystex
The Knox Company

For Medicine for Bladder and Kidney Disorders.

311,072. Mar. 13, 1934. The Knox Company, Kansas City, Mo. Pub. by Cooper-Knox International, Inc., Los Angeles, Calif.

Buroids

For Medicine To Be Taken Internally for the Treatment of Nervousness and as a General Tonic, and the Like.

347,903. July 13, 1937. The Knox Company, Los Angeles, Calif. Pub. by Cooper-Knox International, Inc., Los Angeles, Calif.

Varko

For Medicine for Invigorating, Stimulating, Maintaining, and Restoring the Vitality of the Genital System of the Human Body, and for the Treatment of Sexual Weakness, Nervousness, Loss of Virility, and Impotence, and to Build Blood, Strengthen the Bones, and Restore Lost Energy.

374,857. Jan. 30, 1940. The Knox Company, Los Angeles, Calif. Pub. by Cooper-Knox International, Inc., Los Angeles, Calif.

Amosan
The Knox Company

For Tooth Powders, Dentifrices, and Preparations Indicated in and for the Treatment of Pyorrhea, Trench Mouth, Tonsilitis, Sore Throat and Catarrh.

382,890. Nov. 12, 1940. The Knox Company, Los Angeles, Calif. Pub. by Cooper-Knox International, Inc., Los Angeles, Calif.

Romind

For Medicinal Preparations Having Analgesic Properties and Indicated in and for the Treatment of Arthritis, Lumbago, Neuritis, Rheumatism, and Sciatica.

Class 21 — Electrical Apparatus, Machines, and Supplies

356,059. Apr. 12, 1938. McGraw Electric Company, Chicago, Ill. and St. Louis, Mo. Pub. by McGraw Edison Company, Chicago, Ill.

FUSTAT

For Fuses and Circuit Makers and Breakers.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

272,928. July 15, 1930. Vortox Mfg. Company, Claremont, Calif. Pub. by registrant.

VORTOX

For Air Cleaners and Crank-Case Breathers for Internal-Combustion Engines (Int. Cl. 7).

444,301. Nov. 7, 1950. Conveyor Specialty Company, Walpole, Mass., assignor to Conveyor Specialty Company, Inc., Quincy, Mass. Pub. by Jervis B. Webb Company, Detroit, Mich.

UNITABLE

For Belt Conveyors.

Class 28 — Jewelry and Precious-Metal Ware

437,629. Mar. 30, 1948. Etablissements UTI, Paris, France. Pub. by registrant.

UTI

For Brooches, Ornamental Clips, Earrings, Finger Rings, Clasps, Cuff Links, and Cigarette and Vanity Cases Made of Precious or Semi-Precious Metal, or Ornamented With Same (Int. Cl. 14).

Class 37 — Paper and Stationery

384,688. Jan. 28, 1941. The Champion Paper and Fibre Company, Hamilton, Ohio. Pub. by U.S. Plywood-Champion Papers, Inc., Hamilton, Ohio.

DAGGER

For Printing Paper.

Class 39 — Clothing

443,924. Apr. 18, 1950. The Flying Tigers (American Volunteer Group-Chinese Air Force) Incorporated, Los Angeles, Calif. Pub. by registrant.

FLYING TIGERS

For Men's, Women's, and Children's Underwear and Outerclothing—Namely, Hats, Shoes, Dresses, Slacks, and Sweaters (Int. Cl. 25).

443,925. Apr. 18, 1950. The Flying Tigers (American Volunteer Group-Chinese Air Force) Incorporated, Los Angeles, Calif. Pub. by registrant.

FLYING TIGERS

For Men's, Women's, and Children's Underwear and Outerclothing—Namely, Hats, Shoes, Dresses, Slacks, and Sweaters (Int. Cl. 25).

Class 45 — Soft Drinks and Carbonated Waters

32,982. May 30, 1899. L. Rose & Co., Limited, St. Albans, England. Pub. by registrant.

ROSE'S
WEST INDIA
LIME JUICE
RECONSTITUTED

For Lime Juice (Int. Cl. 32).

INDEX OF REGISTRANTS

AUGUST 4, 1970

(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

A & A Mfg. Co., Spring Lakes, Mich. 895,909, pub. 5–19–70. Cl. 22.
AFCO Communications Co., Chicago, Ill. 896,067, pub. 5–19–70. Cl. 38.
Acheson Industries, Inc., Port Huron, Mich. 79,915, ren. 8–4–70. Cl. 15.
Adamas Carbide Corp., Kenilworth, N.J. 895,875, pub. 5–19–70. Cl. 14.
Adams, Wilbur Henry, New York, N.Y. 895,912, pub. 5–19–70. Cl. 22.
Adidas-Fabrique de Chaussures de Sport, Landersheim, France. 895,806, pub. 5–19–70. Cl. 3.
Adlerwerke Vorm. Heinrich Kleyer Aktiengesellschaft, Frankfurt am Main, Germany. 895,992, pub. 5–19–70. Cl. 26.
Aero Mayflower Transit Co., to Aero Mayflower Transit Co., Inc., Indianapolis, Ind. 501,263. Am. 7(d). Cl. 105.
Aero Mayflower Transit Co., to Aero Mayflower Transit Co., Inc., Indianapolis, Ind. 501,970. Am. 7(d). Cl. 105.
Aero Mini Inc., Manhasset, N.Y. 895,916, pub. 5–19–70. Cl. 22.
Air Purification Products Co., Glendale, Calif. 896,026, pub. 5–19–70. Cl. 31.
Airguide Publications, Inc., Long Beach, Calif. 896,061, pub. 5–19–70. Cl. 38.
Airway Equipment Rental Co., Inc., South Ozone Park, N.Y. 896,210, pub. 5–19–70. Cl. 103.
Airwick Industries, Inc., Carlstadt, N.J. 896,147, pub. 5–19–70. Cl. 52.
Ajax Hardware Corp., City of Industry, Calif. 895,856, pub. 5–19–70. Cl. 13.
Alamo Mfg. Co., Inc., New York, N.Y. 896,078, pub. 5–19–70. Cl. 39.
Alberto-Culver Co., Melrose Park, Ill. 896,121, pub. 5–19–70. Cl. 51.
Albertson, Richard W., d.b.a. Ric-Al Products, Stillwater, Minn. 771,576, canc. Cl. 50.
Alcan Aluminum Corp., Cleveland, Ohio. 522,365, ren. 8–4–70. Cl. 32.
Algas Industries, Los Angeles, Calif. 771,467, canc. Cl. 26.
Algas Industries, Los Angeles, Calif. 771,487, canc. Cl. 34.
Allied Tube & Conduit Corp., Harvey, Ill. 896,211, pub. 5–19–70. Cl. 105.
Alpha Tank & Metals Mfg. Co., St. Louis, Mo. 271,275, 12(c) pub. 8–4–70. Cl. 2.
Alps Sportswear Mfg. Co., Inc., Boston, Mass. 771,504–05, canc. Cl. 39.
Alumiline Corp., The, Pawtucket, R.I. 895,840, pub. 5–19–70. Cl. 12.
Amerace Esna Corp., New York, N.Y. 896,035–37, pub. 5–19–70. Cl. 35.
American Airlines, Inc., New York, N.Y. 896,165, pub. 5–19–70. Cl. 100.
American Brands, Inc., New York, N.Y. 895,883, pub. 5–19–70. Cl. 17.
American Business Supplies & Equipment, Inc., Boston, Mass. 524,745, ren. 8–4–70. Cl. 37.
American Cyanamid Co., Wayne, N.J. 771,420, canc. Cl. 18.
American Cyanamid Co., Wayne, N.J. 895,831, pub. 5–19–70. Cl. 6.
American Home Products Corp., New York, N.Y. 275,149, ren. 8–4–70. Cl. 18.
American Home Products Corp., New York, N.Y. 529,206, ren. 8–4–70. Cl. 18.
American Home Products Corp., New York, N.Y. 771,565, canc. Cl. 46.
American Lubricants Co., The, Dayton, Ohio. 532,991, ren. 8–4–70. Cl. 12.
American Metal Climax, Inc., New York, N.Y. 273,115, ren. 8–4–70. Cl. 12.
American Optical Corp., Southbridge, Mass. 896,100, pub. 5–19–70. Cl. 44.
American Photocopy Equipment Co., Evanston, Ill. 896,004, pub. 5–19–70. Cl. 26.
American Standard Inc., New York, N.Y. 895,859, pub. 5–19–70. Cl. 13.
American Standard Inc., New York, N.Y. 895,873, pub. 5–19–70. Cl. 13.
American Uniform Co., Cleveland, Tenn. 896,095, pub. 5–19–70. Multiple Class (Classes 42 and 50).
Ames, Stephen C., Houston, Tex. 896,219, pub. 5–19–70. Cl. 107.
Anchor Industries, Inc., Cleveland, Ohio. 771,578, canc. Cl. 50.
Anderson, Arthur A., New York, N.Y. 896,201, pub. 5–19–70. Cl. 102.
Ansan Tool & Mfg. Co., Inc., Chicago, Ill. 895,999, pub. 5–19–70. Cl. 26.
Arden, Elizabeth, Sales Corp., New York, N.Y. 532,114, ren. 8–4–70. Cl. 51.
Arden, Elizabeth, Sales Corp., New York, N.Y. 896,133, pub. 5–19–70. Cl. 51.
Arid Sand Co., Inc., Akron, Ohio. 895,813, pub. 5–19–70. Cl. 5.
Arkwright Inc., New York, N.Y. 525,223, ren. 8–4–70. Cl. 39.
Armour & Co., Chicago, Ill. 525,855–56, ren. 8–4–70. Cl. 46.
Armstrong Chemcon, Inc., Chicago, Ill. 528,592, ren. 8–4–70. Cl. 16.
Artistic Furniture Co., St. Louis, Mo. 771,479, canc. Cl. 32.
Arts & Flowers Displays, Inc., New York, N.Y. 528,717, ren. 8–4–70. Cl. 50.
Ashland Oil, Inc., from Ashland Oil & Refining Co., Ashland, Ky. 895,780, pub. 5–12–70. Cl. 1.
Ashland Oil & Refining Co. : *See*—
Ashland Oil, Inc.
Astra Pharmaceutical Products, Inc., Worcester, Mass. 529,856, ren. 8–4–70. Cl. 18.
Atlas Chemical Industries, Inc., Wilmington, Del. 533,378, ren. 8–4–70. Cl. 46.
Audio Speaker Techtronics, Inc., New York, N.Y. 896,207, pub. 5–19–70. Cl. 103.
"Automatic" Sprinkler Corp. of America, Cleveland, Ohio. 523,294, ren. 8–4–70. Cl. 34.
"Automatic" Sprinkler Corp. of America, Cleveland, Ohio. 528,557, ren. 8–4–70. Cl. 23.
Avon Products, Inc., New York, N.Y. 896,126–8, pub. 5–19–70. Multiple Class (Classes 51 and 52).
Ballou, B. A., & Co., Inc., East Providence, R.I. 513,367. Am. 7(d). Cl. 28.
Bancroft, Joseph, & Sons, Co., New York, N.Y. 896,083, pub. 5–19–70. Cl. 39.
Bandana, Inc., Jacksonville, Fla. 771,551, canc. Cl. 46.
Bank of Montreal, Montreal, Quebec, Canada. 896,058, pub. 5–19–70. Cl. 38.
Barbour Welting Co., Inc., Brockton, Mass. 896,087, pub. 5–19–70. Cl. 39.
Barmon Bros. Co., Inc., Buffalo, N.Y. 531,738, ren. 8–4–70. Cl. 39.
Bar-O-Matic Sales Co., d.b.a. Bar-O-Matic Dispensers, Van Nuys, Calif. 895,849, pub. 5–19–70. Cl. 13.
Bartmann & Bixer, Inc., New York, N.Y. 771,527–8, canc. Cl. 42.
Bates & Springer, Inc., Cleveland, Ohio. 896,183, pub. 5–19–70. Cl. 101.
Baum, Louis, Santa Fe, N. Mex. 771,638, canc. Cl. 107.
Beck, Paul W., Albuquerque, N. Mex. 771,342, canc. Cl. 1.
Beconta Inc., New York, N.Y. 896,003, pub. 5–19–70. Cl. 26.
Beecham Inc., Clifton, N.J. 896,131, pub. 5–19–70. Cl. 51.
Bellsey, Dave, Co., Inc., New York, N.Y. 771,498, canc. Cl. 39.
Benfur Engineering Co., Grand Rapids, Mich. 895,962, pub. 5–19–70. Cl. 23.
Bennett Bros., Inc., New York, N.Y. 896,010, pub. 5–19–70. Cl. 26.
Bennett Industries, Inc. : *See*—
Growth International Industries Corp.
Benson, Ludeane H., Tremonton, Utah. 896,088, pub. 5–19–70. Cl. 39.
Berg, John, Mfg. Co., Chicago, Ill. 896,118, pub. 5–19–70. Cl. 50.
Bernat, Emile, & Sons Co., Uxbridge, Mass. 895,929, pub. 5–19–70. Cl. 22.
Betfara Corp., Brooklyn, N.Y. 895,779, pub. 5–19–70. Cl. 1.
Biofarma, Societe Anonyme, Neuilly-sur-Seine, France. 771,421, canc. Cl. 18.
Biscuit & Cracker Manufacturers' Association, The, Chicago, Ill. 896,156, pub. 5–19–70. Cl. 100.
Blickman, S., Inc., Weehawken, N.J. 528,553, ren. 8–4–70. Cl. 13.
Block Engineering, Inc., Cambridge, Mass. 895,997, pub. 5–19–70. Cl. 26.
Blount & George, Inc., Jacksonville, Ark. 895,996, pub. 5–19–70. Cl. 26.
Blue Bell, Inc., Greensboro, N.C. 532,851, ren. 8–3–70. Cl. 39.
Blum, Milton C., Inc., New York, N.Y. 771,518, canc. Cl. 42.
Boise Cascade Corp., Boise, Idaho. 895,846, pub. 5–19–70. Cl. 12.
Bonat, Samuel, & Bro., Inc., West Paterson, N.J. 896,144, pub. 5–19–70. Cl. 52.
Borden, Inc., New York, N.Y. 79,010, ren. 8–4–70. Cl. 46.
Borden, Inc., New York, N.Y. 524,878, ren. 8–4–70. Cl. 46.
Borden Co., The, New York, N.Y. 771,488, canc. Cl. 35.
Borden Co., The, New York, N.Y. 896,105, pub. 5–19–70. Cl. 46.
Botany Industries, Inc., d.b.a. Renauld of France, and/or Sea & Ski Co., Reno, Nev. 771,589, canc. Cl. 51.
Bracco Industria Chimica S.p.A., Milan, Italy. 895,885, pub. 5–19–70. Cl. 18.
Brazing & Metal Treating, Inc., Cleveland, Ohio. 896,216, pub. 5–19–70. Cl. 106.
Bremson Research, Inc., Kansas City, Mo. 895,994, pub. 5–19–70. Cl. 26.
Briseis S.A., Almeria, Spain. 896,137, pub. 5–19–70. Cl. 51.
Bristol-Myers Co., New York, N.Y. 896,135–6, pub. 5–19–70. Cl. 51.
British Aircraft Corp. (Operating) Ltd., Filton, Bristol, England. 895,975, pub. 5–19–70. Cl. 26.
Broadway-Hale Stores, Inc., Los Angeles, Calif. 896,071, pub. 5–19–70. Cl. 39.
Broadway-Hale Stores, Inc., Los Angeles, Calif. 896,190, pub. 5–19–70. Cl. 101.
Brown Co., New York, N.Y. 521,916, ren. 8–4–70. Cl. 37.
Bruce, E. L., Co., Inc., from E. L. Bruce Co, Inc., Memphis, Tenn. 895,844, pub. 5–19–70. Cl. 12.
Brush Beryllium Co., The, Cleveland, Ohio. 771,357, canc. Cl. 6.

Bryce Berger Ltd., Hucclecote, Gloucester, England. 895,851, pub. 5–19–70. Cl. 13.
Burger King Corp., Miami, Fla. 896,158, pub. 5–19–70. Cl. 100.
Burgess Publishing Co., Minneapolis, Minn. 771,445, canc. Cl. 22.
Burleigh Brooks, Inc., Englewood, N.J. 895,998, pub. 5–19–70. Cl. 26.
Buro Patent Ag., Glarus, Switzerland. 895,957, pub. 5–19–70. Cl. 23.
Burrus Mills Inc., Dallas, Tex. 529,437, ren. 8–4–70. Cl. 46.
CER Geonuclear Corp., Las Vegas, Nev. 896,153, pub. 5–19–70. Cl. 100.
CPC International Inc., Englewood Cliffs, N.J. 522,135, ren. 8–4–70. Cl. 51.
Cain, John E., Co., Cambridge, Mass. 531,608, ren. 8–4–70. Cl. 46.
California Products Corp., Cambridge, Mass. 895,878, pub. 5–19–70. Cl. 16.
California State Chamber of Commerce, Agriculture & Industry, Sacramento, Calif. 896,065, pub. 5–19–70. Cl. 38.
Callaway Mills Co., La Grange, Ga. 771,526, canc. Cl. 42.
Cameo Doll Products Co., Inc., Port Allegany, Pa. 895,918, pub. 5–19–70. Cl. 22.
Cameron, Grace H., d.b.a. G. H. Cameron Co, Whiteville, N.C. 771,438, canc. Cl. 22.
Canadian Industries Ltd., Montreal, Quebec, Canada. 895,836, pub. 5–19–70. Cl. 9.
Cannon Shoe Co., Baltimore, Md. 444,059, ren. 8–4–70. Cl. 39.
Cannon Shoe Co., Baltimore, Md. 444,104, ren. 8–4–70. Cl. 39.
Car Tapes, Inc., Chicago, Ill. 895,894, pub. 5–19–70. Cl. 21.
Cargill, Inc., Minneapolis, Minn. 771,407, canc. Cl. 18.
Caribbean Shoe Corp., Miami, Fla. 896,073, pub. 5–19–70. Cl. 39.
Carnation Co., Los Angeles, Calif. 771,549–50, canc. Cl. 46.
Carron Net Co., Inc., Two Rivers, Wis. 895,907, pub. 5–19–70. Cl. 22.
Case Thompson, Inc., Albuquerque, N. Mex. 896,199, pub. 5–19–70. Cl. 101.
Cato Oil & Grease Co., Oklahoma City, Okla. 524,266, ren. 8–4–70. Cl. 15.
Cat's Paw Rubber Co., Inc., Baltimore, Md. 529,750, ren. 8–4–70. Cl. 39.
Cave Inn Corp., Washington, D.C. 896,173, pub. 5–19–70. Cl. 100.
Cave, Michael J., d.b.a. Gourmet Foods, Rockford, Ill. 896,111, pub. 5–19–70. Cl. 46.
Central Hardware Co., St. Louis, Mo. 529,512, ren. 8–4–70. Cl. 16.
Channel Master Corp., Ellenville, N.Y. 771,433, canc. Cl. 21.
Charleston Mattress Mfg. Co., to Waynewood, Inc., Hazelwood, N.C. 440,624, new cert. Cl. 32.
Charrier, George O., Cincinnati, Ohio. 895,910, pub. 5–19–70. Cl. 22.
Chase, Henry Wheeler, Greenwich, Conn. 896,059, pub. 5–19–70. Cl. 38.
Chemex Corp., New York, N.Y. 895,874, pub. 5–19–70. Cl. 13.
Chemex Corp., New York, N.Y. 896,025, pub. 5–19–70. Cl. 31.
Chem-Grow Coatings, Inc., d.b.a. Boysen Paint Co, Oakland, Calif. 529,003, ren. 8–4–70. Cl. 16.
Cheryl Fabrics, Inc., Spartanburg, S.C. 896,086, pub. 5–19–70. Cl. 39.
Chesapeake Corp. of Virginia, The, West Point, Va. 896,057, pub. 5–19–70. Cl. 37.
Chevron Research Co., San Francisco, Calif. 275,936, ren. 8–4–70. Cl. 12.
Chicago Pneumatic Tool Co., New York, N.Y. 274,689, ren. 8–4–70. Cl. 23.
Chicken Chef Systems Inc., The, Jackson, Miss. 896,159, pub. 5–19–70. Cl. 100.
Churny Co., Inc., Somerville, Mass. 896,104, pub. 9–24–68. Cl. 46.
Ciba Ltd., Basel, Switzerland. 526,845, ren. 8–4–70. Cl. 6.
Ciba Ltd. Basel, Switzerland. 527,733, ren. 8–4–70. Cl. 6.
City Bank & Trust Co., to Simon C. Fireman, Samuel Fireman & Henry M. Finn, Trustees of The Kroydon Revocable Income Trust, Boston, Mass. 270,049, ren. 8–4–70. Cl. 22.
Clairol Inc., New York, N.Y. 896,122–23, pub. 5–10–70. Cl. 51.
Clapp, Otis & Sons, Inc., Cambridge, Mass. 274,638, ren. 8–4–70. Cl. 18.
Clevepak Corp., New York, N.Y. 895,809, pub. 5–19–70. Cl. 4.
Cluett, Peabody & Co., Inc., Troy, N.Y. 526,521, ren. 8–4–70. Cl. 39.
Coburn, William H., d.b.a. Blue Ship Farm, Hampton Falls, N.H. 771,544, canc. Cl. 46.
Cole National Corp., Cleveland, Ohio. 895,867, pub. 5–19–70. Cl. 13.
Coles Electronic Corp., Philadelphia, Pa. 896,099, pub. 5–19–70. Cl. 44.
Colgate-Palmolive Co., New York, N.Y. 896,150, pub. 5–19–70. Cl. 52.
Colibri Lighters Ltd., London, England. 895,833, pub. 5–19–70. Cl. 8.
Collins & Aikman Corp., New York, N.Y. 771,521, canc. Cl. 42.
Colloidal Products Corp., Sausalito, Calif. 895,819, pub. 5–19–70. Cl. 6.
Comite Organizador De Los Juegos De LaXIX Olimpiada, Mexico City, Mex. 896,230–50. Cl. 107.
Computer Specialties, Inc., Minneapolis, Minn. 896,197, pub. 5–19–70. Cl. 101.
Comstock & Wescott, Inc., Cambridge, Mass. 896,000, pub. 5–19–70. Cl. 26.
Consolidated Equalities Corp., Atlanta, Ga. 896,177, pub. 5–19–70. Cl. 100.
Container Corp. of America, Chicago, Ill. 895,796, pub. 5–19–70. Cl. 2.
Controlled Product Sampling Inc., New York, N.Y. 771,622, canc. Cl. 101.
Conway Import Co., Inc., Long Island City, N.Y. 521,812, ren. 8–4–70. Cl. 46.
Cooper-Knox International, Inc., Los Angeles, Calif. 310,012, 12(c) pub. 8–4–70. Cl. 18.
Cooper-Knox International, Inc., Los Angeles, Calif. 311,072, 12(c) pub. 8–4–70. Cl. 18.
Cooper-Knox International, Inc., Los Angeles, Calif. 347,903, 12(c) pub. 8–4–70. Cl. 18.
Cooper-Knox International, Inc., Los Angeles, Calif. 374,857, 12(c) pub. 8–4–70. Cl. 18.
Cooper-Knox International, Inc., Los Angeles, Calif. 382,890, 12(c) pub. 8–4–70. Cl. 18.
Coterie of London, Ltd., New York, N.Y. 896,082, pub. 5–19–70. Cl. 39.
Cotey Chemical Corp., Lubbock, Tex. 895,822, pub. 5–19–70. Cl. 6.
Country Kitchen Inc., of Middletown, Ohio, Cincinnati, Ohio. 896,162, pub. 5–19–70. Cl. 100.
Couture Farms, Huron, Calif. 271,909, ren. 8–4–70. Cl. 46.
Crampton, Richard W., d.b.a. Sonic Service, Louisville, Ky. 896,051, pub. 5–19–70. Cl. 36.
Crawford, James L., d.b.a. Watchbird Systems Co., Wichita, Kans. 896,174, pub. 5–19–70. Cl. 100.
Creamette Co., The, Minneapolis, Minn. 525,664, ren. 8–4–70. Cl. 46.
Creamette Co., The, Minneapolis, Minn. 527,489, ren. 8–4–70. Cl. 16.
Createk, Los Angeles, Calif. 895,919–22, pub. 5–19–70. Cl. 22.
Crestline Mfg. Co., Santa Ana, Calif. 895,926, pub. 5–19–70. Cl. 22.
Critchlow, Keith B., London, England. 895,839, pub. 5–19–70. Cl. 12.
Crown Zellerbach Corp., San Francisco, Calif. 276,470, ren. 8–4–70. Cl. 37.
Cumberland Corp., Chattanooga, Tenn. 895,842, pub. 5–19–70. Cl. 12.
Cumberland Packing Corp., from Cumberland Packing Co., Brooklyn, N.Y. 896,101–2, pub. 3–23–65. Cl. 46.
Curtis, Helene, Industries, Inc., Chicago, Ill. 896,134, pub. 5–19–70. Cl. 51.
Cyber-Tronics, Inc., New Hyde Park, N.Y. 896,194, pub. 5–19–70. Cl. 101.
D & M Distributing Co., Inc., Homewood, Ala. 895,834, pub. 5–19–70. Cl. 9.
Daisy Mfg. Co., Rogers, Ark. 771,444, canc. Cl. 22.
Dart Union Co., Providence, R.I. 895,852, pub. 5–19–70. Cl. 13.
Davies, William, Co., Inc., Chicago, Ill. 518,114, ren. 8–4–70. Cl. 46.
Dayton Corp.: *See*—
Dayton-Hudson Corp.
Dayton-Hudson Corp., from Dayton Corp., Minneapolis, Minn. 895,928, pub. 5–19–70. Cl. 22.
Dell Plastics Co., Inc., Brooklyn, N.Y. 895,923, pub. 5–19–70. Cl. 22.
De Luxe, Jacques, Inc., Sellersville, Pa. 771,500, canc. Cl. 39.
Digiovanni, Anthony R. and Julia M., d.b.a. Tiger Alarms, San Clemente, Calif. 895,890, pub. 5–19–70. Cl. 21.
Dillingham Corp., Honolulu, Hawaii. 526,396, ren. 8–4–70. Cl. 105.
Dockside Research, Inc., New York, N.Y. 895,820–1, pub. 5–19–70. Cl. 6.
Documentation, Inc., Bethesda, Md. 771,623–4, canc. Cl. 101.
Dollar, Robert, Co., The, San Francisco, Calif. 771,633–4, canc. Cl. 105.
Domenico's Gondola, Inc., Long Beach, Calif. 896,191, pub. 5–19–70. Cl. 101.
Domestic Broom & Brush Co., Inc., Brooklyn, N.Y. 895,973, pub. 5–19–70. Cl. 25.
Donnelley, Reuben H., Corp., The, New York, N.Y. 896,188, pub. 5–19–70. Cl. 101.
D'Orsay Mills, Inc., Reading, Pa. 896,077, pub. 5–19–70. Cl. 39.
Drill-Kem, Inc., Houston, Tex. 771,358, canc. Cl. 6.
Duncan Audio-Visual, Inc., Rochester, N.Y. 895,987, pub. 5–19–70. Cl. 26.
Dunham, Ron, Tackle Inc., Southfield, Mich. 771,448, canc. Cl. 22.
Dymedia, Inc., Palo Alto, Calif. 895,978–9, pub. 5–19–70. Cl. 26.
ESB Inc., Philadelphia, Pa. 896,018, pub. 5–19–70. Cl. 26.
Eady, Julian H., Decatur, Ga. 896,108, pub. 5–19–70. Cl. 100.
Eagle Bros. Inc., New York, N.Y. 271,408, ren. 8–4–70. Cl. 39.
Eaton Yale & Towne Inc., Cleveland, Ohio. 895,927, pub. 5–19–70. Cl. 22.
Edwick Laboratories, Inc., d.b.a. Penny-Wise Car Wash Systems, Milwaukee, Wis. 896,204, pub. 3–18–70. Cl. 103.
Electronic Detection Corp., Greenwich, Conn. 895,995, pub. 5–19–70. Cl. 26.
Electronic Specialty Co., Pasadena, Calif. 895,835, pub. 5–19–70. Cl. 9.
Elements, Inc., Madison, Wis. 896,007, pub. 5–19–70. Cl. 26.
El Fenix Corp., Dallas, Tex. 896,108, pub. 5–19–70. Multiple Class (Classes 46 and 100).
Elpo Industries, Inc., Fair Lawn, N.J. 895,862, pub. 5–19–70. Cl. 13.
Empire Products, Inc.: *See*—
KDI Sealtron Corp.
Endicott Johnson Corp., Endicott, N.Y. 272,384, ren. 8–4–70. Cl. 39.
Endicott Johnson Corp., Endicott, N.Y. 529,546, ren. 8–4–70. Cl. 39.
Entwistle Co., The, Providence, R.I. 895,956, pub. 5–19–70. Cl. 23.

Envirotech Corp., Salt Lake City, Utah. 532,872, ren. 8–4–70. Cl. 31.
Eskimo Pie Corp., Richmond, Va. 532,589, ren. 8–4–70. Cl. 46.
Etablissements Uti, Paris, France. 437,629, 12(c) pub. 8–4–70. Cl. 28.
Excellon Industries, Torrance, Calif. 895,991, pub. 5–19–70. Cl. 26.
Exomet, Inc., Conneaut, Ohio. 895,785, pub. 5–19–70. Cl. 1.
F & M Scientific Corp., near Avondale, Pa. 771,427, canc. Cl. 21.
FMC Corp., New York, N.Y. 801,153, canc. Cl. 6.
FOM Investment Corp., Los Angeles, Calif. 525,405, ren. 8–4–70. Cl. 46.
Faer Lessman Corp., New York, N.Y. 771,470, canc. Cl. 28.
Fair View Packing Co., Inc., Hollister, Calif. 771,561, canc. Cl. 46.
Fairchild Hiller Corp., Germantown, Md. 895,889, pub. 5–19–70. Cl. 19.
Farnsworth, Helen D., Mt. Prospect, Ill. 895,989, pub. 5–19–70. Cl. 26.
Farwell, Ozmun, Kirk & Co., St. Paul, Minn. 262,659, ren. 8–4–70. Cl. 16.
Fasco Industries, Inc., Rochester, N.Y. 531,605, ren. 8–4–70. Cl. 21.
Fashion Tress, Inc., Miami Beach, Fla. 896,092, pub. 5–19–70. Cl. 40.
Fiber Industries, Inc., Charlotte, N.C. 895,782, pub. 5–19–70. Cl. 1.
Firestone Tire & Rubber Co., The, Akron, Ohio. 896,041, pub. 5–19–70. Cl. 35.
Fischer, Arthur, d.b.a. Artur Fischer, Kreis Freudenstadt, Germany. 895,905, pub. 5–19–70. Cl. 22.
Fitzgerald Enterprises, Inc., Oakland, Calif. 895,825, pub. 5–19–70. Cl. 6.
Fitzgerald Mfg. Co., The, Torrington, Conn. 896,045, pub. 5–19–70. Cl. 35.
Fli-Back Co., Inc., High Point, N.C. 895,925, pub. 5–19–70. Cl. 22.
Flow Laboratories Inc., Rockville, Md. 896,006, pub. 5–19–70. Cl. 26.
Flying Tigers (American Volunteer Group-Chinese Air Force) Inc., The, Los Angeles, Calif. 443,924–25, 12(c) pub. 8–4–70. Cl. 39.
Formflex Foundations, Inc., Saddle Brook, N.J. 896,225. Cl. 39.
Food Equipment, Inc., Dallas, Tex. 896,028, pub. 5–19–70. Cl. 34.
Foods of All Nations, Inc., Manhasset, N.Y. 896,226. Cl. 46.
Forox Corp., Mamaroneck, N.Y. 896,019, pub. 5–19–70. Cl. 26.
Forster Mfg. Co., Inc., Wilton, Me. 35,326, ren. 8–4–70. Cl. 44.
Forster Mfg. Co., Inc., Wilton, Me. 35,328, ren 8–4–70. Cl. 44.
Fothergill & Harvey Ltd., Summit, Littleborough, England. 895,781, pub. 5–19–70. Cl. 1.
"42" Products Ltd., Inc., Santa Monica, Calif. 771,583, canc. Cl. 51.
Fuji Kinzoku Kosaki Kabushiki Kaisha (Fuji Metal Mfg. Co., Ltd.), Nishi-ku, Osaka, Japan. 895,868, pub. 5–19–70. Cl. 13.
Fukuba, Hiroshi, Nagareyama-shi, Chiba-ken, Japan. 895,953, pub. 5–19–70. Cl. 23.
Fuller Laboratories, Inc., Eden Prairie, Minn. 895,876, pub. 5–19–70. Cl. 16.
Fun in the Sun Tours, Inc., Abington, Pa. 896,212–14, pub. 5–19–70. Cl. 105.
GAF Corp., New York, N.Y. 527,727, ren. 8–4–70. Cl. 6.
GAF Corp., New York, N.Y. 896,189, pub. 5–19–70. Cl. 101.
GRT Corp., Sunnyvale, Calif. 896,050, pub. 5–19–70. Cl. 36.
Gaddy, Robert L., d.b.a. R. L. Gaddy, Pharmacist, Tallahasse, Fla 533,087, ren. 8–4–70. Cl. 18.
Galion, Jeffrey, Inc., Columbus, Ohio. 895,980, pub. 5–19–70. Cl. 26.
Galtech, Inc., Fort Myers, Fla. 896,068, pub. 5–19–70. Cl. 38.
Gates Rubber Co., The, Denver, Colo. 896,042–43, pub. 5–19–70. Cl. 35.
Geigy Chemical Corp., Ardsley, N.Y. 276,102, ren. 8–4–70. Cl. 6.
Geigy Chemical Corp., Ardsley, N.Y. 532,239, ren. 8–4–70. Cl. 6.
Gemco-Ware, Inc., Freeport, N.Y. 895,954, pub. 3–10–70. Multiple Class (Classes 23 and 33).
General Capsule Corp., (Feather-Lite Mfg. Co., Division), Detroit, Mich. 771,391, canc. Cl. 12.
General Motors Corp., Detroit, Mich. 771,473, canc. Cl. 31.
General United Group, Inc., Des Moines, Iowa. 896,202, pub. 5–19–70. Cl. 102.
Genesco, Inc., Nashville, Tenn. 771,501, canc. Cl. 39.
Gibson, A. C., Co. Inc., Buffalo, N.Y. 524,472, ren. 8–4–70. Cl. 11.
Gibson, Inc., Kalamazoo, Mich. 896,052–55, pub. 5–19–70. Cl. 36.
Gifford-Wood Co., Hudson, N.Y. 771,545, canc. Cl. 46.
Gillette Co., The, Boston, Mass. 896,124, pub. 5–19–70. Cl. 51.
Gilmour, Robert A., d.b.a. Gilmour Mfg. Co., Somerset, Pa. 895,847, pub. 4–9–68. Cl. 13.
Girl Scouts of the United States of America, New York, N.Y. 269,973, ren. 8–4–70. Cl. 23.
Glycolator Mfg. Co., Valencia, Pa. 771,352, canc. Cl. 6.
Goldberg, S., & Co., Inc., Hackensack, N.J. 532,543, ren. 8–4–70. Cl. 39.
Goldblatt Bros., Inc., Chicago, Ill. 771,597, canc. Cl. 51.
Gordon, Lawrence H., Newton, Mass. 771,436, canc. Cl. 22.
Grace, W. R., & Co., New York, N.Y. 896,145, pub. 5–19–70. Cl. 52.
Grace, W. R., & Co., New York, N.Y. 896,148, pub. 5–19–70. Cl. 52.
Graham Cheese Corp., Elnora, Ind. 896,110, pub. 5–19–70. Cl. 46.
Granitesville Co., Graniteville, S.C. 771,524, canc. Cl. 42.
Green Shoe Mfg. Co., The, Boston, Mass. 532,540, ren. 8–4–70. Cl. 39.
Greenwich Mills Co., Secaucus, N.J. 531,599, ren. 8–4–70. Cl. 46.
Gregg's Food Products, Inc., Portland, Oreg. 896,227. Cl. 46.
Growth International Industries Corp., Cleveland, Ohio, from Bennett Industries, Inc., Peotone, Ill. 895,792, pub. 5–19–70. Cl. 2.
Guarantee Insurance Co., Los Angeles, Calif. 771,631, canc. Cl. 102.
Guardian Corp., Denver, Colo. 896,206, pub. 5–19–70. Cl. 103.
Gump's, Inc., San Francisco, Calif. 525,197, ren. 8–4–70. Cl. 23.
Gump's, Inc., San Francisco, Calif. 526,051, ren. 8–4–70. Cl. 21.
Gussmann, Gottlob, Suddeutsche Bettpolsterfabrik, Pleidelsheim, Germany. 896,027, pub. 5–19–70. Cl. 32.
Guth, Edwin F., Co., The, St. Louis, Mo. 895,895, pub. 5–19–70. Cl. 21.
Gym Dandy, Inc., Bossier City, La. 895,908, pub. 5–19–70. Cl. 22.
Haddon Record Corp., Haddonfield, N.J. 896,056, pub. 5–19–70. Cl. 36.
Halliburton Co., d.b.a. Halliburton Services, Duncan, Okla. 895,866, pub. 5–19–70. Cl. 13.
Hammel, Riglander & Co., Inc., New York, N.Y. 78,091, ren. 8–4–70. Cl. 15.
Hancock Paint & Varnish Co., Norwell, Mass. 895,879, pub. 5–19–70. Cl. 16.
Hankscraft Co., Reedsburg, Wis. 895,799, pub. 5–19–70. Cl. 2.
Hartmann Luggage Co., Lebanon, Tenn. 895,807–8, pub. 5–19–70. Cl. 3.
Hattis, Robert E., Engineers, Inc., Deerfield, Ill. 896,166, pub. 5–19–70. Cl. 100.
Heath Co., Benton Harbor, Mich. 896,049, pub. 5–19–70. Cl. 36.
Henri's Food Products Co., Inc., Milwaukee, Wis. 771,540, canc. Cl. 46.
Herron-Kienzle, Inc., Westport, Conn. 896,187, pub. 5–19–70. Cl. 101.
Hill Packing Co., to Riviana Foods Inc., Houston, Tex. 506,492, new cert. Cl. 46.
Hill Packing Co., to Riviana Foods Inc., Houston, Tex. 510,577–8, new cert. Cl. 46.
Hill Packing Co., to Riviana Foods Inc., Houston, Tex. 819,666, new cert. Cl. 46.
Hinton & Co., Inc., d.b.a. Pov Products, Brooklyn, N.Y. 896,107, pub. 8–26–69. Cl. 46.
Hoffman Beverage Co., Long Island City, N.Y. 771,640, canc. Cl. 45.
Holiday Magic, San Rafael, Calif. 896,125, pub. 5–19–70. Cl. 51.
Holly Grills, Inc., Grand Rapids, Mich. 896,169–71, pub. 5–19–70. Cl. 100.
Host Enterprises, Inc., East Lampeter Township, Pa. 896,178, pub. 5–19–70. Cl. 100.
House for Men, Inc., The, Chicago, Ill. 771,593–4, canc. Cl. 51.
House for Men, Inc., The, Chicago, Ill. 771,596, canc. Cl. 51.
How, James C., d.b.a. James How & Co., Sidcup, Kent, England. 896,047, pub. 5–19–70. Cl. 36.
Hritzay, Paul, Edinboro, Pa. 526,610, ren. 8–4–70. Cl. 18.
Hubinger Co., The, Keokuk, Iowa. 530,207, ren. 8–4–70. Cl. 46.
Hubinger Co., The, Keokuk, Iowa. 530,215, ren. 8–4–70. Cl. 46.
IRA Systems, Inc.: *See*—
Spiras Systems, Inc.
Iglehart Bros., Inc. General Foods Corp., White Plains, N.Y. 244,091. Am. 7(d). Cl. 46.
Impact Plastics, Inc., Gastonia, N.C. 895,812, pub. 5–19–70. Cl. 5.
Independent Life & Accident Insurance Co., Jacksonville, Fla. 896,203, pub. 5–19–70. Cl. 102.
Industrial Sales Co., Inc., Baltimore, Md. 895,865, pub. 5–19–70. Cl. 13.
Infotechnics, Inc., Can Nuys, Calif. 895,993, pub. 5–19–70. Cl. 26.
Instructional Concepts, Inc., Manhasset, N.Y. 896,016, pub. 5–19–70. Cl. 26.
Interpace Corp., Parsippany, N.J. 895,963, pub. 5–19–70. Cl. 23.
International Milling Co., d.b.a. Wells Flour Mills, International Multifoods Corp., Minneapolis, Minn. 266,534. Am. 7(d). Cl. 46.
International Paper Co., New York, N.Y. 896,090, pub. 5–19–70. Cl. 39.
Inter-Varsity Christian Fellowship of the United States of America, Chicago, Ill. 896,160, pub. 5–19–70. Cl. 100.
Intra Products, Inc., New York, N.Y. 896,222. Cl. 2.
Irsin Restaurant Corp., d.b.a. Peter Pan, New York, N.Y. 896,106, pub. 5–19–70. Cl. 46.
Irwin Corp., New York, N.Y. 790,991, canc. Cl. 22.
James of California, Inc., Dayton, Ohio. 896,093, pub. 5–19–70. Cl. 40.
Jay Plastics Inc., Bayshore, N.Y. 895,805, pub. 5–19–70. Cl. 3.
Jay-Gee Products, Inc., Flourtown, Pa. 771,649, canc. Cl. 51.
Jefferson Chemical Co., Inc., Houston, Tex. 526,644, ren. 8–4–70. Cl. 6.
J'Nelle-Cater, Inc., New Braunfels, Tex. 443,998, ren. 8–4–70. Cl. 39.
Johnson, S. C., & Son, Inc., Racine, Wis. 771,344, canc. Cl. 1.
Jones Motorola Corp., Stamford, Conn. 895,893, pub. 5–19–70. Cl. 21.

Jones, R. T., Lumber Co., Inc., The, North Tonawanda, N.Y. 528,097, ren. 8–4–70. Cl. 2.
KDI Sealtron Corp., from Empire Products, Inc., Cincinnati, Ohio. 895,891, pub. 8–12–69. Cl. 21.
Kal Kan Foods, Inc., Los Angeles, Calif. 895,931, pub. 5–19–70. Cl. 22.
Kalart Co. Inc., The, Plainville, Conn. 896,005, pub. 5–19–70. Cl. 26.
Kalvar Corp., New Orleans, La. 896,014, pub. 5–19–70. Cl. 26.
Kasen Industries, Newark, N.J. 895,811, pub. 5–19–70. Cl. 5.
Kee Lox Mfg. Co., Rochester, N.Y. 896,015, pub. 5–19–70. Cl. 26.
Kelsey, Frank, Passaic, N.J. 771,347, canc. Cl. 2.
Keyes Fibre Co., Waterville, Me. 895,801–02, pub. 5–19–70. Cl. 2.
Klesewetter, John, Newfoundland, N.J. 896,075, pub. 5–19–70. Cl. 39.
Kimberly-Clark Corp., Neenah, Wis. 896,091, pub. 5–19–70. Cl. 39.
Kleenaire Kemikils, Inc., Detroit, Mich. 525,391, ren. 8–4–70. Cl. 6.
Kleinerti's, I. B., Co., College Point, N.Y. 524,535, ren. 8–4–70. Cl. 42.
Kresge, S. S., Co., Detroit, Mich. 895,917, pub. 5–19–70. Cl. 22.
La Maur, Inc., Minneapolis, Minn. 896,132, pub. 5–19–70. Cl. 51.
Lamplighter Club, Inc., The, New Orleans, La. 896,218, pub. 5–19–70. Cl. 107.
Lancome S. A., Paris, France. 523,752, ren. 8–4–70. Cl. 51.
Lantz, Walter, Productions, Inc., Hollywood, Calif. 771,495, canc. Cl. 39.
Lanvin-Charles of The Ritz, Inc., New York, N.Y. 896,141, pub. 5–19–70. Cl. 51.
Larus & Brother Co., Richmond, Va. 896,224. Cl. 17.
La Salle-Deitch Co., Inc., Elkhart, Ind. 896,185, pub. 5–19–70. Cl. 101.
Laufer, Murray, d.b.a. Gem Precision, New York, N.Y. 895,911, pub. 5–19–70. Cl. 22.
Lawton Co, Inc., The, New York, N.Y. 896,098, pub. 5–19–70. Cl. 44.
Leonard's Pit Barbecue, Inc., Memphis, Tenn. 896,198, pub. 5–19–70. Cl. 101.
Letters, John, & Co., Ltd. Glasgow, Scotland. 895,901, pub. 5–19–70. Cl. 22.
Lindemans Wines Pty. Ltd., Marrickville, New South Wales, Australia. 896,229. Cl. 47.
Loew's Theatres, Inc., New York, N.Y. 895,882–83, pub. 5–19–70. Cl. 17.
L'Oreal, Paris, France. 896,138, pub. 5–19–70. Cl. 51.
Love Box Co., Inc., Wichita, Kans. 895,803, pub. 5–19–70. Cl. 2.
Luigi's, Inc., Camp Hill, Pa. 896,175, pub. 5–19–70. Cl. 100.
Lurey, E. R., Co., Inc., Chicago, Ill. 771,459, canc. Cl. 23.
M.I.T. Corp., New York, N.Y. 896,017, pub. 5–19–70. Cl. 26.
Macchiaroli, James W., d.b.a. Anthony Brokerage, Phoenix, Ariz. 896,112, pub. 5–19–70. Cl. 46.
Mailing House, Inc., The, Los Angeles, Calif. 896,181, pub. 5–19–70. Cl. 101.
Mangel Stores Corp., New York, N.Y. 771,536, canc. Cl. 44.
Marbro Mfg., Inc., Providence, R.I. 896,022, pub. 5–19–70. Cl. 28.
Marine Geophysical Services Corp.: *See*— Western Geophysical Co., of America.
Mar-Ko Co., to Riviana Foods Inc., Houston, Tex. 854,751–52, new cert. Cl. 46.
Markstan, Inc., Chicago, Ill. 771,514, canc. Cl. 39.
Martin Marietta Corp., New York, N.Y. 276,483, ren. 8–4–70. Cl. 12.
Marx, Louis, & Co., Inc., New York, N.Y. 895,930, pub. 5–19–70. Cl. 22.
Matisa Materiel Industriel S. A., Crissier-Vaud, Switzerland. 522,943, ren. 8–4–70. Cl. 23.
Mattel, Inc., Hawthorne, Calif. 771,434, canc. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 771,437, canc. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 771,441–42, canc. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 895,934–50, pub. 5–19–70. Cl. 22.
Mayer, Oscar, & Co., Inc., Madison, Wis. 272,435, ren. 8–4–70. Cl. 46.
Mayer, Oscar, & Co., Inc., Madison, Wis. 272,758, ren. 8–4–70. Cl. 46.
McGraw-Edison Co., Chicago, Ill. 356,059, 12(c) pub. 8–4–70. Cl. 21.
McGraw-Edison Co., Elgin, Ill. 895,892, pub. 5–19–70. Multiple Class (Classes 21, 23, and 44).
McGraw-Edison Co., Elgin, Ill. 895,896–97, pub. 5–19–70. Cl. 21.
McGraw-Hill, Inc., New York, N.Y. 896,066, pub. 5–19–70. Cl. 38.
Midland Metal Spinning Co. Ltd., The, Wombourn, Wolverhampton, England. 895,858, pub. 5–19–70. Cl. 13.
Miehle-Goss-Dexter, Inc.: *See*— North American Rockwell Corp.
Millipore Corp., Bedford, Mass. 896,024, pub. 5–19–70. Cl. 31.
Minnesota Automotive, Inc., Mankato, Minn. 524,676, ren. 8–4–70. Cl. 19.
Mipro Corp., South San Francisco, Calif. 895,795, pub. 5–19–70. Cl. 2.
Mitsui & Co., Ltd., Tokyo, Japan. 895,790, pub. 5–19–70. Cl. 2.
Miwon Industrial Co., Ltd., Seoul, Korea. 896,076, pub. 5–19–70. Cl. 39.
Mead Corp., The, Dayton, Ohio. 532,195, ren. 8–4–70. Cl. 37.
Mead Corp., The, Dayton, Ohio. 895,788, pub. 5–19–70. Cl. 2.
Mechtron-Genco Corp., Alliance, Ohio. 895,990, pub. 5–19–70. Cl. 26.
Medaids, Inc., Los Angeles, Calif. 896,097, pub. 5–19–70. Cl. 44.
Med-A-Safe, Beverly Hills, Calif. 895,787, pub. 5–19–70. Cl. 2.
Melville Shoe Corp., New York, N.Y. 896,079, pub. 5–19–70. Cl. 39.
Mem Co., Inc., Northvale, N.J. 896,142, pub. 5–19–70. Cl. 51.
Merck & Co., Inc., Rahway, N.J. 771,367, canc. Cl. 6.
Meredith Corp., Des Moines, Iowa. 896,064, pub. 5–19–70. Cl. 38.
Metallo, Vincent R., Washington, D.C. 896,164, pub. 5–19–70. Cl. 100.
Millis, Dannen, d.b.a. Glenhaven Eggs, St. Joseph, Mo. 771,543, canc. Cl. 46.
Mobility Systems, Inc., Santa Clara, Calif. 895,976, pub. 5–19–70. Cl. 26.
Monsanto Co., St. Louis, Mo. 895,794, pub. 5–19–70. Cl. 2.
Montgomery Bros., Inc., Burlingame, Calif. 896,030, pub. 5–19–70. Cl. 34.
Montgomery Ward & Co., Chicago, Ill. 895,951, pub. 5–19–70. Cl. 22.
Morgan Adhesives Co., Stow, Ohio. 895,814, pub. 5–19–70. Cl. 5.
Morris, Mark, Associates, from Mark Morris Associates, Inc., to Riviana Foods Inc., Houston, Tex. 873,158, new cert. Cl. 46.
Morris, Mark, Associates, from Mar-Ko Co., to Riviana Foods Inc., Houston, Tex. 879,204, new cert. Cl. 46.
Morris, Mark, Associates, Inc., to Riviana Foods Inc., Houston, Tex. 800,466, new cert. Cl. 46.
Morris, Mark, Associates, Inc., to Riviana Foods Inc., Houston, Tex. 804,352, new cert. Cl. 46.
Morris, Mark, Associates, Inc., to Riviana Foods Inc., Houston, Tex. 825,003, new cert. Cl. 46.
Morris, Mark L., to Riviana Foods Inc., Houston, Tex. 536,011, new cert. Cl. 46.
Morris, Mark L., to Riviana Foods Inc., Houston, Tex. 538,128–9, new cert. Cl. 46.
Morris, Mark L., to Riviana Foods Inc., Houston, Tex. 539,608, new cert. Cl. 46.
Morris, Mark L., to Riviana Foods Inc., Houston, Tex. 675,053, new cert. Cl. 46.
Morris, Mark L., to Riviana Foods Inc., Houston, Tex. 581,424, new cert. Cl. 38.
Morris, Mark L., to Riviana Foods Inc., Houston, Tex. 596,058, new cert. Cl. 46.
Morris, Mark L., to Riviana Foods Inc., Houston, Tex. 690,708, new cert. Cl. 46.
Morton International, Inc., Chicago, Ill. 896,149, pub. 5–19–70. Cl. 52.
Mortone Magnetics, Inc., Woodmere, N.Y. 896,048, pub. 5–19–70. Cl. 36.
NVF Co., Wilmington, Del. 895,793, pub. 5–19–70. Cl. 2.
Nash Engineering Co., The, Norwalk, Conn. 530,815, ren. 8–4–70. Cl. 23.
National Biscuit Co., New York, N.Y. 896,228. Cl. 46.
National Distillers & Chemical Corp., New York, N.Y. 771,389, canc. Cl. 12.
National Foam System, Inc., West Chester, Pa. 895,826, pub. 5–19–70. Cl. 6.
National Institute of Diaper Services, Inc., New York, N.Y. 771,614–15, canc. Cl. 100.
National Pizza Corp., St. Louis, Mo. 896,196, pub. 6–19–70. Cl. 101.
National Polychemicals, Inc., Wilmington, Mass. 771,340–1, canc. Cl. 1.
New Process Co., Warren, Pa. 896,084–5, pub. 5–19–70. Cl. 39.
New York Wire Works Ltd., Montreal, Quebec, Canada. 895,804, pub. 5–19–70. Cl. 3.
Nopco Chemical Co., d.b.a. Vitex Laboratories, Newark, N.J. 771,548, canc. Cl. 46.
Norda Essential Oil & Chemical Co., Inc., New York, N.Y. 895,827–8, pub. 5–19–70. Cl. 6.
North American Rockwell Corp., Pittsburgh, Pa., from Miehle-Goss-Dexter, Inc., Chicago, Ill. 895,967, pub. 5–19–70. Cl. 23.
Northwestern Golf Co., Chicago, Ill. 895,902, pub. 5–19–70. Cl. 22.
Numatics, Inc., Highland, Mich. 895,848, pub. 5–19–70. Cl. 13.
Nutrine, Ltd., Brooklyn, N.Y. 525,299, ren. 8–4–70. Cl. 51.
Nu-Vita Products, Inc., Pittsburgh, Pa. 266,024, ren. 8–4–70. Cl. 51.
Nylon Engineering, Inc., Lowell, Mass. 895,783, pub. 5–19–70. Cl. 1.
Ocean Leather Corp., Newark, N.J. 895,784, pub. 5–19–70. Cl. 1.
Odzer, Howard, and Frank A. Peluso, d.b.a. Marketiming, New York, N.Y. 896,060, pub. 5–19–70. Cl. 38.
Old Mill Paper Products Corp., Long Island City, N.Y. 529,870–1, ren. 8–4–70. Cl. 2.
Olivetti, Ing C., & C., S.p.A., Ivrea, Italy. 895,968, pub. 5–19–70. Cl. 23.
Olivetti, Ing. C., & C., S.p.A., Ivrea, Italy. 895,981, pub. 5–19–70. Cl. 26.
Omnicare Inc., New York, N.Y. 896,161, pub. 5–19–70. Cl. 100.
1254 Ltd., d.b.a. Pinch a Penny, Ltd., Denver, Colo. 896,180, pub. 7–16–68. Cl. 101.
Optical Coating Laboratory, Inc., Santa Rosa, Calif. 896,001, pub. 5–19–70. Cl. 26.
Opti-Cap Inc., Corpus Christi, Tex. 895,887, pub. 5–19–70. Cl. 19.
Oravisual Co., Inc., St. Petersburg, Fla. 522,300, ren. 8–4–70. Cl. 32.
Ore-Ida Foods, Inc., Ontario, Oreg. 896,103, pub. 7–15–69. Cl. 46.
Owens, Leslie H., Edina, Minn. 771,351, canc. Cl. 3.
Owens-Illinois, Inc., Toledo, Ohio. 78,096, ren. 8–4–70. Cl. 21.
Oxxford Clothes, Inc., Chicago, Ill. 896,072, pub. 4–14–70. Cl. 39.

Pacific Food Products Co., Seattle, Wash. 520,342, ren. 8–4–70. Cl. 46.
Palmer, Alex D., d.b.a. Tek Method Co., Chicago, Ill. 895,906, pub. 5–19–70. Cl. 22.
Palmer, Lawrence, Inc., Searingtown, N.Y. 896,129–30, pub. 5–19–70. Cl. 51.
Panacon Corp., Cincinnati, Ohio. 444,199, ren. 8–4–70. Cl. 16.
Panacon Corp., Cincinnati, Ohio. 528,665–6, ren. 8–4–70. Cl. 12.
Panacon Corp., Cincinnati, Ohio. 530,180, ren. 8–4–70. Cl. 12.
Parfumhaus Gottschalk, Munich, Germany. 895,982, pub. 5–19–70. Cl. 26.
Parker Brothers, Inc., Salem, Mass. 895,932, pub. 5–19–70. Cl. 22.
Parthenon Co., Inc., The, to Parthenon Co., Inc., Salt Lake City, Utah. 839,884, new cert. Cl. 18.
Particle Data Laboratories, Inc., Elmhurst, Ill. 896,151, pub. 6–19–62. Cl. 100.
Pass, Ron, & Associates Ltd., Maryland Heights, Mo. 896,208–9, pub. 5–19–70. Cl. 103.
Patnaude, Henry A., Sacramento, Calif. 895,860, pub. 5–19–70. Cl. 13.
Paulsel Lumber Co., Fort Worth, Tex. 895,841, pub. 5–19–70. Cl. 12.
Pearl, Lester S., d.b.a. Gateway Furniture Mfg., St. Louis, Mo. 771,476, canc. Cl. 32.
Pearson, Hazel, Handicrafts, Inc., Rosemead, Calif. 895,958, pub. 5–19–70. Cl. 23.
Pembrooke Lingerie Co., Inc., New York, N.Y. 896,080, pub. 5–19–70. Cl. 39.
Perfection Photo Co., Inc., d.b.a. Pittsburgh Free Film Co., Greensburg, Pa. 896,215, pub. 5–19–70. Cl. 106.
Peters, G. D., & Co., (Engineering) Ltd., Slough, England. 895,955, pub. 5–19–70. Cl. 23.
Petroleum Service Advertising, Inc., Blue Island, Ill. 896,200, pub. 5–19–70. Cl. 101.
Petrolite Corp., St. Louis, Mo. 532,699, ren. 8–4–70. Cl. 6.
Petty Geophysical Engineering Co., San Antonio, Tex. 896,192, pub. 5–19–70. Cl. 101.
Pfister & Vogel Tanning Co., Inc., Milwaukee, Wis. 895,778, pub. 5–19–70. Cl. 1.
Pfizer, Chas., & Co., Inc., New York, N.Y. 267,419, ren. 8–4–70. Cl. 51.
Phelps Dodge Magnet Wire Corp., Fort Wayne, Ind. 270,478, ren. 8–4–70. Cl. 21.
Phillips & Buttorff Corp., Nashville, Tenn. 520,793, ren. 8–4–70. Cl. 21.
Pillsbury Co., The, Minneapolis, Minn. 771,405, canc. Cl. 18.
Pillsbury Co., The, Minneapolis, Minn. 895,903, pub. 4–8–69. Cl. 22.
Pine-O-Pine Co. of Tex., Houston, Tex. 521,611, ren. 8–4–70. Cl. 52.
Pioneer Motor Bearing Co., South San Francisco, Calif. 895,952, pub. 7–22–69. Cl. 23.
Pioneer Screw & Nut Co., Elk Grove Village, Ill. 895,850, pub. 9–16–69. Cl. 13.
Pioneer Shirt Mfg. Co., Los Angeles, Calif. 711,899, canc. Cl. 39.
Pitney-Bowes, Inc., Stamford, Conn. 896,157, pub. 5–19–70. Multiple Class (Classes 100 and 101).
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa. 532,028, ren. 8–4–70. Cl. 2.
Plastic Contact Lens Co., The, Chicago, Ill. 895,986, pub. 5–19–70. Cl. 26.
Plastic Contact Lens Co., The, Chicago, Ill. 896,011, pub. 5–19–70. Cl. 26.
Plymouth Golf Ball Sales Co., Plymouth Meeting, Pa. 895,898, pub. 5–28–68. Cl. 22.
Polacoat Inc., Blue Ash, Ohio. 896,223. Cl. 12.
Pop Corp., Tokyo, Japan. 895,899, pub. 1–20–70. Cl. 22.
Pop-Op Corp., The, New York, N.Y. 896,069, pub. 5–19–70. Cl. 39.
Porter, H. K., Co., Inc., Pittsburgh, Pa. 896,034, pub. 5–19–70. Cl. 35.
Power-Pak Products, Inc., Buffalo, N.Y. 895,969, pub. 5–19–70. Cl. 23.
Pre-Built Homes, Inc., Detroit, Mich. 895,845, pub. 5–19–70. Cl. 12.
Precision Valve Corp., Yonkers, N.Y. 896,119, pub. 5–19–70. Cl. 50.
Princess Grace Doll, Inc., New York, N.Y. 895,900, pub. 12–17–68. Cl. 22.
Procedyne Corp., New Brunswick, N.J. 896,031, pub. 5–19–70. Cl. 34.
Pullen, Josephus, Jr., Chicago, Ill. 896,205, pub. 5–19–70. Cl. 103.
Punch-Lok Co., Chicago, Ill. 895,853, pub. 5–19–70. Cl. 13.
Purolator, Inc., Rahway, N.J. 895,861, pub. 5–19–70. Cl. 13.
Quaker Oats Co., The, Chicago, Ill. 526,304, ren. 8–4–70. Cl. 46.
Quaker Oats Co., The, Chicago, Ill. 526,829–32, ren. 8–4–70. Cl. 46.
Quality Control Laboratories, Billings, Mont. 771,363, canc. Cl. 6.
RCA Corp., New York, N.Y. 273,675, ren. 8–4–70. Cl. 36.
Radiation Machinery Corp., Parsippany, N.J. 895,983–84, pub. 5–19–70. Cl. 26.
Randolph, Robert M., d.b.a. Planagement Associates, Northbrook, Ill. 896,193, pub. 5–19–70. Cl. 101.
Ray Oil Burner Co., San Francisco, Calif. 525,994, ren. 8–4–70. Cl. 21.
Raybestos-Manhattan, Inc., Passaic, N.J. 895,924, pub. 5–19–70. Cl. 22.
Reading Plus, Inc., Glen Echo, Md. 771,639, canc. Cl. 107.
Real Estate Central, Inc., Washington, D.C. 896,195, pub. 5–19–70. Cl. 101.
Reed, Marvin T., d.b.a. Fastenna Mount, Portland, Oreg. 895,843, pub. 5–19–70. Cl. 12.
Reeder, Oliver, & Son, Inc., Baltimore, Md. 443,842, 12(c) pub. 8–4–70. Cl. 16.
Reef-Baker Corp., East Detroit, Mich. 895,869–70, pub. 5–19–70. Cl. 13.
Reemtsma Cigarettenfabriken G.m.b.H., Hamburg, Germany. 895,881, pub. 5–19–70. Cl. 17.
Reese Finer Foods, Inc., Chicago, Ill. 896,113, pub. 5–19–70. Cl. 46.
Reid Enterprises, Inc., Long Beach, Calif. 896,044, pub. 5–19–70. Cl. 35.
Republic Software Products, Inc., East Orange, N.J., from Republic Systems & Programming, Inc., Secaucus, N.J. 896,186, pub. 5–19–70. Cl. 101.
Republic Systems & Programming, Inc.: *See*— Republic Software Products, Inc.
Revlon, Inc., New York, N.Y. 771,650–3, canc. Cl. 51.
Rich Co., Los Angeles, Calif. 896,020, pub. 5–19–70. Cl. 27.
Riemel Co., The, Lido Beach, N.Y. 771,491, canc. Cl. 37.
Riviana Foods Inc., Houston, Tex. 532,764, ren. 8–4–70. Cl. 46.
Rixson, Inc., Franklin Park, Ill. 771,428, canc. Cl. 21.
Robby Len, Inc., New York, N.Y. 896,089, pub. 5–19–70. Cl. 39.
Robinson-Wagner Co., Inc., Mamaroneck, N.Y. 525,425, ren. 8–4–70. Cl. 6.
Robinson-Wagner Co., Inc., Mamaroneck, N.Y. 526,654, ren. 8–4–70. Cl. 6.
Rose, L., & Co., Ltd., St. Albans, England. 32,982, 12(c) pub. 8–4–70. Cl. 45.
Royal Bead Novelty Co., Inc., New York, N.Y. 771,471, canc. Cl. 28.
Rusco Industries, Inc., Los Angeles, Calif. 525,386, ren. 8–4–70. Cl. 12.
Russ Togs, Inc., Long Island City, N.Y. 521,228, ren. 8–4–70. Cl. 39.
Rykoff, S. E., & Co., Los Angeles, Calif. 895,789, pub. 5–19–70. Cl. 2.
SCM Corp., Cleveland, Ohio. 895,959, pub. 5–19–70. Cl. 23.
SCOA Industries Inc., Columbus, Ohio. 526,366, ren. 8–4–70. Cl. 39.
S-K-H Corp., Lindsay, Calif. 895,818, pub. 5–19–70. Cl. 6.
S & S Distributors, Inc., d.b.a. S & S Distributors, Kingfisher, Okla. 896,154, pub. 5–19–70. Cl. 100.
San Diego 200th Anniversary, Inc., San Diego, Calif. 896,152, pub. 5–19–70. Cl. 100.
San Francisco Warriors, San Francisco, Calif. 896,220, pub. 5–19–70. Cl. 107.
Sarani Tailleur, Kowloon, Hong Konk. 896,070, pub. 5–19–70. Cl. 39.
Schnelerson, I., & Sons, Inc., New York, N.Y. 771,502, canc. Cl. 39.
Schnellpressenfabrik Koenig & Bauer Aktiengesellschaft, Wuerzburg, Germany. 895,971, pub. 5–19–70. Cl. 23.
Scientific Advances, Inc., to Automata Corp., Richland, Wash. 805,330, new cert. Cl. 52.
Scientific Advances, Inc., to Automata Corp., Richland, Wash. 812,953, new cert. Cl. 23.
Scott Paper Co., Philadelphia, Pa. 270,909, ren. 8–4–70. Cl. 37.
Scott Paper Co., Philadelphia, Pa. 895,797, pub. 5–19–70. Cl. 2.
Scovill Mfg. Co., Waterbury, Conn. 895,863, pub. 5–19–70. Cl. 13.
Scovill Mfg. Co., Waterbury, Conn. 895,970, pub. 5–19–70. Cl. 23.
Scrubbletoys, Inc., St. Louis, Mo. 896,120, pub. 5–19–70. Cl. 51.
Seabrook Farms Co., Inc., Seabrook, N.J. 527,627, ren. 8–4–70. Cl. 46.
Seagram, Joseph E., & Sons, Inc., New York, N.Y. 896,116–17, pub. 5–19–70. Cl. 49.
Sealed Unit Parts Co., Inc., Allenwood, N.J. 895,804, pub. 5–19–70. Cl. 13.
Sears, Roebuck & Co., Chicago, Ill. 529,043, ren. 8–4–70. Cl. 34.
Sebel, D., & Co. Ltd., Erith, Kent, England. 525,758, ren. 8–4–70. Cl. 22.
Security Systems, Inc., Siloam Springs, Ark. 896,008, pub. 5–19–70. Cl. 26.
Seismic Computing Corp., Houston, Tex. 896,163, pub. 5–19–70. Cl. 100.
Sel-Rex Corp., Nutley, N.Y. 771,372, canc. Cl. 6.
Seron Mfg. Co., Joliet, Ill. 895,977, pub. 5–19–70. Cl. 26.
Service Filtration, Inc., Niles, Ill. 771,472, canc. Cl. 31.
Servicemaster Industries Inc., from Servicemaster Industries, Inc., Downers Grove, Ill. 896,143, pub. 5–19–70. Cl. 52.
Servo Corp. of America, Hicksville, N.Y. 896,002, pub. 5–19–70. Cl. 26.
Sexauer, J. A., Mfg. Co., Inc., White Plains, N.Y. 895,810, pub. 5–19–70. Cl. 4.
Sexauer, J. A., Mfg. Co., Inc., White Plains, N.Y. 896,140, pub. 5–19–70. Cl. 52.
Shaw, John, Ltd., Worksop, England. 895,832, pub. 5–19–70. Cl. 7.
Shelton Hosiery Mills, Inc., Shelton, Conn. 276,320, ren. 8–4–70. Cl. 39.
Sherwin-Williams Co., The, Cleveland, Ohio. 528,895, ren. 8–4–70. Cl. 16.
Shin-Etsu Chemical Co., Tokyo, Japan. 895,817, pub. 5–19–70. Cl. 6.
Shuford Mills, Inc., Hickory, N.C. 895,816, pub. 5–19–70. Cl. 5.
Simmons Co., New York, N.Y. 532,031, ren. 8–4–70. Cl. 32.
Simonsen Metal Products Corp., Chicago, Ill. 895,786, pub. 5–19–70. Multiple Class (Classes 2, 22, and 32).

Skor-Mor Corp., Anaheim, Calif. 895,915, pub. 5–19–70. Cl. 22.
Smith, Miller & Patch, Inc., New Brunswick, N.J. 275,459, ren. 8–4–70. Cl. 18.
Smithers, Lawrence E., Silver Spring, Md. 895,701, pub. 6–19–70. Cl. 2.
Social Dynamics, Inc., Boston, Mass. 896,172, pub. 5–19–70. Cl. 100.
Societe Anonyme: Societe d'Electro-Chimic d'Electro-Metallurgie et des Acieries Electriques d'Ugine, Paris, France. 771,337, canc. Cl. 1.
Societe des Lunetiers, Paris (Seine), France. 895,988, pub. 5–19–70. Cl. 26.
Societe Rhodiaceta, Paris, France. 771,477, canc. Cl. 32.
Southern Athletic Service, Inc., Leesburg, Fla. 895,913, pub. 5–19–70. Cl. 22.
Souveran Fabrics Corp., New York, N.Y. 896,096, pub. 5–19–70. Cl. 42.
Spalding, A. G., & Bros. Inc., Chicopee, Mass. 895,914, pub. 5–19–70. Cl. 22.
Sparks, A. J., & Co., Grand Rapids, Mich. 896,038, pub. 5–19–70. Cl. 35.
Spartan Grain & Mill Co., Spartanburg, S.C., 529,748, ren. 8–4–70. Cl. 46.
Specialized Industrial Products, Inc., Grand Rapids, Mich. 771,374, canc. Cl. 6.
Spectra Sports, Inc., San Francisco, Calif. 895,933, pub. 5–19–70. Cl. 22.
Spex Industries, Inc., Metuchen, N.J. 896,012, pub. 5–19–70. Cl. 26.
Spiras Systems, Inc., Waltham, from IRA Systems, Inc., Waltham, Mass. 895,985, pub. 5–19–70. Cl. 26.
Stafford-Reeves Inc., New York, N.Y. 895,877, pub. 5–19–70. Cl. 16.
Standard Brands Inc., d.b.a. Clinton Corn Processing Co., New York, N.Y. 895,824, pub. 5–19–70. Cl. 6.
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Starch, Daniel, & Staff, Inc., Mamaroneck, N.Y. 896,217, pub. 5–19–70. Cl. 107.
Star-New Era, Inc., South Hackensack, N.J. 895,961, pub. 5–19–70. Cl. 23.
Stauffer Chemical Co., New York, N.Y. 771,375, canc. Cl. 6.
Stein, Charles Frederick, La Grange, Ill. 896,046, pub. 5–19–70. Cl. 36.
Sterwin Laboratories Inc., New York, N.Y. 895,829, pub. 5–19–70. Cl. 6.
Stevens, J. P., & Co., Inc., New York, N.Y. 527,019, ren. 8–4–70. Cl. 42.
Stop & Stop, Inc., Boston, Mass. 896,182, pub. 5–19–70. Cl. 101.
Stoutfitters, Inc., New York, N.Y. 522,452, ren. 8–4–70. Cl. 39.
Stow, Thomas D., Berkeley, Calif. 771,439, canc. Cl. 22.
Struthers Wells Corp., New York, N.Y. 896,221. Cl. 2.
Studebaker Corp., Muskegon, Mich. 895,964–66, pub. 5–19–70. Cl. 23.
Sumergrade, N. & Sons, Inc., to Slumberland Products Co., Woburn, Mass. 297,286, new cert. Cl. 32.
Sun Chemical Corp., New York, N.Y. 895,837–38, pub. 5–19–70. Cl. 11.
Sunshine Biscuits, Inc., Long Island City, N.Y. 771,564, canc. Cl. 46.
Supradur Mfg. Corp., Wind Gap, Pa. 528,360, ren. 8–4–70. Cl. 12.
Syracuse Pharmacal Co., Inc., Syracuse, N.Y. 771,403, canc. Cl. 18.
Taco Bell, Inc., Torrance, Calif. 896,179, pub. 5–19–70. Cl. 100.
Tanner Chemical Co., Inc., Greenville, S.C. 895,815, pub. 5–19–70. Cl. 5.
Taylor's, Chas., Sons Co., The, d.b.a. The Chas. Taylor Sons Co., Cincinnati, Ohio, 528,294, ren. 8–4–70. Cl. 12.
Taylor's, Chas., Sons Co., The, d.b.a. The Chas. Taylor Sons Co., Cincinnati, Ohio. 528,838, ren. 8–4–70. Cl. 12.
Technidyne, Inc., Livermore, Calif. 896,013, pub. 5–19–70. Cl. 26.
Textron Inc., Providence, R.I. 895,857, pub. 5–19–70. Cl. 13.
Textron Inc., Providence, R.I. 895,871, pub. 5–19–70. Cl. 13.
Thayer Laboratories, Inc., New York, N.Y. 895,884, pub. 5–19–70. Cl. 18.
Thermal Syndicate Ltd., Wallsend-On-Tyne, England. 78,838, ren. 8–4–70. Cl. 26.
Thompson-Hayward Chemical Co., Kansas City, Kans. 895,823, pub. 5–19–70. Cl. 6.
Tillamook County Creamery Association, Tillamook, Oreg. 533,033, ren. 8–4–70. Cl. 46.
Trans World Airlines, Inc., New York, N.Y. 896,155, pub. 5–19–70. Multiple Class (Classes 100 and 105).
Tribune Publishing Co., The, Oakland, Calif. 896,062–63, pub. 5–19–70. Cl. 38.
Union Camp Corp., Wayne, N.J. 895,800, pub. 5–19–70. Cl. 2.
Union Carbide Corp., New York, N.Y. 895,798, pub. 5–19–70. Cl. 2.
Union Carbide Corp., New York, N.Y. 896,140, pub. 5–19–70. Cl. 51.
Union Finance Corp., d.b.a. Union Finance Co., Tampa, Fla. 771,629–30, canc. Cl. 102.
Unipak, Inc., Boston, Mass. 895,872, pub. 5–19–70. Cl. 13.
Uniroyal, Inc., New York, N.Y. 896,039–40, pub. 5–19–70. Cl. 35.
Uniroyal, Inc., New York, N.Y. 896,074, pub. 5–19–70. Cl. 39.
United Conveyor Corp., Chicago, Ill. 771,466, canc. Cl. 26.
United Grocers, Ltd. Richmond, Calif. 529,934, ren. 8–4–70. Cl. 38.
U.S. Plywood-Champion Papers, Inc., Hamilton, Ohio. 384,-688, 12(c) pub. 8–4–70. Cl. 37.
United States Shoe Corp., The, Cincinnati, Ohio. 896,081, pub. 5–19–70. Cl. 39.
United-Carr Inc., Boston, Mass. 526,483, ren. 8–4–70. Cl. 13.
Universal Motor Oils Co., Inc., Wichita, Kans. 771,399, canc. Cl. 15.
Upham, William H., Milwaukee, Wis. 896,176, pub. 5–19–70. Cl. 100.
Valtek Inc., Provo, Utah. 895,854, pub. 5–19–70. Cl. 13.
Varsity Industries, Inc., New York, N.Y. 267,653, ren. 8–4–70. Cl. 39.
Vigilant Products Co., Inc., Carlstadt, N.J. 895,830, pub. 5–19–70. Cl. 6.
Virginia Industries, Inc., Philadelphia, Pa. 273,871, ren. 8–4–70. Cl. 23.
Visual Graphics Corp., New York, N.Y. 771,366, canc. Cl. 6.
Vitabath Inc., New York, N.Y. 896,023, pub. 5–19–70. Multiple Class (Classes 29 and 51).
Voit, W. J., Rubber Corp., Santa Ana, Calif. 895,904, pub. 5–19–70. Cl. 22.
Vortox Mfg. Co., Claremont, Calif. 272,928, 12(c) pub. 8–4–70. Cl. 23.
Walker, M. S., Inc., Boston, Mass. 896,114, pub. 5–19–70. Cl. 47.
Waltham Machine Works, Inc., Waltham, Mass. 895,972, pub. 5–19–70. Cl. 23.
Wax & Wicker Works, Inc., Raleigh, N.C. 896,184, pub. 5–19–70. Cl. 101.
Webb, Frank Loven, d.b.a. Baymint Products Co., Collinsville, Va. 771,440, canc. Cl. 22.
Webb, Jervis B., Co., The, Detroit, Mich. 444,301, 12(c) pub. 8–4–70. Cl. 23.
Weld Mold Co., Brighton, Mich. 896,032–33, pub. 5–19–70. Cl. 34.
West Bank Oil Terminal, Inc., Paulsboro, N.J. 532,649, ren. 8–4–70. Cl. 12.
Western Geophysical Co., of America, from Marine Geophysical Services Corp., Houston, Tex. 895,974, pub. 5–19–70. Cl. 26.
Westhall Co., The, Akron, Ohio. 524,565, ren. 8–4–70. Cl. 28.
Westwood Import Co., Inc., San Francisco, Calif. 523,961, ren. 8–4–70. Cl. 26.
Wheaton Glass Co., Millville, N.J. 896,009, pub. 5–19–70. Cl. 26.
Whipco Foods, Inc., Chicago, Ill. 896,109, pub. 5–19–70. Cl. 46.
White Palace Systems, Inc., Cincinnati, Ohio. 896,167, pub. 5–19–70. Cl. 100.
Whittaker, Clark & Daniels, Inc., New York, N.Y. 524,996, ren. 8–4–70. Cl. 6.
Wian, Robert C., Enterprises, Inc., d.b.a. Leonard A. Dunagan Co., Glendale, Calif. 771,542, canc. Cl. 46.
Wile, M., & Co., Inc., Buffalo, N.Y. 525,373, ren. 8–4–70. Cl. 39.
Wilson Motor Bodies Ltd., The, Burlington, Ontario, Canada. 895,886, pub. 5–19–70. Cl. 19.
Wolfschmidt Ltd., d.b.a. General Distillers Co., London, England. 771,573, canc. Cl. 49.
Wood, Helene, North Hollywood, Calif. 771,599, canc. Cl. 51.
Wood Industries, Inc., Plainfield, N.J. 895,960, pub. 5–19–70. Cl. 23.
World Publishing Co., Omaha, Nebr. 531,269, ren. 8–4–70. Cl. 38.
Yamaha Hatsudoki Kabushiki Kaisha, Hamakita-shi, Shizuoka-ken, Japan. 895,888, pub. 5–19–70. Multiple Class (Classes 19 and 23).
Yamamoto Vinyter Co., Ltd., Osaka, Japan. 896,029, pub. 5–19–70. Cl. 34.
Zale Corp., Dallas, Tex., 896,021, pub. 5–19–70. Cl. 28.
Zimmer Mfg. Industries, Inc., Detroit, Mich. 895,855, pub. 5–19–70. Cl. 13.
Zimmerman's Cut Rate Liquor Store, Inc., d.b.a. Zimmerman's, Chicago, Ill. 896,115, pub. 7–9–68. Cl. 49.
Zsa Zsa Ltd., New York, N.Y. 896,094, pub. 5–19–70. Cl. 40.

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Official Gazette of the United States Patent Office

August 11, 1970 Volume 877 Number 2

PATENTS
NOTICES

Board of Appeals Decisions Rendered in the Month of June 1970

Examiner affirmed	132
Examiner affirmed in part	16
Examiner reversed	34
Total	182

Erratum

All references to Patent Number 3,522,203 to Charles H. Kroekel, Unsaturated polyester resinous compositions, appearing in the OFFICIAL GAZETTE of July 28, 1970, should be deleted as the application was withdrawn from issue and the patent was not issued.

VACANCY ANNOUNCEMENT

Position: Deputy Solicitor, GS–16

Duties:

The Deputy Solicitor (1) assists the Solicitor in the discharge of certain of his most significant responsibilities; (2) acts in an advisory capacity with respect to top administrators, technical supervisors and others; (3) exercises the full authority of the Solicitor in the latter's absence; and (4) independently conducts litigation in defense of the Commissioner of Patents in the Federal Courts in cases of great significance and difficulty.

Qualifications:

(1) Admission to practice before the United States District Court for the District of Columbia, the United States Court of Appeals for the District of Columbia Circuit, and the United States Court of Customs and Patent Appeals; (2) A minimum of one year of experience as a patent professional at grade GS–15 or its equivalent; (3) Ability to obtain a quick and accurate understanding of cases and problems; (4) Firm knowledge of patent law and Patent Office practice; (5) Ability to present facts and arguments effectively; and (6) Ability to display sound qualifications for supervisory work, although experience as a supervisor is not an absolute requirement.

Evaluation of Candidates:

Candidates will be evaluated on the total range of their education, training, and experience, as well as supervisory appraisals. An interview may be required.

General Information:

Full consideration will be given to all qualified applicants without regard for their race, sex, religion, color, or national origin. Candidates who are interested in being considered for this position must submit a completed SF–171, Personal Qualifications Statement, to the U.S. Patent Office, Office of Personnel, Washington, D.C., 20231, not later than August 31, 1970. Copies of SF–171 may be obtained from any Civil Service Commission Regional Office or first class Post Office.

Questions concerning this announcement should be referred to Mr. Bradford R. Huther, Area Code 703, 557-3635, Building No. 2, Room 9–C05, Crystal Plaza, Arlington, Va.

Certificates of Correction for the Week of Aug. 11, 1970

D. 216,599	3,464,024	3,496,929	3,502,641
3,324,539	3,464,373	3,496,991	3,502,653
3,351,337	3,464,808	3,497,252	3,502,702
3,359,334	3,465,938	3,497,331	3,502,882
3,376,622	3,466,432	3,497,447	3,502,938
3,379,647	3,467,037	3,498,344	3,502,939
3,385,108	3,467,874	3,498,976	3,503,226
3,396,666	3,469,240	3,499,056	3,503,288
3,408,385	3,471,313	3,499,227	3,503,516
3,417,027	3,471,481	3,499,245	3,503,756
3,419,550	3,472,113	3,499,424	3,503,763
3,420,582	3,472,647	3,499,916	3,503,782
3,423,343	3,473,422	3,499,991	3,503,906
3,426,440	3,479,760	3,500,002	3,504,374
3,428,425	3,481,750	3,500,255	3,504,516
3,443,859	3,481,756	3,500,681	3,504,954
3,445,683	3,482,816	3,500,753	3,505,052
3,448,087	3,484,620	3,500,830	3,505,339
3,449,381	3,486,501	3,500,893	3,505,360
3,449,679	3,486,677	3,500,997	3,505,366
3,449,888	3,487,933	3,501,097	3,505,676
3,452,283	3,488,744	3,501,302	3,505,734
3,452,660	3,491,024	3,501,305	3,505,889
3,454,655	3,491,033	3,501,306	3,506,361
3,455,606	3,493,110	3,501,308	3,506,818
3,457,449	3,493,961	3,501,374	3,506,836
3,457,488	3,494,450	3,501,498	3,507,077
3,458,432	3,495,087	3,501,504	3,507,511
3,460,116	3,495,829	3,502,022	3,507,685
3,460,273	3,495,865	3,502,166	3,507,917
3,461,790	3,496,475	3,502,170	3,507,994
3,462,726	3,496,481	3,502,256	3,508,262
3,463,703	3,496,689	3,502,475	

New Applications Received During May 1970

Patents	8198
Designs	462
Plant Patents	9
Reissues	38
	8707

Issue—August 11, 1970

Patents	901	No. 3,523,301 to No. 3,524,201, incl.
Designs	113	No. 218,269 to No. 218,381, incl.
Reissues	1	No. 26,933
Total	1015	

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Proposals for an International Trademark System

(Report of the Committee of Experts for the Revision of the Madrid Agreement)

As a result of an invitation from the United International Bureau for the Protection of Intellectual Property (BIRPI) the United States sent a delegation to participate in the discussions of a Committee of Experts held in Geneva from April 13 to 16, 1970. The purpose of the meeting was to study the advisability of developing an international trademark filing system.

The principal working papers for the meeting were published in the "Trademark Notices" section of the OFFICIAL GAZETTE of December 2, 1969 (Volume 869, Number 1, pp. TM 3–27).

Since considerable interest has been expressed concerning this matter the Patent Office is now publishing in the "Trademark Notices" section of this issue the text of document MM/I/8 which is the final report of the Committee of Experts referred to above.

WILLIAM E. SCHUYLER, Jr.,
Commissioner of Patents.

July 15, 1970.

Timely Presentation of Affidavits or Declarations Under Rules 131 and 132

All affidavits or declarations under Rule 131 or 132 must be timely presented in order to be admitted.

Affidavits and declarations submitted prior to a final rejection will be considered timely.

An affidavit or declaration presented with a first response after final rejection for the purpose of overcoming a new ground of rejection or requirement made in the final rejection will be entered and considered without a showing under Rule 116(b).

No other affidavit or declaration, under Rule 131 or 132, presented after a final rejection, will be considered unless a satisfactory showing is made under Rule 116(b) or 195.

All admitted affidavits or declarations will be acknowledged and commented upon by the Examiner in his next succeeding action.

RICHARD A. WAHL,
Assistant Commissioner of Patents.

July 9, 1970.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JULY 28, 1970

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	12-04-68
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	4-02-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	12-03-68
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director. Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	1-02-69
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director. Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	5-27-68
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	7-22-69
SECURITY, GROUP 220—S. BOYD, Director. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	9-11-68
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director. Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	1-03-69
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	12-17-68
PHYSICS, GROUP 280—R. L. EVANS, Director. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	12-16-68
DESIGNS, GROUP 290—S. BOYD, Director. Industrial Arts; Household, Personal and Fine Arts.	10-29-69
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director. Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	5-21-69
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director. Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	1-09-69
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director. Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	4-01-69
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director. Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	7-11-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director. Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	3-17-69

Total number of pending applications (excluding Designs)	181,651
Total number of Design applications pending	3,129

Expiration of patents: The patents within the range of numbers indicated below expire during July 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,644,159 to 2,647,258, inclusive
Plant Patents	Numbers 1,201 to 1,207, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

THE COCA-COLA COMPANY *v.* ESSENTIAL PRODUCTS CO., INC.

No. 8245. Decided March 5, 1970

[57 CCPA —; 421 F.2d 1374; 164 USPQ 628]

1. TRADEMARK — OPPOSITION — CONFUSING SIMILARITY — EVIDENCE — "COCA-COLA" AND "COCO LOCO" FOR BEVERAGES.

"The Board held that opposer's survey of retail outlets in New York and New Jersey did not conclusively prove phonetic confusing similarity between Coca-Cola and Coco Loco since the persons allegedly confused have not testified and their serving of Coca-Cola in place of Coco Loco may have been occasioned by other factors. We agree that the evidence of record is not conclusive of actual confusion or of a likelihood of confusion in the minds of the purchasing public."

2. SAME—SAME—SAME—SAME—SAME.

"Appellant's contention that Coco Loco is phonetically and graphically confusingly similar to Coca-Cola and that the use of Coco Loco will result in confusion, mistake and deception is not supported by the testimony of appellant's employees. There is no evidence of record that any purchaser was confused as to the source of applicant's coconut flavoring extract or of the soft drinks made therefrom. We conclude that the *ex parte* surveys made by appellant here are inadequate to prove actual confusion or a likelihood of confusion. * * * We also conclude that the entire record before us does not warrant holding that there is a likelihood of confusion. * * * Considering the marks in their entireties, we find that it is only the first syllable of the four syllables in each mark which could be pronounced alike and that the articulate utterance of one mark is far from identical with that of the other mark. Appellant's argument that the Board's treatment of appellant's survey evidence is completely unwarranted and contrary to law is not persuasive. While such *ex parte* surveys may be admissible evidence, it is proper for the Board to ascertain what weight, if any, to accord such evidence. The evidence that 67% of the retail *dealers* in the relevant marketing area served Coca-Cola when asked for Coco Loco does not establish that *purchasers* of flavoring extracts and soft drinks were or would be confused."

3. SAME—CONFUSING SIMILARITY—*Coca-Cola Company* v. *Clay* CONSTRUED—"CUP-O'-COLA" AND "COCA-COLA."

"In *Coca-Cola Company* v. *Clay* * * * we held that there was a likelihood of confusion between Cup-o'-Cola and Coca-Cola. In that cancellation proceeding, the last two syllables of each hyphenated mark were identical, and appellee's registration showed the word Cola in a script similar to the familiar Coca-Cola script."

APPEAL from Patent Office. Opposition No. 45,765.

AFFIRMED.

Julius R. Lunsford, Jr., (*Francis C. Browne*, of counsel) for appellant.

Joseph J. Juhass for appellee.

Before RICH, *Acting Chief Judge*, ALMOND, BALDWIN, LANE, *Associate Judges*, and MCMANUS, *Chief Judge*, Northern District of Iowa, sitting by designation

LANE, *J.*, delivered the opinion of the court.

The Coca-Cola Company, opposer below, appeals from the decision of the Trademark Trial and Appeal Board, 154 USPQ 449, holding that applicant's mark, Coco Loco, for cocoanut flavoring sold to soft drink bottlers and for soft drink, is not such as to cause likelihood of confusion, mistake or deception with respect to opposer's registered

trademark Coca-Cola. We find no reversible error in the Board's opinion and we affirm its decision.

The opposition, No. 45,765, involves application Serial No. 212,992 filed March 1, 1965, by Essential Products Co., Inc., to register on the Principal Register, Coco Loco as a trademark for a colorless, hazy cocoanut beverage. First use February 15, 1965, is claimed. Applicant subsequently disclaimed Coco apart from the mark shown, and changed the description of his goods to read, "Cocoanut flavoring sold to soft drink bottlers; soft drink." Applicant's mark was published in the OFFICIAL GAZETTE, November 30, 1965.

Opposer bases its opposition on its ownership of the trademark Coca-Cola for beverages and syrups as evidenced by Registration Nos. 22,406, 47,189, 238,145 and 238,146 dating from 1893 to 1928 and renewed. Opposer asserts that it has continuously used its trademark Coca-Cola for a soft drink syrup and beverage since about June 28, 1887.

Opposer took the testimony of three witnesses, and also a deposition of applicant's president and treasurer. A member of opposer's executive staff engaged in public relations and historian duties since 1940 testified that opposer had used the trademark Coca-Cola since 1886 and the trademark Coke since 1940, that the trademark Coca-Cola was registered in block lettering and in script, that the total amount spent for advertising by opposer from 1886 through 1964 exceeded 847 millions of dollars, and that he thought Coco Loco was confusingly similar to Coca-Cola. The second witness, an attorney with opposer's legal department, testified that as an investigator of retail outlets, he talked in 1965 with an official of the applicant company who said he was still in the process of developing flavoring extracts referred to as Coco Loco. The attorney further testified that he had made numerous retail surveys in New York and New Jersey, and that 67% of the retail outlets did not distinguish between orders for Coca-Cola and orders for Coco Loco. Another of opposer's investigators testified that during the eleven months he had been employed by opposer he had not seen Coco Loco on sale at any retail outlets in the twelve states in which he worked. Said investigator corroborated the testimony that 67% of the New York and New Jersey retail outlets investigated did not distinguish between orders for Coca-Cola and orders for Coco Loco. The testimony of the president-treasurer of the applicant company, taken by and submitted on behalf of the opposer, indicates that Coco Loco was developed in response to a request for a coconut flavor extract and that Coco Loco was selected because it "rhymed with coco and crazy coconut and it seemed to match." He also testified that applicant in 1965 sold Coco Loco flavoring to bottlers in Massachusetts, New York and New Jersey, that applicant had supplied bottle caps marked coconut soda, and that applicant had never done any advertising of Coco Loco.

[1] The Board held that opposer's survey of retail outlets in New York and New Jersey did not conclusively prove phonetic confusing similarity between Coca-Cola and Coco Loco since the persons allegedly confused have not testified and their serving of Coca-Cola in place of Coco Loco may have been occasioned by other factors. We agree that the evidence of record is not conclusive of actual confusion or of a likelihood of confusion in the minds of the purchasing public.

[2] Appellant's contention that Coco Loco is phonetically and graphically confusingly similar to Coca-Cola and that the use of Coco Loco will result in confusion, mistake and deception is not supported by the testimony of appellant's employees. There is no evidence of record that any purchaser was confused as to the source of applicant's coconut flavoring extract or of the soft drinks made therefrom. We conclude that the *ex parte* surveys made by appellant here are inadequate to prove actual confusion or a likelihood of confusion. *Coca-Cola Co.* v. *Victor Syrup Corp.*, 42 CCPA 751, 218 F.2d 596, 104 USPQ 275 (1954). We also conclude that the entire record before us does not warrant holding that there is a likelihood of confusion. Applicant urges that the marks are virtually identical phonetically and in appearance. Considering the marks in their entireties, we find that it is only the first syllable of the four syllables in each mark which could be pronounced alike and that the articulate utterance of one mark is far from identical with that of the other mark. Appellant's argument that the Board's treatment of appellant's survey evidence is completely unwarranted and contrary to law is not persuasive. While such *ex parte* surveys may be admissible evidence, it is proper for the Board to ascertain what weight, if any, to accord such evidence. The evidence that 67% of the retail *dealers* in the relevant marketing area served Coca-Cola when asked for Coco Loco does not establish that *purchasers* of flavoring extracts and soft drinks were or would be confused. The retail dealer naturally desires to sell what he has available to serve, whereas a purchaser who knows what he wants may refuse something different. Appellant's contention, raised in its brief, that its mark Coca-Cola has been printed as Coco-Cola in certain documents prepared by others is not relevant to the issues before us.

[3] In *Coca-Cola Company* v. *Clay*, 51 CCPA 777, 324 F.2d 198, 139 USPQ 308 (1963), we held that there was a likelihood of confusion between Cup-o'-Cola and Coca-Cola. In that cancellation proceeding, the last two syllables of each hyphenated mark were identical, and appellee's registration showed the word Cola in a script similar to the familiar Coca-Cola script.

Our review of the record, the briefs and the arguments of counsel does not convince us of error in the decision of the Board. Even though the appellant is the prior user by some seventy-five years, we do not have any doubts here to be resolved in appellant's favor.

Accordingly, we affirm the decision of the Board.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290: Patent Act of 1952

2,734,226, W. H. Willert, INJECTION MOLDING APPARATUS, **filed** Aug. 9, 1969, D.C.N.J. (Newark), Doc. C–949–69, *Egan Machinery Company and William H. Willert* v. *Krauss-Maffei Corporation*. Stipulation and order of dismissal, Apr. 1, 1970.

2,757,610, Gegenheimer and Siebke, SHEET HANDLING MECHANISM AND METHOD FOR MULTI-COLOR PERFECTOR PRESS, **filed** Apr. 27, 1970, D.C., E.D.N.Y. (Brooklyn), Doc. 70C–543, *Miller Printing Machinery Co.* v. *Royal Zenith Corp.*

2,995,999, M. L. Holt, BALING PRESS, **filed** Aug. 24, 1966, D.C., E.D. Tenn. (Knoxville), Doc. 5735, *Galland-Henning Manufacturing Co. and Chattanooga Welding and Machine Co., Inc.* v. *Dempster Brothers, Inc.* Judgment, plaintiffs' patent is invalid, case dismissed, Apr. 20, 1970.

3,033,988. (See 3,249,001.)

3,086,206, H. Greenberg, END FIRE PLANAR DIPOLE ARRAY WITH LINE TRANSPOSITION BETWEEN DIPOLES AND IMPEDANCE INCREASE TOWARDS FEED, **filed** July 24, 1964, D.C., S.D.N.Y., Doc. 64–C–2297, *Channel Master Corporation* v. *RMS Electronics, Inc.* Consent judgment, defendant is permanently enjoined, Oct. 10, 1967.

3,112,300, Natta, Pino and Mazzanti, ISOTACTIC POLYPROPYLENE, **filed** Feb. 18, 1970, D.C., E.D. Tex. (Tyler), Doc. 5114, *Montecatini Edison S.p.A.* v. *Eastman Kodak Company, Inc.* Order of dismissal without prejudice, Apr. 20, 1970.

3,152,592, F. E. B. Foley, SELF-INFLATING BAG CATHETER, **filed** Oct. 11, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1741, *Saljate Corporation* v. *The Kendall Company*. Consent judgment granting permanent injunction, Apr. 17, 1970.

3,152,985, Stoertz and Goodwin, UTILIZATION OF BARK FLY ASH AND LIKE MATERIALS, **filed** Apr. 29, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c1011, *Westvaco Corporation* v. *City of Chicago and Timerland Products Co., Inc.* **same, filed** Jan. 2, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c2, *Westvaco Corporation* v. *City of Chicago and James Jardine.* Defendant's motion to dismiss sustained for the reason that the action has been prematurely brought. Cause dismissed without prejudice, Apr. 14, 1970.

3,168,330, Smith and Hyde, COLLAPSIBLE HANDLE FOR BABY CARRIAGE, **filed** Jan. 14, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70–85–IH, *"Strolee" of California, Inc.* v. *A. E. Peterson Manufacturing Co.*

3,238,936, A. T. Siedentop, APPARATUS FOR MECHANICAL CORRECTIVE THERAPY, **filed** Apr. 23, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70–869–WPG, *Alfred T. Siedentop* v. *Universal Medical Research, Inc.*

3,249,001, N. L. Stauffer, AUTOMATIC FOCUSING PHOTOGRAPHIC PROJECTOR; **3,033,988**, H. E. Edgerton, METHOD OF AND APPARATUS FOR THE CONTROL OF ELECTRIC IMPULSES, **filed** July 30, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c1593, *Honeywell Inc. and EG & G, Inc.* v. *AIC Photo, Inc., Allied Impex Corporation, and Interstate Photo Supply Midwest Corp.* Stipulation of dismissal, plaintiffs' amended complaint and defendants' counterclaim dismissed with prejudice, Apr. 21, 1970.

3,256,857, C. Karras, PRODUCT AND METHOD FOR MAKING ANIMAL BEDDING, **filed** Apr. 30, 1970, D.C., N.D.N.Y. (Utica), Doc. 70–CV–144, *Al-Sorb-Dri, Inc.* v. *Northeastern Products Corporation.*

3,296,052, A. M. Bechtold, MEANS AND METHOD FOR POSTFORMING PLASTIC LAMINATED PRODUCTS; **3,296,056**, same, MEANS FOR POSTFORMING PLASTIC LAMINATED PRODUCTS, **filed** Apr. 23, 1970, D.C., E.D. Calif. (Fresno), Doc. F–405–C *Roberts Consolidated Industries, Inc.* v. *Frank Monschein, doing business as Campus Plastic Products.*

3,296,056. (See 3,296,052.)

3,298,426, H. Kramer, WEBBING-STRIP FASTENERS, **filed** May 26, 1967, D.C., S.D.N.Y., Doc. 67–C–2080, *Hyman Kramer, doing business as Hy Kramer Enterprises* v. *Duralite Company, Inc.* Consent judgment, defendant restrained and enjoined from further infringement, Apr. 14, 1970.

3,314,608, Curtis and Jennings, SUSPENSION SYSTEM ACTUATED SELF-PROPELLED FLUID DISCHARGE DEVICE; **3,352,493**, C. Curtis, SELF-PROPELLED IRRIGATOR; **D. 208,770**, C. G. Curtis, WHEEL PIPE SUPPORT, **filed** Apr. 16, 1970, D.C., Colo. (Denver), Doc. C–2208, *Enresco, Inc.* v. *Schafer Plow, Inc., Kansas Corp. et al.*

3,318,060, M. R. Collins, DIELECTRIC COATED ALUMINUM PANEL SIDING, **filed** Apr. 20, 1970, D.C., N.D. Ohio (Cleveland), Doc. C70–369, *Harvard Industries, Inc.* v. *Aluminum Co. of America and Storm Master Home Improvement Co.*

3,327,990, P. Hohnstein, IRRIGATION PIPE VALVE, **filed** Apr. 21, 1970, D.C., Nebr. (Omaha), Doc. C–1678–L, *Hastings Irrigation Pipe Company* v. *Ace Irrigation and Manufacturing Company.*

3,339,554, V. L. Nobbs, GIRDLE, **filed** Apr. 21, 1970, D.C., N.D. Calif. (San Francisco), Doc. C–70–840–WTS, *Con-Stan Industries, Inc.* v. *Ger-Ro-Mar, Inc. and Carl G. Simonsen.*

3,352,493. (See 3,314,608.)

3,353,478, S. Hopkins, WASTE COLLECTING AND COMPACTING UNIT, **filed** Apr. 20, 1970, D.C., Md. (Baltimore), Doc. 70–455–K, *Whirlpool Corporation* v. *Trash Masters Corporation et al.*

3,361,114, H. R. Axelrod, METHOD FOR FEEDING FISH AND OTHER AQUATIC ANIMALS, **filed** Apr. 23, 1970, D.C., S.D.N.Y., Doc. 70–C–1650, *Miracle Pet Products, Inc.* v. *Lormar Trading Corp. et al.*

3,408,523, Demarest and Karlson, LIGHT BULB WITH A PLURALITY OF INDEPENDENTLY CONNECTED FILAMENTS FOR INDICATING GRAPHIC SYMBOLS, **filed** May 1, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c1044, Refac Technology Development Corp. v. *General Instrument Corp.*

3,421,731, Koch and Rocher, HOT TOP MAINTAINING SYSTEM, **filed** Apr. 29, 1970, D.C., N.D. Ohio (Cleveland), Doc. C70–391, *Metallurgical Exoproducts Corporation* v. *Insul Company, Incorporated.*

3,425,772, H. Y. Minas, METHOD FOR TESTING THE SENSITIVITY OF EYES TO LIGHT, **filed** July 3, 1969, D.C., N.D. Calif. (San Francisco), Doc. 51679, *Alpha Corp* v. *Bio-Engineering Inc. et al.* Judgment in favor of plaintiff, Apr. 29, 1970.

3,428,194, F. C. Weiss, SHIP BARGE HANDLING CRANES AND BEAMS, **filed** Apr. 24, 1970, D.C., N.D. Ohio (Cleveland), Doc. C70–384, *United Industrial Syndicate, Inc.* v. *Alliance Machine Company.*

3,462,688, W. E. Abel, COMMUNICATION SYSTEM FOR CLASSROOM USE AND THE LIKE; **3,474,451**, same, LOOP ANTENNA CIRCUIT COUPLING MULTIPLE TRANSMITTERS, **filed** Mar. 31, 1970, D.C., Conn. (New Haven), Doc. 13773, *Audio Trainer, Inc.* v. *MPC Educational Systems, Inc. et al.*

3,464,172, A. J. McGee, FIRE-RESISTANT STRUCTURAL MEMBERS FOR BUILDINGS, **filed** Apr. 30, 1970, D.C., W.D. Pa. (Pittsburgh), Doc.. 70–489–CA, *A. J. McGee, Jr.* v. *United* States Steel Corporation.

3,470,638, Friedman, Harris, Mauch, Harris and Manzo, WATCH BAND CONSTRUCTION, **filed** Apr. 20, 1970, D.C., E.D. Pa. (Philadelphia), Doc. CA–70–1061, *Brite Industries Inc.* v. *J. L. Popowich & Son.*

3,473,110, Hardin and Lovrenich, ELECTRONIC CONDUCTOR DETECTOR AND INDICATOR, **filed** Jan. 27, 1970, D.C. N.D. Ill. (Chicago), Doc. 70c188, *Eltra Corporation* v. *Electro Products Laboratories, Inc.*

3,474,451. (See 3,462,688.)

3,483,570, Cherry and Shackelford, INFLATABLE FOOTWEAR FORM, **filed** Apr. 23, 1970, D.C., S.D.N.Y. Doc. 70–C–1656, *Inflat-A-Industries Inc.* v. *Dan-Dee Imports Inc.*

3,484,888, M. C. Davis, COMBINED FLOOR WIPER AND SCOURER APPARATUS, **filed** Apr. 13, 1970, D.C., E.D. Mich. (Detroit), Doc. 34729, *Drackett Co. and Bristol-Meyers Co.* v. *Mack C. Davis.*

3,507,330, W. G. Gill, METHOD AND APPARATUS FOR SECONDARY RECOVERY OF OIL, **filed** Apr. 27, 1970, D.C., N.D. Tex. (Dallas), Doc. CA–3–3797–A, *The Electrothermic Company* v. *Texas Continental Oil Company, Inc. et al.*

D. 201,425, D. H. Topel, COMBINED WATER COOLER AND FILTER FOR DOMESTIC USE, **filed** Apr. 22, 1970, D.C., Ariz. (Phoenix), Doc. C–70237–Phx., *Donald H. Topel* v. *James Carey Gregory et ux, and Filtercold Corp. et al.*

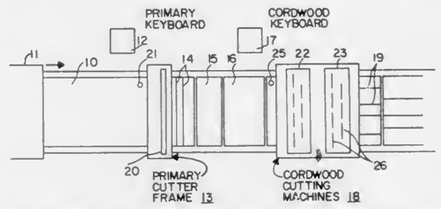
D. 204,175, B. Zuckerman, GARMENT HANGER, **filed** Apr. 29, 1966, D.C., S.D.N.Y., Doc. 66–C–1249, *Mr. Hanger Inc.* v. *Yankee Plastics Inc.* Stipulation and order, action withdrawn without prejudice, answer and intervening motions be hereby withdrawn, Feb. 7, 1968.

D. 208,770. (See 3,314,608.)

REISSUES

AUGUST 11, 1970

26,933
TEMPERATURE COMPENSATED CONTROL SYSTEMS
John D. Layman, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Original No. 3,499,354, dated Mar. 10, 1970, Ser. No. 709,407, Feb. 29, 1968. Application for reissue May 28, 1970, Ser. No. 36,059
Int. Cl. B26d *5/30*
U.S. Cl. 83—72 **17 Claims**



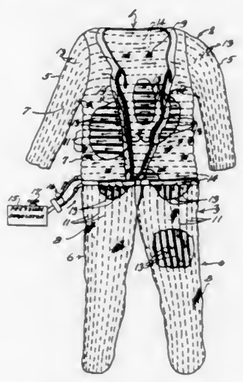
In a system for controlling the automatic processing of articles whose dimensions vary as a function of temperature, techniques are disclosed for modifying the control to compensate for such dimensional variations.

PATENTS

GRANTED AUGUST 11, 1970

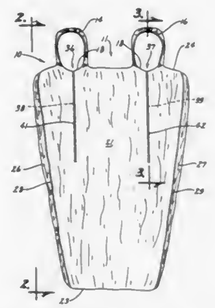
GENERAL AND MECHANICAL

3,523,301
PASSIVE AND ACTIVE TUBULAR PRESSURIZATION SUIT
Jefferson C. Davis, San Francisco, Calif., and Henry B. Whitmore and Leonard Harris, San Antonio, Tex.
Filed Oct. 4, 1968, Ser. No. 765,118
Int. Cl. B63c *9/16*
U.S. Cl. 2—2.1 **5 Claims**



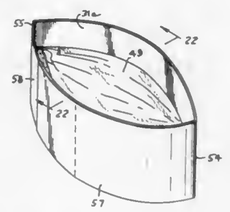
An inflatable high altitude pressure suit enclosure having a plurality of inflatable expansible and flexible, relatively small tubular members disposed around the interior in close adjacent side by side or superimposed substantially parallel relation to surround the body of a wearer. The tubular members are expanded when inflated to apply suitable body sustaining pressure on the body of a wearer within the enclosure when the exterior pressure surrounding the enclosure drops below a predetermined pressure.

3,523,302
SPECTATORS COVERALL GARMENT FOR OUTDOOR EVENTS
Richard W. Rabedeaux, 104 N. 2nd Ave. E., Newton, Iowa 50208
Filed Nov. 18, 1968, Ser. No. 776,520
Int. Cl. A41d *13/00*
U.S. Cl. 2—69.5 **1 Claim**



This invention relates to an outdoor coverall garment to be worn over conventional dress by a pair of spectators for protection from inclement weather, the garment having an enclosure for completely enveloping the body portion of the spectators and having a pair of openings for projection of the heads of the wearers, the enclosure being provided with a pair of closeable slits to permit movement in and out of the enclosure and with a pair of hoods for separately and selectively protecting the exposed heads of the enclosed spectators.

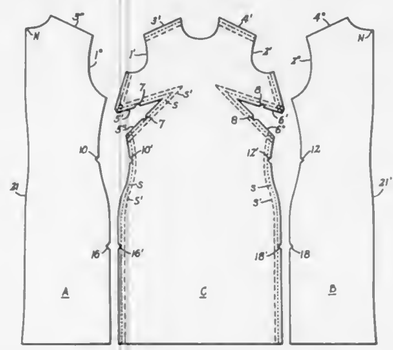
3,523,303
DISPOSABLE PAPER CAP AND METHOD OF PRODUCING SAME
Gilbert B. Wagenfeld, Bala Cynwyd, Pa., assignor to Cellucap Manufacturing Co., Philadelphia, Pa., a corporation of Pennsylvania
Filed July 28, 1967, Ser. No. 656,791
Int. Cl. A42b *1/02*
U.S. Cl. 2—200 **11 Claims**



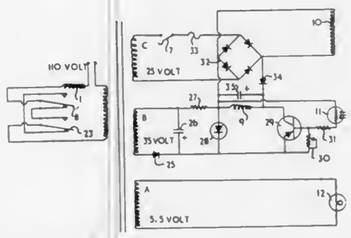
A disposable cap having a one-piece headband with one longitudinal fixed length side panel and a pair of opposite-end interfitted side panels forming a lengthwise adjustable side to accommodate varying head sizes. The crown portion is formed of an unbroken one-piece reversely folded web to provide lateral expansion and is secured to the full length of the fixed length headband side panel and extends onto part of one of the adjustable side panels as well so that the crown is longitudinally reversely folded on itself at one end and expands or contracts longitudinally when the adjustable side panel of the headband is shifted longitudinally to expand or contract the hat size, such crown longitudinal expansion or contraction being effected by shifting one end of the crown into or out of the interfit between the headband shiftable side panels. The longitudinal reverse fold of the crown eliminates any opening in the crown regardless of the size adjusted position of the cap. Adjusted size locking is provided by pressure sensitive adhesive patches and a sweatband is optionally incorporated. The cap is made by a continuous flow method starting with continuous webs for each of the headband and crown portions.

3,523,304
PRECUT GARMENT CONSTRUCTION
Earl Nobles, Garden City, N.Y., assignor to Montgomery Ward & Co., New York, N.Y., a corporation of Illinois
Filed Jan. 24, 1968, Ser. No. 700,074
Int. Cl. A41d *1/22*
U.S. Cl. 2—243 **1 Claim**

The application discloses garment sections which are precut and fashioned so that when properly sewn together they will, together, constitute a finished garment. Certain edges of the sections are formed with small darts, the positions of which serve to identify corresponding edges which are to be sewn. The apex points of each dart also serves as reference points with respect to the stitching lines whereby such lines sewn proximate each point will form a garment of regular size and lines sewn inwardly from the points at selected areas of the thigh, waist and bust, also identified by the location of the darts, will result in a garment of a size at such areas which is slightly reduced from regular size.



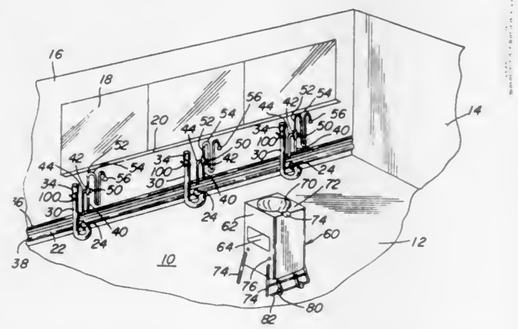
3,523,305
AUTOMATIC FLUSHING APPARATUS FOR TOILETS
Eugene K. Zorn, Cornwall, Ontario, Canada, assignor to Palleon Electronics Limited, Cornwall, Ontario, Canada, a corporation of Canada
Filed Jan. 2, 1968, Ser. No. 695,054
Int. Cl. H63d *5/10;* **H01h** *47/24*
U.S. Cl. 4—100 **6 Claims**



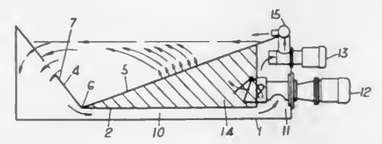
An automatic flushing apparatus operated by a photoelectric cell type of person sensing device that employs a solenoid to actuate the water releasing valve in a gravity feed tank or in the water pressure line; special timing mechanism related to the person sensing photocell including a relay with alternate voltage assuring that the operating cycle once started will continue despite untimely interruption of the light source beamed on the cell. Additionally, switches controlled by a motor driven cam make and break circuits to the motor and the valve releasing solenoid.

3,523,306
PORTABLE SHAMPOO SYSTEM
Patrick E. Sabella, 35 S. Washington St., Hinsdale, Ill. 60521
Filed Feb. 21, 1968, Ser. No. 707,234
Int. Cl. A45d *19/00, 19/04, 20/00*
U.S. Cl. 4—159 **4 Claims**

The disclosure describes a system for beauty parlors including in one embodiment a multiple utility system with spaced stations therealong having means for using the facilities in combination with one or more portable driers and wash basins which simplifies the processes of shampooing, setting and drying a patrons hair. In one embodiment each station of the utility system includes a flexible drain tube, sources of hot and cold water, a water mixing valve and a flexible wash water conduit with a hand-operated, valve-controlled spray head. A portable wash or shampoo stand with a basin, convenient shelves and a drain outlet for attachment to and use with each of the spaced utility stations is provided. Other embodiments are disclosed including a quick-release drain union, and brackets to hold the wash water conduit both at the utility station and at the portable wash stand.



3,523,307
APPARATUS FOR PRODUCING A MOVING FLUID SURFACE
Richard Bobart Buswell, 214 Greys Road, Henley-on-Thames, Oxfordshire, England
Filed Nov. 24, 1967, Ser. No. 685,514
Claims priority, application Great Britain, Dec. 2, 1966, 53,991/66; May 19, 1967, 23,362/67
Int. Cl. E04h *3/16*
U.S. Cl. 4—172 **7 Claims**

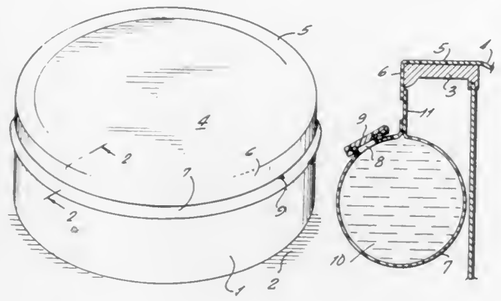


An apparatus for producing a moving fluid surface and particularly a water surface for training water skiers. A tank for the fluid has an outflow at one end protected by a grill and communicating by ducts leading to a header space from which the fluid is pumped to a spray box below the fluid contained in the tank and a distributor pipe at the fluid surface. Streams from the spray box are directed upwardly and streams from the distributor pipe flow horizontally towards the outflow. In combination the upward and horizontal streams form a support for a stationary water skier holding a tow rope attached to a fixed anchorage.

3,523,308
COVER FOR ABOVE GROUND POOLS
Warren H. Bradley, Franklin Square, N.Y., assignor to Medallion Pool Corporation, a corporation of New York
Filed Dec. 27, 1967, Ser. No. 694,000
Int. Cl. E04h *3/19*
U.S. Cl. 4—172.12 **7 Claims**

The invention is for a protective cover for above-ground swimming pools, the cover having secured to the edges

thereof a tube usually filled with water. The cover extends over the coping and down on the outside of the

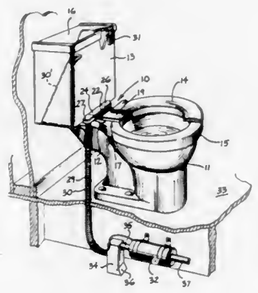


wall of the pool to a point substantially below the coping, where the cover is attached. Additional means are provided to anchor the cover to the ground.

3,523,309
TOILET EXHAUST SYSTEM

Walter B. Munden, Charlotte, N.C., assignor of thirty-three and one-third percent to Luther N. Packer, Fayetteville, N.C.

Filed Oct. 31, 1967, Ser. No. 679,363
Int. Cl. E03d *9/05*
U.S. Cl. 4—213 **14 Claims**

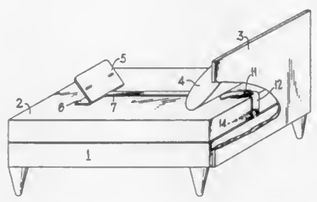


In abstract, a preferred embodiment of this invention is an easily installable, readily adaptable air exhaust system for attachment to toilet bowls.

3,523,310
FOOT SUPPORT FOR USE BY THE OCCUPANT OF A BED

Terence Brian Shead, Mitcham, England, assignor to Terence Brian Shead and Anthony Francis Shead, Mitcham, England, trading as Shead Brothers

Filed Jan. 30, 1968, Ser. No. 701,671
Claims priority, application Great Britain, Jan. 30, 1967, 4,497/67; Mar. 23, 1967, 13,819/67
Int. Cl. A47c *22/00;* **A63b** *23/04*
U.S. Cl. 5—327 **10 Claims**

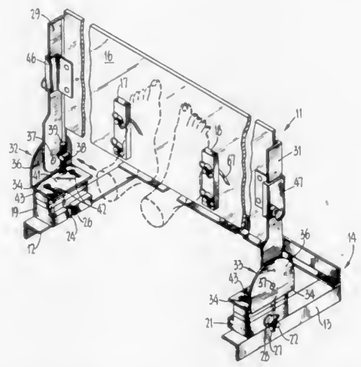


A support for the occupant of a bed, particularly for use in hospitals, for preventing the occupant from gradually slipping or sliding down the bed and comprising a footrest and flexible means secured to the footrest and to the bed which can, if required, be operated by the occupant of the bed, for adjusting and maintaining the position of the footrest in the bed.

3,523,311
HOSPITAL BED FOOTBOARD ASSEMBLY

Maurine E. Ricke, 153 Smith Road, Alama Oaks, Danville, Calif. 94526

Filed June 12, 1968, Ser. No. 736,323
Int. Cl. A47c *21/00*
U.S. Cl. 5—327 **5 Claims**

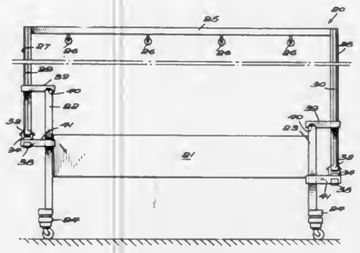


A footboard assembly is described for use with a bed to provide desired positioning and support of a bedridden person's feet. The assembly includes a pair of support bases adapted for mounting on opposite side rails of a bed frame. A pair of elongated support arms project upwardly from the bases to locations at opposite sides of the bed and have a foot supporting panel extending between them over the beds. The support arms are mounted to the bases so as to be adjustable laterally with respect thereto so that beds having different widths can be accommodated. A pair of blocks are removably secured to the foot supporting panel in locations to provide side support for the outer side edge of the feet of a user. These blocks may be angularly adjusted with respect to the vertical so that they can support the user's feet in any one of a plurality of desired angular positions.

3,523,312
CLAMP

Lewis L. Rogers 3rd, 43 N. Franklin St., Wilkes-Barre, Pa. 18701

Filed Aug. 12, 1968, Ser. No. 752,042
Int. Cl. A47c *21/00*
U.S. Cl. 5—327 **8 Claims**

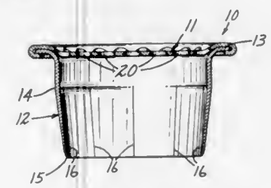


A clamp which may be used for an invalid support structure and can be hand adjusted and hand clamped to beds of varying heights and widths is disclosed. The adjustments are held by cam action and the clamps are spring biased to improve the clamping action.

3,523,313
VENTILATING GROMMET FOR MATTRESSES AND THE LIKE

Sven Olof Olsson, Minneapolis, Minn., assignor to Bechik Products, Inc., St. Paul, Minn., a corporation of Minnesota

Filed June 20, 1968, Ser. No. 738,618
Int. Cl. A47c *23/00*
U.S. Cl. 5—347 **6 Claims**

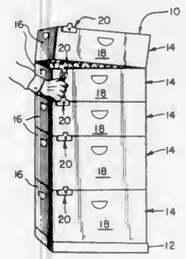


A breather plate with a plurality of apertures therethrough fixedly attached at one end of a tubular barrel, the other end of which is formed by a substantially continuous sharpened edge so that the grommet can cut its own hole for the insertion thereof through the side wall of a mattress.

3,523,314
BEEHIVE OPENING ARRANGEMENT

Edmond R. Homins, 526 Lyman Ave., Des Plaines, Ill. 60018

Filed Apr. 15, 1968, Ser. No. 721,478
Int. Cl. A01k *51/00*
U.S. Cl. 6—12 **10 Claims**



A device for separating adjacent sections of a beehive comprising a body rotatably mounted on one section near another section and having a portion, engageable with the other section, operable to urge the sections apart as the body is rotated.

3,523,315
POLY-α-OLEFINIC COMPOSITION HAVING EXCELLENT DYEABILITY

Kenichi Matsui, Atsuo Nakanishi, and Itsuho Aishima, Nobeoka-shi, and Yoshisato Fujisaki, Tokyo, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan

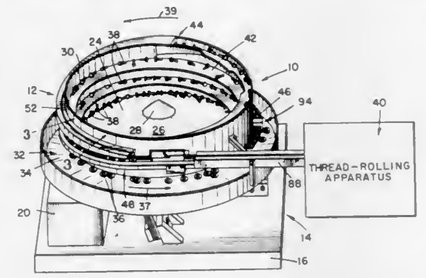
No Drawing. Filed Feb. 15, 1966, Ser. No. 527,527
Int. Cl. D06p *5/00*
U.S. Cl. 8—168 **9 Claims**

A composition comprising a polyolefin, a 1,2,4-aminotriazole and a calcium carbonate powder has a remarkably enhanced dyeability, and in addition, has an advantage in that the additive is not eluted during dyeing, whereby the degree of exhaustion is unexpectedly enhanced and a brilliant, deep and fast dyed product is obtained.

3,523,316
ASSEMBLY FEEDER

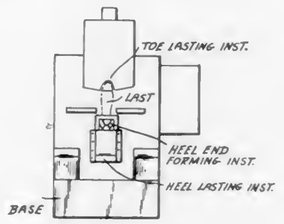
Raymond L. Alexander, Indianapolis, Ind., assignor to Moorfeed Corporation, Indianapolis, Ind., a corporation of Indiana

Filed Nov. 6, 1967, Ser. No. 680,676
Int. Cl. B23p *19/08*
U.S. Cl. 10—155 **9 Claims**



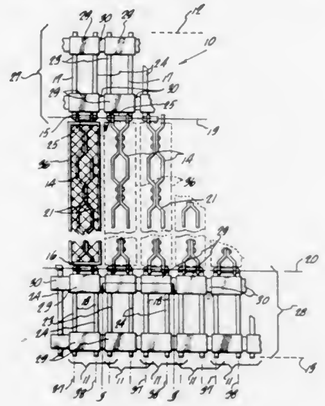
An assembly feeder comprising hopper means and means for effecting vibratory motion of the hopper means, the hopper means comprising first receptacle means for receiving a supply of substantially identical first elements and second receptacle means for receiving a supply of substantially identical second elements, each of such first elements being proportioned and designed for mating engagement with any one of such second elements. First track means is provided for receiving and conveying first elements from the first receptacle means and second track means is provided for receiving and conveying second elements from the second receptacle means, the track means being connected to the hopper means for vibratory movement therewith. The exit end of the first track means is disposed above and in registry with a first portion of the second track means so that first elements carried on the first track means will be in a mating relationship with second elements carried on the second track means, whereby, when the hopper means and track means are vibrated, first elements leaving the first track means will be mated with single second elements on the second track means and such mated first and second elements will be moved along the second track means. Preferably, the track means are removably fastened to the hopper means so that different track means can be selectively used with the same hopper means. Also, preferably, detent means is associated with the second track means releasably to position single second elements in a position to be mated with a first element.

3,523,317
HEEL AND TOE LASTING APPARATUS
Herbert Klantke, Lemberg, Germany, and Henry von den Benken, West Roxbury, and Robert B. Dunlap, Medway, Mass., assignors to E. G. Henkel Maschinenfabrik, Neu Isenburg, Germany, a corporation of Germany, and Compo Industries, Inc., Waltham, Mass., a corporation of Delaware
Filed May 17, 1968, Ser. No. 730,081
Claims priority, application Germany, July 22, 1967, 1,685,414; Oct. 11, 1967, 1,685,415
Int. Cl. A43d *21/00*
U.S. Cl. 12—12 **39 Claims**



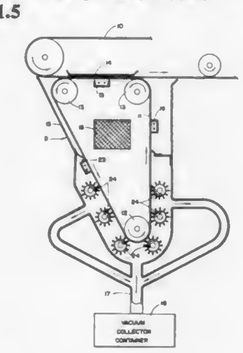
A shoe lasting machine having supports on which the heel and toe of a last may be placed and held and instrumentalities at the heel and toe for operating on an upper and insole assembled on the last, the instrumentalities at the heel end comprising heel end forming means for conforming the upper about the heel end of the last and wipers universally adjustable relative to the bottom of the last for wiping the lasting margin inwardly against the insole, and the instrumentalities at the toe end comprising adjustably mounted pincers adapted to grip the lasting margin and pull it taut about the toe and forwardly with reference to the heel, and wipers for wiping the lasting margin inwardly against the insole.

3,523,318
COLLAPSIBLE PONTOON BRIDGE
Frank J. McGuinness, Canoga Park, Calif., assignor to Southwestern Industries, Inc., Los Angeles, Calif., a corporation of California
Filed Oct. 30, 1968, Ser. No. 771,741
Int. Cl. E01d *15/14*
U.S. Cl. 14—27 **17 Claims**



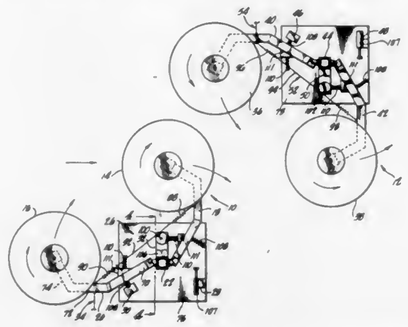
A self-erecting pontoon bridge having uni-directionally hinged tracks extending along the margins of the bridge, transverse trusses disposed between the tracks and to which the tracks are hinged lengthwise of the bridge, and inflatable pontoons secured between the outer edges of the tracks below the bridge. The tracks are hingable from outwardly of the trusses into overlying relation to the trusses to reverse the direction of stiffness of the bridge from its erected state to its collapsed or collapsible state.

3,523,319
ENDLESS CLEANING WEB
Hans O. Stoever, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 1, 1968, Ser. No. 725,743
Int. Cl. A47l *13/48*
U.S. Cl. 15—1.5 **11 Claims**



Residual toner particles on a photoconductive belt are cleaned therefrom by frictional contact of a pervious cleaning web running along an endless path in the opposite direction to the belt. A corona may be used to place a charge on the cleaning belt opposite that on the particles to be cleaned so that they are attracted to the belt and an A.C. corona may be used following cleaning to loosen the particles from the cleaning web which may be further loosened as by beating with brushes. The loosened particles then are removed from the web by drawing air therethrough as by a vacuum, so that the cleaning web may be reused.

3,523,320
BRUSH ASSEMBLY FOR USE IN CAR WASHES
Robert D. Williams, Box 161, La Canada, Calif. 91011
Filed June 7, 1968, Ser. No. 735,273
Int. Cl. B60s *3/06*
U.S. Cl. 15—21 **21 Claims**

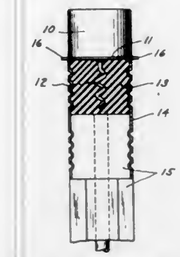


A first and second set of brushes are disposed in the path of an advancing car to scrub the front, sides and rear of the car. Each set includes a leading rotatable brush and a trailing rotatable brush coordinated such that an advancing car encounters the leading brush and forces the trailing brush into the side of the car. As the car continues to advance, the leading brush will move laterally of the car's path towards the side of the car and then along the side of the car. The trailing brush is coupled to the leading brush such that a car acting on the leading brush will force the trailing brush across the back of the car. The second set of brushes is disposed further along the path of the car to scrub the half of the car remaining after the first set has completed its scrubbing. The second set of brushes also has a trailing and leading rotatable brush coupled together such that an advancing car forces the leading brush laterally of the car's path across the front of the car and down its side while the trailing brush is scrubbing the side and ultimately the back of the car. Each of the brushes has a self-contained drive. The drives rotate the brushes such that the leading brushes tend to the sides of the car while the trailing brushes, when in position to do so, tend towards the center of the car.

ERRATUM

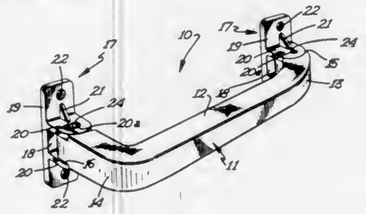
For Class 15—250.7 see:
Patent No. 3,523,626

3,523,321
REPLACEMENT ERASER FOR USE ON LEAD PENCILS
Charles B. Francis, 1833 13th Ave., Apt. 206, Seattle, Wash. 98102
Filed Aug. 28, 1968, Ser. No. 756,018
Int. Cl. B43k *29/02*
U.S. Cl. 15—431 **7 Claims**



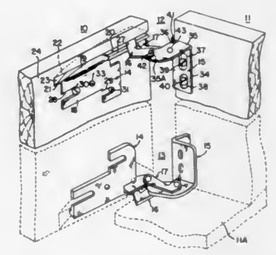
An eraser member of about the same size and shape as the usable part of an ordinary lead pencil eraser is attached to one side of a small mounting disc and an anchor member is rigid with and protrudes from the other side of the mounting disc and is adapted to be embedded in the stub of a worndown eraser on the pencil to firmly secure the replacement eraser close to and in line with the worndown eraser stub.

3,523,322
HANDLE DEVICE
Le Roy J. Rossow, 857 Rice St., St. Paul, Minn. 55117
Filed Mar. 20, 1967, Ser. No. 624,501
Int. Cl. A47b *95/02*
U.S. Cl. 16—111 **3 Claims**



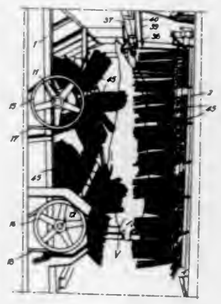
A handle device for mounting on contoured surfaces, the handle device comprising a grip having mounting brackets rotatably mounted on each end of the grip for rotation about a transverse axis whereby the handle device may be conveniently mounted on any convexly contoured surface.

3,523,323
CONCEALED CABINET HINGE
William Alex Weyboll Jorgensen, 5360 Brookside, West Vancouver, British Columbia, Canada
Continuation-in-part of application Ser. No. 384,633, July 23, 1964. This application Mar. 15, 1965, Ser. No. 439,528
Int. Cl. E05d *3/06*
U.S. Cl. 16—164 **34 Claims**



A hinge constructed in accordance with the present invention consists of a pair of plates interconnected by a pair of links said links being pivotally secured at opposed ends thereof to the respective plates with the pair of links at one end being disposed one on each side of a portion of the plate to permit overriding of the links during pivotal movement of the hinge, said pivots being disposed to define substantially a trapezoid in a position occupied when mounted and in a door closed position.

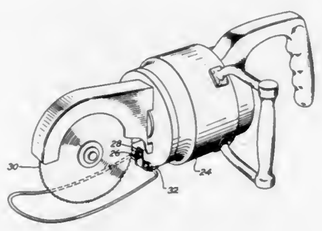
3,523,324
INSTALLATION FOR THE OUTSIDE CLEANING OF SLAUGHTERED ANIMALS, MORE ESPECIALLY PIGS
Julius Debaere, Staden, Belgium, assignor of one-half to Luto Gelderse Exportslachterijen N.V., Groenlo, Netherlands, a corporation of the Netherlands
Filed Sept. 20, 1967, Ser. No. 669,240
Claims priority, application Belgium, Oct. 3, 1966, 687,709
Int. Cl. A22c *17/08;* **A22b** *5/08*
U.S. Cl. 17—1 **4 Claims**



Installation for the outside cleaning of slaughtered animals, and more particularly of pigs, mainly consists in the combination of at least one row of upstanding flexible means which impart a rotary motion to the pig

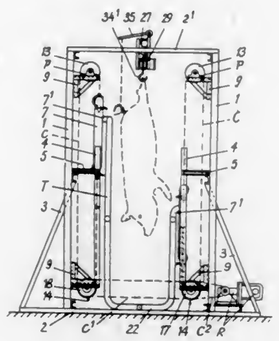
being moved alongside thereof; at least one row of horizontally mounted elastic means which move alongside the pig in order to clean it; a conveyor which affords the possibility to move the pig between aforesaid rows of elastic means and means which spray it in an efficient way.

3,523,325
HAM MARKING GUIDE
Paul L. Ford, 1117 Leavitt, Flossmoor, Ill. 60422
Filed Feb. 7, 1968, Ser. No. 703,712
Int. Cl. A22b *5/00;* **B23d** *45/16*
U.S. Cl. 17—1 **2 Claims**



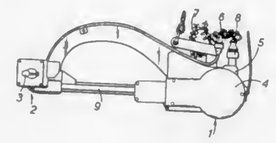
An improvement in ham marking saws is disclosed, consisting of a guide having guide arms hingedly fixed to the saw to permit the arm to be moved upwardly and to one side of the blade at a predetermined distance therefrom.

3,523,326
AUTOMATIC MACHINE FOR SCALDING PORK CARCASSES AFTER BLEEDING
Pierre Ambill, Saint-Etienne, France, assignor to Sagita S.A. (Le Gaz Industriel Tagolsheim-Paris), Tagolsheim (Haut-Rhin), France, a French society
Filed Oct. 19, 1967, Ser. No. 676,537
Claims priority, application France, Oct. 20, 1966, 9,564, Patent 1,497,342; July 3, 1967, 9,778
Int. Cl. A22b *5/08*
U.S. Cl. 17—15 **11 Claims**



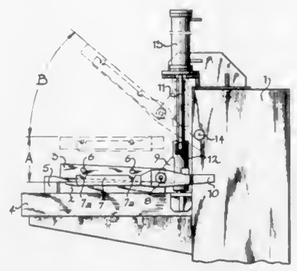
An automatic machine for scalding animal carcasses, the machine having a framework and means for suspending the carcasses and conveying them through the framework between two scalding frames mounted in the framework and driven in opposing reciprocal vertical motion so that one frame is in a high position when the other is in a low position, the scalding frames having hot water distributing elements provided with deflectors to cause the water to fall in sheets over the suspended carcasses, water connection means being provided on the frames for the distributing elements.

3,523,327
POWER DRIVEN SUSPENDED RECIPROCATING SAW INSTALLATION
William J. O'Neilly, Weybridge, England, assignor to Flaymasters Limited, Weybridge, Surrey, England, a British company
Filed Mar. 22, 1968, Ser. No. 715,317
Int. Cl. A22b *5/20*
U.S. Cl. 17—23 **12 Claims**



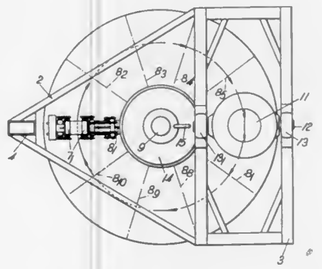
This invention provides an improved form of saw by means of which carcasses may be split in abattoirs. The saw is moveable vertically and normally splits the carcass as it moves downwardly and is then returned to its upper position to operate on the next carcass. The saw is held by the operator with the blade in a substantially horizontal position and the blade reciprocates towards and away from the operator. The operator stands at the light end of the saw and controls the operations by hand controls on a crossbar at the light end. The saw is suspended at its heavy end from an overhead framework.

3,523,328
APPARATUS FOR OPENING VULCANIZING MOLDS, ESPECIALLY FOR USE IN CONNECTION WITH RUBBER INJECTION MOLDING MACHINES
Karl Huff and Dieter Holm, Ahlem, and Hans Humke, Havelse, Germany, assignors to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed Nov. 28, 1966, Ser. No. 597,355
Claims priority, application Germany, Nov. 30, 1965 C 37,526
Int. Cl. B29h *3/08*
U.S. Cl. 18—2 **10 Claims**



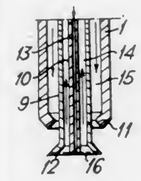
A mold opening device having a power operable upward lifting means including combined vertical cylinder and vertically reciprocable piston system with a pair of two-arm levers and arm engaged abutments vertically spaced by approximately twice the thickness of the top plate means with respect to bottom plate means of a vulcanizing mold. Exclusive initial movement of said levers completely vertically must occur prior to any subsequent pivotal movement with respect to the abutment to assure against possible damage to a just-molded article during the subsequent pivotal movement of the top plate means at an angle of approximately 90° rotation, simultaneously freely exposing the mold parts for thorough inspection and cleaning.

3,523,329
MACHINE FOR THE EXTRUSION, BLOWING, FILLING AND SEALING OF THERMOPLASTIC MATERIAL BOTTLES
Pierre-Henri Gallay, Hauts de Seine, France, assignor to Mecaplast S.A., Geneva, Switzerland, a Swiss body corporate
Filed Nov. 6, 1967, Ser. No. 680,637
Claims priority, application France, Nov. 10, 1966, 83,350
Int. Cl. B29c *5/10;* **B65b** *3/02*
U.S. Cl. 18—5 **6 Claims**



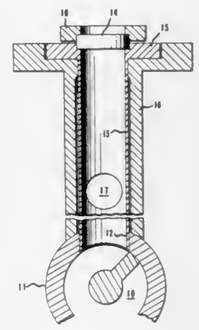
The specification discloses a machine for the extrusion, blowing, filling and sealing of thermoplastic material bottles, such machine comprising an extruder for extruding vertically a parison of thermoplastic material, a plurality of two part moulds, means for opening and closing said moulds, means for successively blowing bottles from said parison, filling the bottles and sealing the filled bottles while in the moulds and drive means to move the moulds continuously in a closed path without stopping and successively under the extruder and the blowing, filling and sealing means.

3,523,330
APPARATUS FOR BLOW-EXTRUSION AND FILLING HOLLOW BODIES
Pierre-Henri Gallay, Neuilly, France, assignor to Mecaplast S.A., Geneva, Switzerland, a Swiss body corporate
Filed Sept. 21, 1967, Ser. No. 669,456
Claims priority, application France, Sept. 22, 1966, 77,262
Int. Cl. B29c *17/07;* **B29d** *23/03;* **B65b** *47/08*
U.S. Cl. 18—5 **9 Claims**



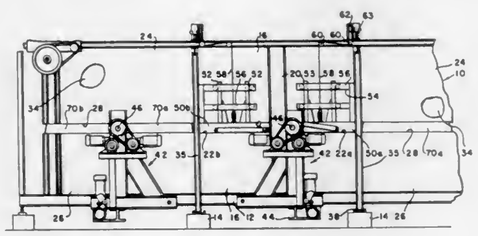
The disclosure describes a blowing nozzle for use in apparatus for blow-extruding and filling hollow bodies, such nozzle comprising an external tubular body, having an open lower end, an element mounted coaxially within said tubular body and longitudinally divided to form two channels both open at the bottom, means being provided to move said element axially within said tubular body, the tubular element including a seal, for sealing the lower end of the tubular body when said element is in its raised position.

3,523,331
HEATED EXTRUSION VENT PORT MONITORING WINDOW
Robert Benjamin Weeks, Willowdale, Ontario, Canada, assignor to Du Pont of Canada, Limited, West Montreal, Quebec, Canada, a company of Canada
Filed July 30, 1968, Ser. No. 748,848
Int. Cl. B29f *3/03*
U.S. Cl. 18—12 **7 Claims**



An inspection system for monitoring nylon extrusion processes which includes a vent port, a vent port tube with one end seated in said vent port and a sight glass at the other end of said vent port tube and a vacuum port in the side of said vent port tube can be improved so that the inspection window will not be deposited with monomer over the inside and thus rendered totally opaque by heating the inspection window and vent port tube above the condensation temperature of the monomer gases and placing said inspection window at a distance of at least 3½ times the said vent port tube's inside diameter from said vent port and having said vacuum port located at a distance of at least 2 times said vent port tube inside diameter from said sight glass.

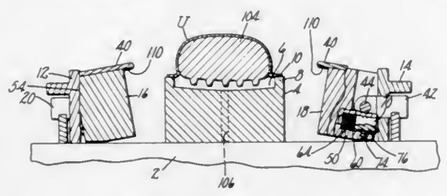
3,523,332
ROTATIONAL MOLDING APPARATUS FOR THERMOPLASTIC PRODUCTS
Elliott Bavers, New York, N.Y., assignor to Rotodyne Manufacturing Corporation, Brooklyn Navy Yard, Brooklyn, N.Y., a corporation of Delaware
Filed Aug. 2, 1968, Ser. No. 749,673
Int. Cl. B29c *11/00*
U.S. Cl. 18—26 **19 Claims**



Rotational molding apparatus, including an open-ended curing chamber and a cooling compartment at each open end thereof, doors movable to connect and separate the chamber and compartments, a continuous gap in each side wall of the apparatus for the passage of a rotary mold-supporting shaft through each compartment into the

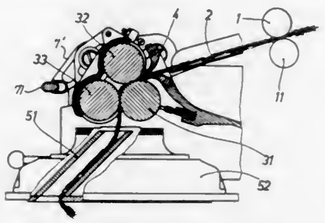
chamber, shutters movable by the movement of the doors to open the chamber gap upon opening of the door and to close the gap upon closing of the door, a pair of baffles for closing each compartment wall gap, each pivoted on said wall by one end adjacent the center of the gap and engageable by said shaft for movement into gap-opening and closing positions upon its movement through the gap; the baffles arranged to be both in gap-closing position when the shaft is at the gap center and to be spaced apart a distance to accommodate the shaft between them when in said position; means being provided for releasably maintaining the baffles in gap-closing position until moved therefrom by the shaft.

3,523,333
SOLE MOLD ASSEMBLIES
John J. Taylor, and William T. Jordan, Leicester, England, assignors to USM Corporation, Flemington, N.J., a corporation of New Jersey
Filed July 25, 1968, Ser. No. 747,718
Claims priority, application Great Britain, Sept. 22, 1967 43,140/67
Int. Cl. B29c *1/00;* **B29h** *7/08*
U.S. Cl. 18—42 **7 Claims**



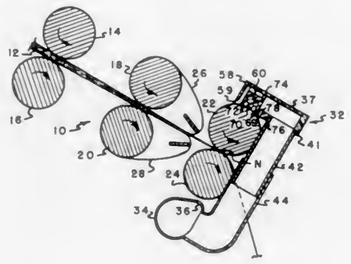
A mold assembly for use in the molding of a shoe bottom onto an upper. The assembly comprises a bottom mold member provided with a recess having the configuration of a shoe bottom unit, the recess being bounded by an upstanding wall. Side mold members are pivotally mounted on carriers movable toward and away from the bottom mold member, the side mold members being engageable with each other. Means responsive to the engagement of the side mold members are provided to move the side mold members pivotally whereby to move welt plates mounted on the side mold members toward the edge of the upstanding wall.

3,523,334
FIBER SLIVER GUIDE MECHANISM
Oswald Dotzauer, Ingolstadt, Germany, assignor to Schubert & Salzer Maschinenfabrik Aktiengesellschaft, Ingolstadt, Germany, a corporation of Germany
Filed Dec. 20, 1967, Ser. No. 692,021
Claims priority, application Germany, Dec. 23, 1966, Sch 40,010
Int. Cl. D01g *31/00*
U.S. Cl. 19—.23 **6 Claims**



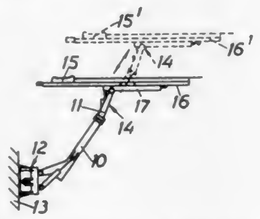
The direction of fiber sliver traveling at high speed is changed by the sliver being passed, first, between a pair of gear-driven calender rolls and, then, between the lower calender roll and an idler roll. Opposite ends of the upper calender roll and the idler roll are mounted in saddles movable relative to the lower calender roll to alter the pressure of the saddle-mounted rolls against such lower calender roll. The saddles are connected for conjoint movement by a yoke. Each yoke arm is linked by a tie rod to a spring-pressed lever arm for pressing the saddle-mounted calender and idler rolls against the lower calender roll. A pair of adjustable contacts on each saddle straddle a contact pin projecting from each yoke arm. Each pair of contacts and the yoke pin between them constitute a switch in the roll-driving motor circuit. If either contact disengages the yoke pin when the saddles drop slightly due to lack of sliver between the calender rolls or are lifted slightly by an enlargement in the sliver passing between the rolls, the circuit is broken and the motor de-energized.

3,523,335
PNEUMATIC CLEARER
Robert M. Ingham, Jr., Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Continuation of application Ser. No. 564,462, June 16, 1966. This application Sept. 13, 1967, Ser. No. 669,355
Int. Cl. D01h *5/62*
U.S. Cl. 19—263 **3 Claims**



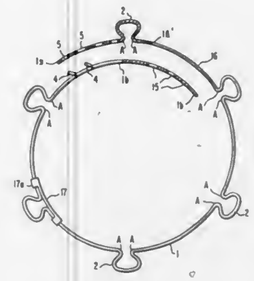
This application is directed to a scraper of plastic-like abrasive resistant material which engages at least one roll, preferably the top front roll, of a drafting system to clean lint, trash, etc., therefrom. The scraper is freely movable and is operably associated with a suction system to remove lint, trash, etc., from the ambient air around the drafting system.

3,523,336
LONGITUDINALLY ADJUSTABLE DRILL BOOM
Erich Voldemar Kimber, Vendelso, Sweden, assignor to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed May 21, 1968, Ser. No. 730,717
Claims priority, application Sweden, May 24, 1967, 7,262/67
Int. Cl. E21c *11/00*
U.S. Cl. 248—16 **9 Claims**



A drill boom is longitudinally extensible and contractible by a power cylinder. The drill boom extension mechanism includes a boom extension member longitudinally slidably guided on the one hand in a journal bearing affixed to the outer end of the drill boom and on the other in a guiding sleeve made in one piece with the journal bearing and extending into the drill boom. The guiding sleeve has such spacing therearound within the boom as to avoid deformation thereof against interior parts of the drill boom during normal deflection of the latter. The guiding sleeve has furthermore longitudinal grooves cooperating with wedges on the boom extension member for guiding the latter non-rotatably in the drill boom.

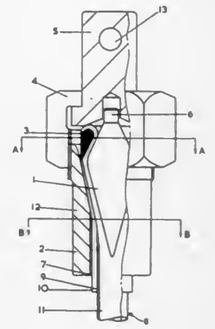
3,523,337
CLAMPING DEVICE
Hans Oetiker, 21 Oberdorfstrasse, Postfach 93, Horgen, Switzerland
Original application Oct. 23, 1965, Ser. No. 503,541, now Patent No. 3,475,793, dated Nov. 4, 1969. Divided and this application June 26, 1968, Ser. No. 740,113
Int. Cl. B65d *63/02*
U.S. Cl. 24—20 **28 Claims**



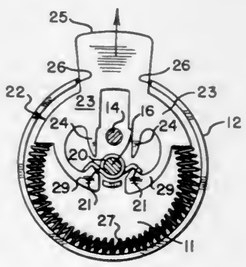
A clamp structure for use as a hose clamp or the like which is capable of withstanding relatively high pressures and which is formed by a band and at least one tensional spring element made of a material having a high elastic limit so as to preserve the clamping pressure which might otherwise lessen due to aging, etc.; several tensional spring elements may also be provided which are distributed over the circumference of the band. The tensional spring elements may be in the form of undulated springs or may be in the form of ear-shaped folds having radially outwardly projecting band portions which pass over into the circumferentially extending band portions through arcuate portions. The ends of the band are provided with a closing mechanism permitting a preliminary step-wise fitting of the band to the diametric dimensions of the hose or other object to be clamped.

3,523,338
GRIPPING DEVICE FOR ROPES
Peter Arthur Aldred and Geoffrey Farthing, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Oct. 30, 1967, Ser. No. 678,916
Int. Cl. F16g *11/05, 11/04*
U.S. Cl. 24—122.6 **6 Claims**

A gripping device for rope, especially rope having a parallel filamentary core, is provided which comprises a tubular housing having an internally tapered portion, a double tapered member which fits inside the housing so that one tapered portion is complementary to the tapered portion of the housing and the other tapered portion is complementary to the interface of a collar which fits inside the housing and over the other tapered portion of the double tapered member. In use the end of the core of a sheet rope is distributed about the periphery of the double tapered member so as to pass between the collar and the double tapered member, and then over the collar and back between the double tapered member and the tapered portion of the housing.



3,523,339
JEWELRY PIN CLUTCH
Michael J. LaViano, 273 Glen Road, Woodcliff Lake, N.J. 07680
Filed Nov. 14, 1968, Ser. No. 775,708
Int. Cl. A44b *9/10*
U.S. Cl. 24—155 **2 Claims**



A jewelry pin clutch features a helical spring mounted in a case along with a yoke-shaped cam so positioned that the cam yoke can be moved against opposite ends of the spring to cause the internal diameter of its helical body portion to expand and thus permit entry or removal of a jewelry pin.

3,523,340
PUSHBUTTON BUCKLE WITH SLIDE ACTION
Robert W. Stoffel, Ferndale, Mich., assignor to Jim Robbins Seat Belt Co., Troy, Mich., a corporation of Delaware
Filed Apr. 15, 1968, Ser. No. 721,436
Int. Cl. A44b *11/26*
U.S. Cl. 24—230 **12 Claims**

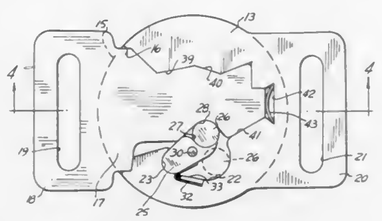
A seat belt buckle in which the tongue overlaps the base of the buckle housing in its locking position with locking means on the tongue being engageable with locking means in the base to prevent motion of the tongue parallel to the base. The locking means on the tongue and the base are separable by motion of the tongue per-

pendicular to the base. A spring-biased hold-down plate in the housing is slidably mounted between a hold-down position where it prevents motion of the tongue perpendicular to the base and a release position where it allows such motion. A pushbutton, supported for motion toward



and away from the base is connected by linkage means to the hold-down plate and adapted so that depression of the pushbutton moves the hold-down plate parallel to the base to its release position from its hold-down position.

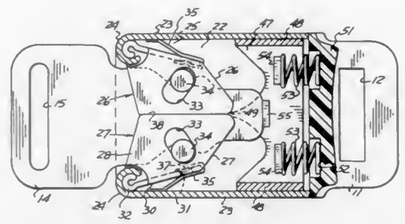
3,523,341
SAFETY BELT BUCKLE
John P. Spires, 202 S. Bristol St., Almont, Mich. 48003
Continuation-in-part of application Ser. No. 699,463, Jan. 22, 1968. This application Nov. 26, 1968, Ser. No. 779,126
Int. Cl. A44b *11/00*
U.S. Cl. 24—230 **11 Claims**



A safety belt buckle having a pocket for slidably receiving a tongue having an anti-friction locking edge formed with an arcuate socket to receive a roller mounted upon a pivotable arm arranged within the buckle pocket for pivoting towards and away from the edge. The roller rolls into the socket for interlocking with the tongue and rolls out of the socket, upon manual movement of the arm, for disengaging the tongue. During interlock, the arm with the roller form a rigid strut to transmit forces between the tongue and the buckle, but may be rollingly released even when under load.

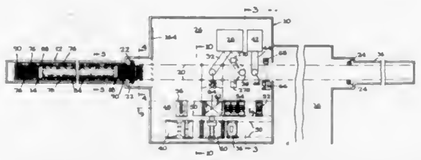
3,523,342
SEAT BELT BUCKLE LATCH
John P. Spires, 1215 Turrill Road, Lapeer, Mich. 48446
Continuation-in-part of application Ser. No. 699,463, Jan. 22, 1968. This application Nov. 29, 1968, Ser. No. 779,870
Int. Cl. A44b *11/00*
U.S. Cl. 24—230 **8 Claims**

A buckle latching mechanism formed of a pair of opposing arms having spaced apart ends pivotally connected to the buckle housing and opposite ends converging towards and in contact with each other during latching to form a rigid triangle, with rollers carried by the adjacent ends, and with a belt tongue slidably positioned between the pivots along the axis of the triangle and having socketed edges for rollingly receiving the



rollers for thereby latching the tongue to the housing. A slidable wedge separates the arms for rollingly disengaging the rollers from the sockets to unlatch the tongue.

3,523,343
SYSTEM FOR THE PRODUCTION OF CAST CONCRETE MEMBERS
William E. Mitchell, Franklin, Tenn., assignor to Span-Deck, Inc., Franklin, Tenn., a corporation of Tennessee
Filed Dec. 5, 1967, Ser. No. 688,077
Int. Cl. B28b *15/00*
U.S. Cl. 25—2 **15 Claims**

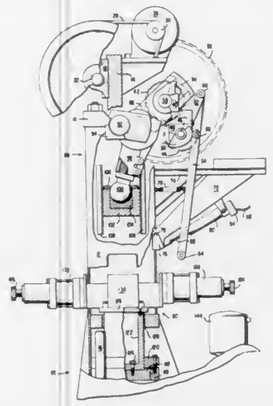


A system for producing cast concrete members wherein a manufacturing area housing the sequentially used items of production equipment is located centrally between an elongated curing area and a similarly elongated unloading-overrun area, and a casting bed moves back and forth several times during each production cycle while the various operations of the manufacturing process are performed. The casting bed comprises a lengthy stress frame which is mounted on a track extending the full length of the facility and carries a molding form on which the concrete member is cast by equipment which normally remains stationary in the manufacturing area while the bed moves beneath it. The casting bed is moved along the track at any desired speed in either direction by suitable driving means, such as two sets of selectively operable hydraulic motors which are located on opposite sides of the manufacturing area and drive rubber-tired wheels having frictional engagement with the stress frame.

3,523,344
APPARATUS FOR DRY PRESSING CERAMIC TILE
William W. Huber, North Canton, and Richard L. Dana, Canton, Ohio, assignors to United States Ceramic Tile Company, Canton, Ohio, a corporation of Delaware
Continuation-in-part of application Ser. No. 409,303, Nov. 5, 1964. This application May 8, 1967, Ser. No. 636,983
Int. Cl. B28b *3/02*
U.S. Cl. 25—89 **13 Claims**

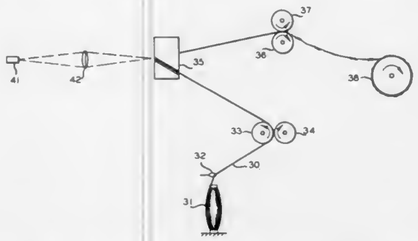
A method and apparatus is illustrated for dry pressing granular ceramic material in situ by subjecting the material to a first peak pressure, then relieving the pressure on the pressed material while confining the material to

retain its general pressed form and subsequently applying pressure to the material which is no greater than the original pressure applied but no less than 75% thereof. The pressing apparatus employs an eccentric driven upper ram connected by means of springs to a male die; the



eccentric operating to cause two pressings of the granular material during each rotation thereof while the springs between the male die and the upper ram operate to maintain the pressed material in its pressed form during the interval when pressure is relieved between pressings.

3,523,345
YARN TEXTURING METHOD
James K. Hughes, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 18, 1967, Ser. No. 691,600
Int. Cl. D02g *1/00*
U.S. Cl. 28—72.1 **10 Claims**



Oriented thermoplastic yarn is textured by heating the yarn at intervals along its length on one side only to set up a temperature gradient across the yarn section, inducing different degrees of contraction on opposite sides of the yarn.

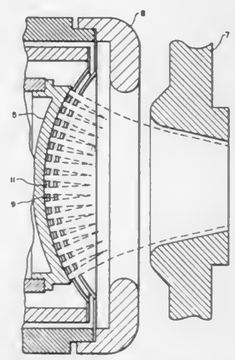
3,523,346
METHOD FOR MODIFYING THE SURFACE TEXTURING OF FABRICS
Wiley P. Bolen, Ernest E. Price, John T. Holbrook, Jr., and Frank M. Williamson, Canton, Ga., assignors to Canton Textile Mills, Inc., Canton, Ga., a corporation of Georgia
Application May 13, 1966, Ser. No. 550,028, which is a continuation-in-part of application Ser. No. 464,392, June 16, 1965. Divided and this application Dec. 7, 1967, Ser. No. 703,201
Int. Cl. D01d *11/06;* **D02g** *3/36*
U.S. Cl. 28—75 **12 Claims**

Fabrics containing irregularly dyed yarns are given a soft, velvety surface texture and a light mottled appearance by contacting a running length of the fabric with a rapidly rotating abrasive roller which mechanically loosens, breaks and removes an appreciable quantity of



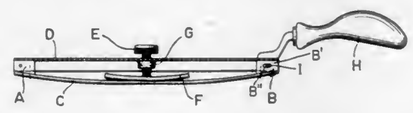
fibers from the face of the fabric and which simultaneously raises, fluffs and blends the remaining surface fibers.

3,523,347
METHOD OF FABRICATING A NONINTERCEPTING GRID ASSEMBLY FOR AN ELECTRON TUBE
Joseph M. Drees, Saratoga, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Original application Mar. 6, 1967, Ser. No. 621,405, now Patent No. 3,484,645, dated Dec. 16, 1969. Divided and this application Mar. 11, 1969, Ser. No. 816,474
Int. Cl. H01j *9/18*
U.S. Cl. 29—25.15 **3 Claims**



A nonintercepting grid arrangement for electron tubes using a pair of aligned grids and a method of fabricating the same. One grid is placed on or near the cathode. This grid operates at cathode potential and shields the other control grid from interception.

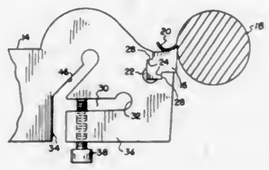
3,523,348
HOLDER FOR MACHINE TOOLS OF FLEXIBLE MATERIAL HAVING TEETH OR A CUTTING EDGE
Sven Arvid Nilsson, Eskilstuna, Sweden, assignor to C. O. Oberg & Co:s AB, Eskilstuna, Sweden, a joint-stock company of Sweden
Filed Apr. 2, 1969, Ser. No. 812,660
Claims priority, application Sweden, Apr. 9, 1968, 4,767/68
Int. Cl. B23d *71/00, 71/04*
U.S. Cl. 29—78 **5 Claims**



A holder for flexible machine tools having a cutting edge in which the tool is pivotally attached at one end of a U-shaped bar for movement about an axis per-

pendicular to the bar and at its other end for longitudinal movement as well as pivotal movement about an axis perpendicular to the bar. Adjustment means for the bar coacts with the reverse side of the tool for effecting an adjustment of the tool's convexity.

3,523,349
CUTTING TOOL ASSEMBLY
Bernard M. Pollington, 22600 Middlebelt, Farmington, Mich. 48024, and Leslie W. Pollington, 19410 Rennesellor, Livonia, Mich. 48152
Filed Mar. 4, 1968, Ser. No. 710,259
Int. Cl. B26d *1/00*
U.S. Cl. 29—97.5 **10 Claims**



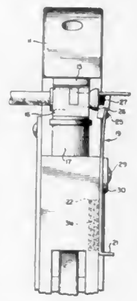
A cutting tool assembly for shapers, planers, lathes and the like including a holder having a pair of gripping jaws formed at the intersection of two sides of the holder. The holder is provided with a slot disposed with respect to the gripping jaws such that widening the slot causes the gripping jaws to be moved one toward the other to securely clamp a cutting tool therebetween. A screw provides the means for widening the slot and the holder is formed from material which will return to its original position upon loosening the screw so that the cutting tool can be removed. In one embodiment the holder carries a forward cutting tool and a rear cutting tool with the forward cutting tool designed to remove a chip of a smaller width than the aligned rear cutting tool.

3,523,350
WIND TUNNEL FABRICATION METHOD
Antonio Ferri, Rockville Centre, N.Y., assignor to General Applied Science Laboratories, Inc., Westbury, N.Y., a corporation of New York
Original application May 11, 1965, Ser. No. 454,837, now Patent No. 3,353,405, dated Nov. 21, 1967. Divided and this application Sept. 28, 1967, Ser. No. 703,487
Int. Cl. B21d *53/00*
U.S. Cl. 29—157 **2 Claims**



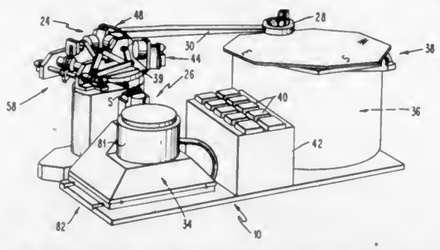
A relatively inexpensive method of fabricating a hypersonic wind tunnel. The nozzle of the tunnel is formed as a separate unit composed of rectangular blocks with beveled edges which form deep grooves when the blocks are assembled together. The grooves are filled with weld material, and the assembled structure is machined into a cylindrical shape. A matching cylindrical hole is cut into a mounting block, and the nozzle unit then is secured in the hole. Then, a frusto-conical inlet section is machined into the mounting block and nozzle unit assembly. The diverging portion of the tunnel preferably is of diverging-parallel shape, and is formed by shaping the edges of a first pair of flat elongated plates so as to have the desired contour, forming a pair of ledges on a second pair of flat elongated plates, the ledges having a pattern with the same contour as the first plates, fitting the plates together with the edges of the first plates against the ledges of the second plates, and bending both sets of plates and securing the plates together.

3,523,351
LOCATOR AND HOLDER IN A CRIMPING TOOL FOR AN ELECTRICAL CONNECTOR
George J. Filia, Shelton, Conn., assignor to Sargent & Company, New Haven, Conn., a corporation of Delaware
Filed Oct. 20, 1967, Ser. No. 676,905
Int. Cl. B25b *25/00;* **H01r** *5/10;* **B21d** *9/08*
U.S. Cl. 29—203 **8 Claims**



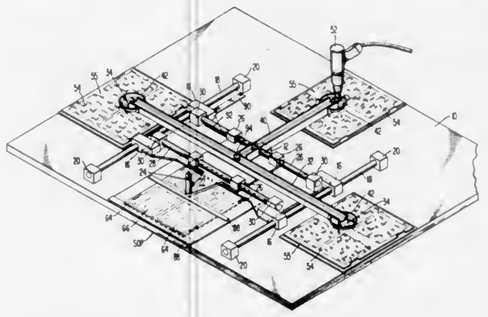
This disclosure relates to a work locator and holder in a crimping tool for an electrical connector, which tool is of the hand type having cooperating fixed and movable crimping dies. The locator and holder for the electrical connector is mounted on the tool body for sliding movement toward and away from the fixed die and is spring biased to the former position. This slide serves to engage and axially position with reference to the dies a connector or terminal of the ferrule type to be crimped about a wire. It also angularly positions the connector with reference to the dies and serves as a wire stop.

3,523,352
APPARATUS FOR MOUNTING SEMICONDUCTOR CHIPS WITH BALL CONTACTS UP ON A SUBSTRATE AND FORMING ELECTRICAL STRAP CONNECTIONS TO THE SUBSTRATE FROM THE BALL CONTACTS
Carl P. Hayunga, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Apr. 15, 1968, Ser. No. 721,325
Int. Cl. H05k *13/00;* **B23p** *19/04*
U.S. Cl. 29—203 **5 Claims**



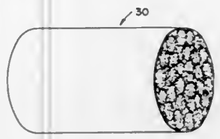
An apparatus for positioning the backside of semiconductor chips onto a substrate with ball contacts on the topside of the chip and making strap connections from the ball contacts to the substrate which comprises a rotatable work tool table for automatically mounting semiconductor chips. A rotatable work tool table sequentially indexes over a substrate so as to deposit flux, position a chip, and form and position electrical connection straps to the substrate from the chip balls. A substrate holder grips the substrate under a predetermined force and moves towards the particular stationary work tool which has been indexed over the substrates so as to bring the substrate surface into contacting relationship with the positioned work tool.

3,523,353
BACK PLANE WIRING APPARATUS
John H. Drinkard, Exton, Edward D. Giandomenico, Broomall, and Harold Grenz, Lionville, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 26, 1968, Ser. No. 724,563
Int. Cl. H05k *13/04, 13/06;* **B23d** *19/04*
U.S. Cl. 29—203 **10 Claims**



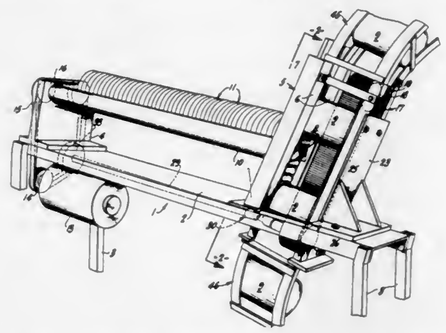
This invention provides semi-automatic means and apparatus for electrically interconnecting electrically conductive contacts of a back plane wiring array wherein a stylus member carried by an orthogonally movable planograph assembly is indexable along two different axes at right angles to one another with reference to a stylus locating member. Multiple means operatively associated with the planograph assembly enable electrical connection devices demountably carried thereby to be simultaneously and concurrently indexed over the conductive connectors of associated back plane wiring panels. Means is provided on the planograph assembly for the selective and adaptive application of multiple spaced wiring connections on each individual electrical connector of the back plane wiring panel. The planograph assembly also includes means insuring the accurate positioning of the electrical connecting device adjacent an individual electrical connector while avoiding accidental contact with and/or damage to other adjacent connectors.

3,523,354
METHOD OF PRODUCING LARGE SHAPES
Paul Loewenstein, Lincoln, Mass., assignor to Whittaker Corporation, Nuclear Metals Division, Concord, Mass.
Filed Apr. 22, 1968, Ser. No. 722,988
Int. Cl. B23p *17/00*
U.S. Cl. 29—423 **13 Claims**



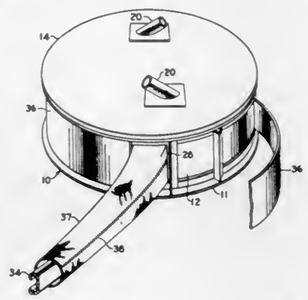
A structure of relatively large size having dispersion-strengthened, extensively work-hardened portions distributed throughout its interior is formed from stock of relatively small diameter or thickness which has first been dispersion-strengthened and then extensively cold-worked to enhance its properties. The stock, in the form of rods or sheet, is bundled together into a large body after the working. This body is then extruded or otherwise pressure-formed into a monolithic structure of relatively large size having the indivdual rods or sheets metallurgically bonded to each other and incorporated therein such that the work-hardened portions are distributed throughout its interior. The resultant structure has a strength comparable to that obtained with structures of smaller thickness or cross-sectional area.

3,523,355
PLASTIC LID APPLICATOR AND METHOD
Peter Schlapkohl, 1610 Armstrong Ave., San Francisco, Calif. 94124
Filed Feb. 7, 1968, Ser. No. 703,734
Int. Cl. B23p *11/02, 19/04;* **B65b** *56/00*
U.S. Cl. 29—450 **11 Claims**



A pair of parallel rollers inclined relative to horizontal support and rotate a row of circular, correspondingly positioned flanged, plastic lids for downward movement axially of the row to the lower ends of said rollers. Means supports and guides cans on their sides for downward movement, successively past the lower end lid of said row thereof, with each can positioned to engage the flange on said end lid to remove it from said row thereof, and to thereafter fully apply the lid to each can.

3,523,356
METHOD FOR INSTALLING THERMOPLASTIC MATERIAL
Richard H. Graf, Hauppauge, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 504,337, Oct. 24, 1965. This application July 22, 1968, Ser. No. 748,116
Int. Cl. B29c *27/12*
U.S. Cl. 29—453 **5 Claims**



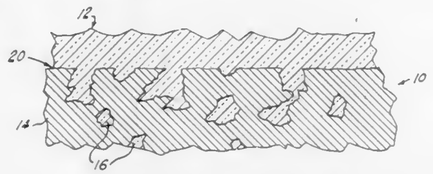
There is provided a method for dispensing coiled thermoplastic material in a condition suitable for installation

on a support. The method comprises heating the coiled thermoplastic material in an enclosed storage zone having an aperture until the material is flexible, withdrawing the flexible material through the aperture in substantially rolling contact with the edges of the aperture and at a rate such that it remains flexible until it is applied to a workpiece, and mounting the material on a workpiece.

3,523,357
ELECTRICAL CONTACT MATERIAL AND METHOD OF MAKING AND UTILIZING THE SAME

Edward Meyer, Russell, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Dec. 14, 1967, Ser. No. 690,513
Int. Cl. B23k *31/02*
U.S. Cl. 29—472.9 **8 Claims**



A composition of matter comprised of a powdered metal and a powdered glass formed by intimately mixing the two powdered materials together with a binder material, pressure forming into an article and sintering the article to its final form. The article is used ideally as an active electrical element and may be sealed to glass without any intermediate sealing material being utilized.

3,523,358
PROCESS FOR PRODUCING A VACUUM TIGHT SUPRA-CONDUCTING JOINT BY DIFFUSION SOLDERING

Hildebrand Zimmer, Hamburg, and Rolf-Dieter Böhnke, Hamburg, Lokstedt, Germany, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware,

No Drawing. Filed Sept. 26, 1967, Ser. No. 670,748
Claims priority, application Germany, Oct. 7, 1966, P 40,520
Int. Cl. B23k *31/02*
U.S. Cl. 29—498 **1 Claim**

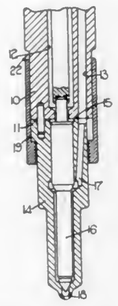
A process of producing by diffusion soldering a vacuum-tight joint between metal parts covered with superconducting lead layers. The surface of one part is completely covered with a lead layer while the surface of the other part is covered, except for a junction area, with a lead layer. The junction area is covered with a gold layer having a thickness such that it forms an alloy with lead having a eutectic composition when the parts are pressed together and heated. In order to prevent spreading of the lead on the surface of the second part, the parts are heated to only 240° C. to diffusion bond the gold and the lead covered first part.

3,523,359
METHOD OF SECURING ONE PART ABOUT ANOTHER PART

Roger Hugh Spikes, Moseley, England, assignor to Joseph Lucas (Industries) Limited Birmingham, England

Filed Sept. 8, 1967, Ser. No. 666,369
Claims priority, application Great Britain, Sept. 12, 1966 40,625/66
Int. Cl. B21d *39/00*
U.S. Cl. 29—516 **1 Claim**

A method of securing one part about another part, comprising placing said one part about the other part and moving the two parts through a die so that the internal surface of the wall of the one part is urged into

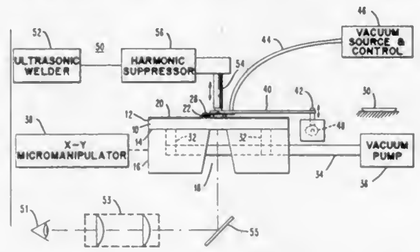


contact with the surface of the other part, and at the same time the thickness of the wall is reduced.

3,523,360
ELECTRONIC CIRCUIT REPAIR METHODS

Robert P. Moore, Warminster, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Original application Mar. 22, 1965, Ser. No. 441,611, now Patent No. 3,391,451, dated July 9, 1968. Divided and this application Mar. 5, 1968, Ser. No. 710,589
Int. Cl. H01l *7/28*
U.S. Cl. 29—575 **5 Claims**

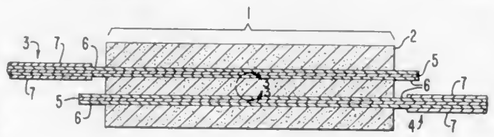


A microelectronic circuit is provided in which integrated circuit chips are face-down bonded on a conductor carrying substrate. The chips are ultrasonically bonded to the substrate with only a sufficient amount of energy to effect a weak bond between the chips and conductors so that a damaged or defective chip can be twisted off the substrate and replaced with a good chip.

3,523,361
METHOD OF SPLICING SUPERCONDUCTIVE WIRES

Malcolm L. Kinter, Menlo Park, and Ira Weissman, Palo Alto, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California

Filed June 4, 1968, Ser. No. 734,277
Int. Cl. H02g *15/08;* **H01v** *11/00*
U.S. Cl. 29—599 **9 Claims**

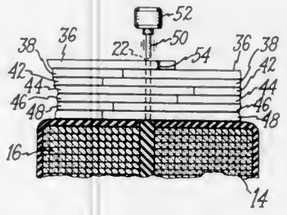


A high field superconductive splice for hard compound superconductors and method of making same are disclosed. Two portions of high-field superconductive wire, having a superconductive material formed as a layer on the outside of a substrate wire, are spliced together by sandwiching between them a layer of particulated material containing the constituent elements of a high field compound superconductor. The sandwich construction is then pressed to compact the particulated material together and into intimate contact with the two superconductive layers to be spliced. The compacted splice is then reacted at high temperature in an inert atmosphere to form, in place, a high-field compound superconductive bridge between the two superconductive wires. In one embodiment, the exposed ends of the two Nb_3Sn wire segments are embedded in a mixture of niobium and tin powders which are then compacted and reacted to produce the resultant Nb_3Sn superconductive bridging material between the two wires.

3,523,362
METHOD OF MAKING ELECTROMAGNETIC CORES

Edmund J. Wilk, Adams, Mass., assignor to General Electric Company, a corporation of New York

Filed Aug. 23, 1967, Ser. No. 662,742
Int. Cl. H01f *7/06*
U.S. Cl. 29—605 **4 Claims**

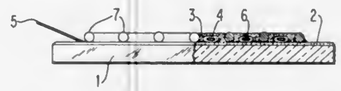


A spirally wound magnetic core is formed in the desired shape and annealed. Pilot holes are drilled through the yokes of the core. The core is then cut to desired length, such as one or two turn laminations. The core is assembled around a preformed winding with the pilot holes used to insure positive registration of the laminations during lacing. A pilot pin is used in one pilot hole during lacing while a vibrating pin is used in the other pilot hole to assure positive closure of the joints in each cut lamination.

3,523,363
METHOD OF MAKING A HEATING ELEMENT

Shigeo Kuwayama and Motohiko Yagi, Odawara-shi, Kanagawa, Japan, assignors to Fuji Photo Film Co., Ltd., Kanagawa, Japan

Filed Apr. 18, 1969, Ser. No. 817,519
Claims priority, application Japan, Apr. 20, 1968, 43/26,458
Int. Cl. H05b *3/00, 3/44*
U.S. Cl. 29—611 **2 Claims**

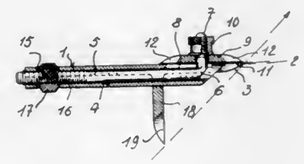


The present invention relates to a method of making a heating element, said method comprising burying a metallic resistance heating element and a burning material in a ceramic or heat-resistant cement layer provided on a base surface, said burning material being buried in the vicinity of said metallic resistance heating element, and heating the whole at a temperature lower than that at which the base is not greatly distorted and higher than that at which said burning material is burned.

3,523,364
APPARATUS FOR CUTTING THE HAIR OF THE HEAD AND BODY

Armando Crisanti, 32 Rue Gandon, Paris 13e, France

Filed Nov. 29, 1967, Ser. No. 686,481
Claims priority, application France, Dec. 5, 1966, 86,176
Int. Cl. B26b *21/12*
U.S. Cl. 30—30 **2 Claims**

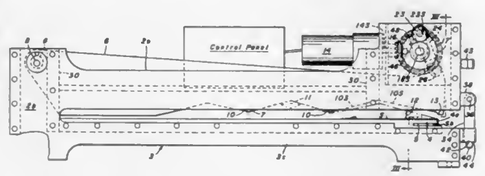


A hair cutting device has a plate carrying a wafer-type razor blade positioned at one face and adjacent one edge of the plate, a screw-threaded means for adjusting the position of the blade with respect to the adjacent edge of the plate, and a supporting bar projecting perpendicularly from the other face of the plate and having its free edge parallel with the said edge of the plate.

3,523,365
PORTABLE SHEAR

Thomas G. Bengel, Plum Borough, and Calvin E. Kelly, Franklin Township, Westmoreland County, Pa., assignors to United States Steel Corporation, a corporation of Delaware

Filed May 31, 1968, Ser. No. 733,654
Int. Cl. B26d *5/08*
U.S. Cl. 30—229 **9 Claims**



A portable shear for cutting metal siding for residential construction having a C-frame supporting a shear blade and a pivotally serrated knife powered through an electric motor and crank system, the serrated knife and shear blade meeting at a cutting angle of between 5° and 10° to minimize required cutting force and stroke and to minimize the number of teeth and the number of penetrations of the siding, the crank system delivering the maximum force available from the motor at the knife's penetration of the siding.

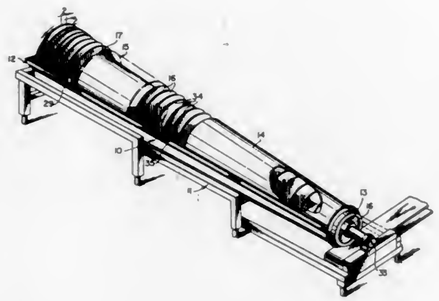
3,523,366
MACHINE FOR THE MANUFACTURING OF CHEESE

James Edward Ross Baxter, Lunenburg, Ontario, Canada

Filed Mar. 25, 1968, Ser. No. 715,907
Claims priority, application Canada, Mar. 28, 1967, 986,330
Int. Cl. A01j *25/10*
U.S. Cl. 31—46 **3 Claims**

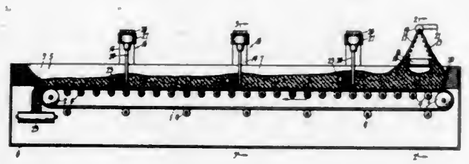
The invention relates to a machine for making cheese. There is provided a tapered spiral conveyor which is rotatable in a vat and is adapted to move curds, from

which the whey is being drained, along a gradually narrowing path, whereby the shape of the curd mass is



changed as it is moved along the conveyor to achieve a cheddaring effect.

3,523,367
DRAINING AND PROCESSING OF CURD IN THE MANUFACTURE OF CHEESE
Joseph Czulak, "Greenslopes," Mount Eliza, Victoria, Australia, assignor to Commonwealth Scientific and Industrial Research Organization, East Melbourne, Victoria, Australia, a body corporate
Filed Sept. 6, 1968, Ser. No. 758,047
Claims priority, application Australia, Sept. 7, 1967, 26,955/67
Int. Cl. A01j *25/11*
U.S. Cl. 31—89 **17 Claims**



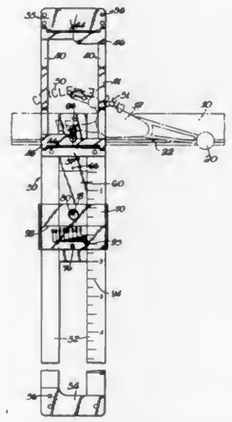
Draining liquid from cheese curd by passing the curd over a screen to effect initial separation then passing the curd to a conveyor and lifting the curd to facilitate further drainage whilst on the conveyor but without vigorous mechanical action.

3,523,368
DENTAL TOOL
Jack H. Hammond, 753 W. Ringold, Freeport, Ill. 61032
Filed Jan. 18, 1968, Ser. No. 698,740
Int. Cl. A61c *9/00*
U.S. Cl. 32—70 **4 Claims**



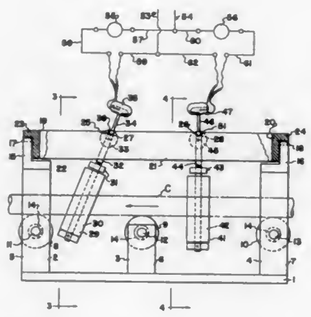
The invention relates to a device in which wax may be melted for subsequent use by a dentist in fabricating wax patterns for gold restorations and includes a heat retentive receptacle and a handle which performs the function of a foot to support the receptacle when not in use.

3,523,369
LETTERING DEVICE
Donald N. Martindale, Elsmere, Del. (72 Pleasant Centre, Apt. 5, Clifton Park Manor, Wilmington, Del. 19802)
Filed Nov. 4, 1968, Ser. No. 773,114
Int. Cl. B43l *13/10*
U.S. Cl. 33—23 **5 Claims**



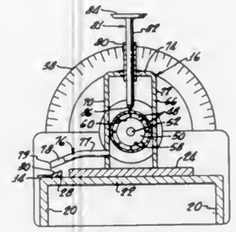
The template of a conventional lettering guide is held in a device which permits the template to be pivoted about a pivot point on an adjustable radius such that the template is tangential to a circular line of characters. The template may be held in either of two positions such that the circular line of characters are either concave or convex.

3,523,370
SIZE MEASUREMENT OF EXTRUDED CASINGS
Roy Lane Trimble, Danville, Ill., assignor to Tee-Pak, Inc., Chicago, Ill., a corporation of Illinois
Filed June 10, 1968, Ser. No. 735,882
Int. Cl. G01b *5/04, 3/38*
U.S. Cl. 33—174 **15 Claims**



An apparatus for automatic and continuous size measurement of extruded and inflated tubular food casings comprises first and second spaced rollers having a position corresponding respectively to the maximum and minimum size of acceptable casing. The casing moves continuously adjacent both rollers and in the acceptable size range contacts only the second roller. Expansion of the casing beyond the maximum acceptable size contacts the first roller which actuates an oversize indicator signal. Contraction of the casing away from contact with the second roller causes said roller to actuate an undersize indicator signal.

3,523,371
TUBING MEASURING AND MARKING DEVICE FOR MARKING PIPE BENDER FEEDSTOCK
Donald C. Vencill, 2365 Transit, Anaheim, Calif. 92804
Filed Feb. 20, 1968, Ser. No. 706,910
Int. Cl. B23b *49/02*
U.S. Cl. 33—189 **10 Claims**



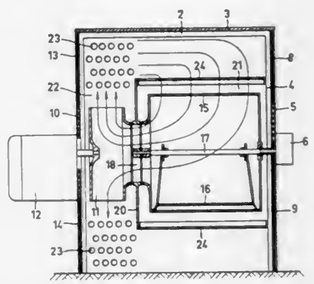
A device for premarking tubings so that they can be bent in a simple, relatively inexpensive bending machine. The device comprises a support base having a longitudinally extending slide track thereon and two tubing support members at the opposite ends thereof. A rotation wheel is mounted on one of the support members so that it will be connected to a tubing mounted on the supports for indicating the degree of rotation of the tubing. An axial distance measuring and marking assembly is adapted to fit over the tubing for locating the axial parameters of each bend position. This assembly contacts the sides of the tubing and follows the tubing configuration so that bowed or slightly bent tubings can be marked accurately at the rotational parameter of each bending point which is automatically related back to the rotational parameters of other bending points.

3,523,372
METHOD FOR AVERAGING TRACK ERRORS
John Kenneth Stewart, Columbia, S.C., assignor to Tamper Inc., Columbia, S.C.
Filed Jan. 2, 1968, Ser. No. 695,236
Int. Cl. E01b *29/04;* **G01c** *5/00*
U.S. Cl. 33—60 **1 Claim**



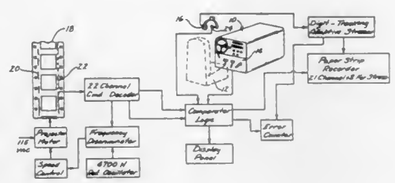
A railroad track travelling system which has a main car and a satellite car connected to the main car by a spring tensioned cable. The satellite car being driven in a forwardly direction by an electrical traction motor and a control circuit for the traction motor which includes a microswitch operable by the spring tension cable when the spring is at maximum tension, i.e., when the satellite car has reached a predetermined maximum distance relative to the main car, to de-energize the forward traction motor and permit the satellite car to be returned to the main car under the action of the stored energy in the spring tension cable and a second switch in the control circuit operated in a suitable fashion, for example, by a time delay relay or by a movable stop associated with the satellite car driving mechanism, which stop is arranged to measure the extent of the reverse travel, to energize the forward traction motor and to again propel the satellite forwardly away from the main car. This system enables track discrepancies at the satellite car to be averaging and averaged according to the method of the invention.

3,523,373
HEAT-INSULATED HOUSING FOR A SIEVE DRUM APPARATUS
Heinz Fleissner, Egelsbach, near Frankfurt am Main, Germany, assignor to Vepa AG, Basel, Switzerland
Filed Dec. 18, 1967, Ser. No. 691,291
Claims priority, application Germany, Dec. 19, 1966, V 32,595
Int. Cl. F26b *11/04*
U.S. Cl. 34—133 **10 Claims**



The present disclosure relates to a heat-insulated housing for a sieve drum apparatus. More particularly, the present disclosure is directed to an apparatus for the heat-treatment of materials which comprises a heat-insulated housing containing at least one sieve drum means rotatably disposed therein, said housing comprising a frame and insulating elements attached thereto, at least one of the walls of said housing being subdivided into three sections, the middle section of said wall comprising a metal plate to which the gears, sieve drum drive and other elements are fastened.

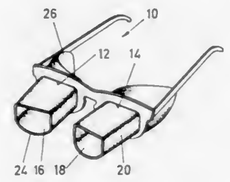
3,523,374
DRIVER TRAINING AND TESTING EQUIPMENT
Donald H. Schuster, 107 Hunziker Circle, Ames, Iowa 50010
Filed July 21, 1967, Ser. No. 655,045
Int. Cl. G09b *9/04*
U.S. Cl. 35—11 **13 Claims**



A driver trainer simulator involving a movie film for portraying a series of driving situations projected on a screen in view of a driver station on a driver trainer unit, the movie film being encoded with electrical signals which correspond to successive driving situations on the film and are compared with signals received from the driving controls of the driver trainer upon being operated by a student, an instantaneous display panel for indicating the correctness of the response by the student to each of the successive driving situations and a permanent magnetic recording means for storing the comparative information. An adaptive stresser unit having an audio unit may be simultaneously used to provide secondary auditory perceptual loading on the student. An auditory pattern recognition device including an audio pickup may be provided to receive the audible responses from the student in response to the sound patterns from the stresser unit. An indicator is provided for indicating correct and in-

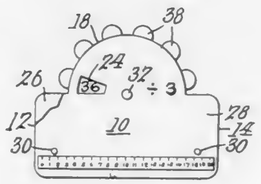
correct audible responses as compared with the audible responses from the audio unit of the stresser unit. The recognition device indicator may be coupled to the stresser unit to control the rate of loading of the auditory signals on the student.

3,523,375
DEVICE FOR USE IN INSTRUMENT FLYING TRAINING
David Malcolm Frith, 8 Collins St., Melbourne, Victoria, Australia, and John Llewellyn Colvin, Hawthorn, Victoria, Australia; said Colvin assignor to said Frith
Filed Oct. 9, 1967, Ser. No. 673,801
Int. Cl. G09b *9/08;* **A61f** *9/02*
U.S. Cl. 35—12 **6 Claims**



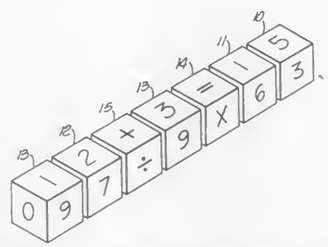
To practice instrument flying, a spectacles frame without lenses is provided with elastic deformable inserts that extend in tubular fashion out in front of the frame. A cowling portion of the insert shaped to the face of the wearer extends behind the frame, and the tubular portion and cowling portion meet in a groove that surrounds the insert and releasably receives the margin of the lens opening of the frame so that the inserts are resiliently detachably retained in the frame.

3,523,376
TEACHING AID
Fides Gilliam and Corona Gilliam, both of Box 10, Rte. 80, Kingston, Mass. 02360
Filed Jan. 15, 1968, Ser. No. 697,983
Int. Cl. G09b *19/02*
U.S. Cl. 35—31 **1 Claim**



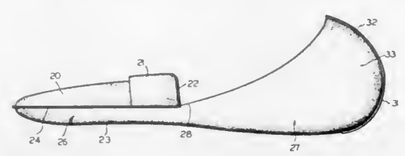
A teaching aid particularly for arithmetic for young children in the form of a series of sets for different numbers or bases, each set comprising a thin plastic sheet of material folded upon itself to form an envelope, said envelope having a semicircular portion at its edge enclosing a wheel located within the envelope but having fingers extending radially therefrom by which means it may be rotated at said semicircular portion, and corresponding windows in the envelope at each side through which numbers are observed as the wheel is rotated, said numbers being in a non-sequential order, and the envelope itself having a fixed number thereon at each side thereof, wherein the numbers observable through the window at one side multiplied by the number of the particular set will equal the number seen through the window on the other side, and the latter number when divided by the number of the set will equal the number observable through the first window.

3,523,377
INSTRUCTIONAL GAMING APPARATUS
John R. Gardner, 7906 Laurel Grove St., North Hollywood, Calif. 91605
Filed Feb. 26, 1968, Ser. No. 708,186
Int. Cl. G09b *19/02*
U.S. Cl. 35—31 **2 Claims**



An instructional gaming apparatus for challenging the mental dexterity of one or more users and utilizing two groups of cubes one of which bears individual digits on the faces thereof and the faces of the other group of which bear arithmetical operators including a plurality of equating operators. In any play the one tossing the cubes endeavors to align the displayed digits and operators on the opposite sides of an equating operator in a manner representing a maximum value solution.

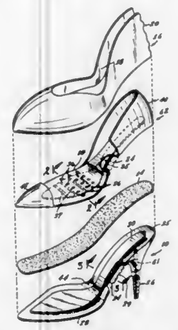
3,523,378
SLIPPERS
Winalee G. Mitchell and James G. Mitchell, both of 205 Farnsworth Road, Waterville, Ohio 43566
Filed Apr. 10, 1968, Ser. No. 720,016
The portion of the term of the patent subsequent to Feb. 11, 1986, has been disclaimed
Int. Cl. A43b *3/10*
U.S. Cl. 36—2.5 **4 Claims**



Slippers having an upper joined to a lower blank of elastomeric sheeting material which increases in width but the marginal edges thereof taper inwardly and upwardly toward the heel where the left and right sides are joined in a heel seam which is at least partly forwardly inclined. Also, a method of making such slippers including the steps of simultaneously cutting and bonding an upper with a lower blank having lateral edges which, in the rearward direction are from about parallel to divergent, folding the lower blank on about its longitudinal axis and bonding the folded left and right sides together along a heel seam which is at least partly forwardly inclined.

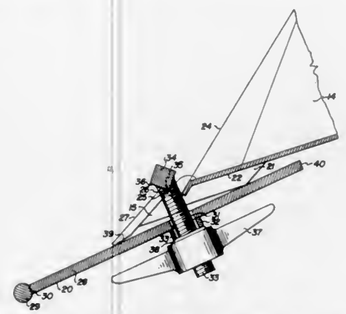
3,523,379
PROCESS FOR MANUFACTURING SHOES
Barsam Barsamian, 1832–½ N. Berendo, Los Angeles, Calif. 90027, and Harut Barsamian, 11662 Stuart Drive, Apt. 1, Garden Grove, Calif. 92640
Filed Dec. 5, 1967, Ser. No. 688,101
Int. Cl. A43b *9/12*
U.S. Cl. 36—19.5 **6 Claims**

An improved system is disclosed for manufacturing improved shoes utilizing fewer components. Specifically, various parts of the shoe are formed as major sub-assemblies which comprise integral units and which may be readily assembled to complete a shoe. Examples of such sub-assemblies include: an inner sole with an arch bracket and cushion molded therein: an inner sole which also includes counters; an outer sole including an arch brace molded therein; an outer sole including an arch brace and a heel formed as an integral unit; and a sole



structure, including an arch brace, a heel, and counters, ready to receive uppers and an outer wear sole. Integral sub-assemblies illustrated herein are disclosed to be molded of plastic or other material with component parts, e.g. an arch brace, or the like integrally molded therein.

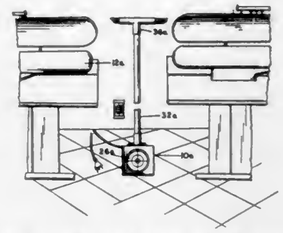
3,523,380
UNIVERSAL BACKFILL AND LANDSCAPING BLADE
Lyle V. Bolyard, 6603 Gary Ave. 21224, and Richard G. Griffin, 2126 Corathorn Road 21220, both of Baltimore, Md.
Filed Jan. 23, 1968, Ser. No. 699,911
Int. Cl. E02f *5/12*
U.S. Cl. 37—141 **5 Claims**



A backfill blade for removing fill dirt piled on surface covering characterized by a skid bar forming the lower edge of the blade to prevent damage to the surface covering during backfilling operations. A preferred form of the blade includes a crossbar to facilitate attachment to the teeth of standard backhoe buckets and an upper sharp edge which can be utilized as a cutter or scraper when the position of the blade is reversed.

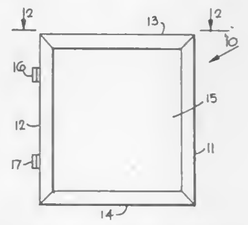
3,523,381
GARMENT PRESSER WITH STEAM CHASER
Giacomo M. Bonaldi, 3655 Noriega St., San Francisco, Calif. 94122
Filed July 26, 1968, Ser. No. 747,894
Int. Cl. D06f *71/34;* **F24f** *7/00*
U.S. Cl. 38—2 **1 Claim**

A device for providing the operator of a garment press with a cool air environment by directing a continuous stream of relatively cool, steam chasing air in front of the press, the device comprising a blower mounted near the base of the press which draws relatively cool air in and pushes it upwardly through a conduit supported by



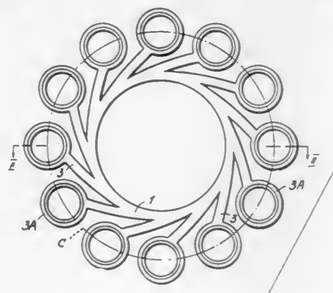
the press table. At the upper end of the conduit, the air exits through a movable nozzle that directs it generally in the vicinity of the head of the press operator.

3,523,382
VARIABLE PICTURE FRAME ASSEMBLY
Ronald L. Dreyer, Rte. 2, Shiner, Tex. 77984
Filed July 18, 1968, Ser. No. 745,857
Int. Cl. G09f *1/12*
U.S. Cl. 40—152 **10 Claims**



Individual frames are provided with hooks or clamps which cooperate with holes or slots respectively in similar frames to secure adjacent frames together in various arrangements. A photograph, glass and backing are retained in position within the individual frames by an integrally formed, resilient clip which extends from one edge of the frame. Several smaller frames are displayed independently or are mounted within a single larger frame.

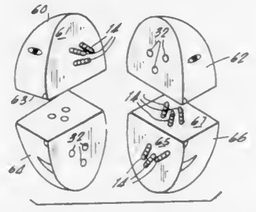
3,523,383
ANNULAR LOADER HAVING FLEXIBLE ARMS FOR LOADING EXPLOSIVE CHARGES INTO TOY REVOLVING CYLINDER FIREARMS
Dino Sposimo, via S. Bartolo a Cintoia, Firenze, Italy
Filed Mar. 27, 1968, Ser. No. 716,418
Claims priority, application Italy, Apr. 1, 1967, 4,539/67
Int. Cl. F41c *3/06;* **F42b** *39/04*
U.S. Cl. 42—58 **5 Claims**



An annular loader for toy cylinder-pistols and the like is formed of an annular support portion and a plurality

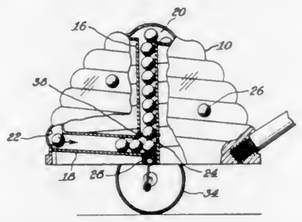
of similarly shaped flexible arms secured to the annular portion. The arms extend outwardly from the annular portion at an angle to its radial direction. The ends of the arms spaced from the annular portion are arranged to receive an explosive charge. Due to the flexible character of the arms their ends may be disposed in circles of varying diameters to fit different toy pistols.

3,523,384
FASTENABLE THREE-DIMENSIONAL PUZZLE PIECES
Louis Adelsohn, 4302 Manhattan Ave., Brooklyn, N.Y. 11222
Filed Dec. 13, 1967, Ser. No. 690,322
Int. Cl. A63h *33/08;* **A63f** *9/12*
U.S. Cl. 46—25 **2 Claims**



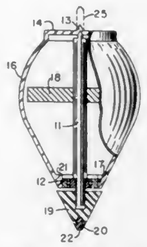
The invention is directed to novel three-dimensional puzzles, which comprise a plurality of puzzle members, each of said puzzle members being associatingly adapted to be detachably engageable with one another, wherein one puzzle member is provided with at least a triad of prongs, said triad being detachably engageable with a triad of bores associatingly provided on another puzzle member. Each triadic prong is angularly inwardly disposed and each triadic bore is non-angularly disposed being in vertical relationship to each of said prongs. Each of said bores has a purality of spaced annular enlargements therealong and each of said prongs has a plurality of associated annular beads provided therealong, said beads being adapted to seat firmly in the associated spaced annular enlargements.

3,523,385
BEEHIVE PUSH TOY
William A. Noble, St. Paul, Minn.; Dolores E. Noble, administratrix of said William A. Noble, deceased
Filed Mar. 27, 1967, Ser. No. 626,244
Int. Cl. A63h *33/00*
U.S. Cl. 46—43 **6 Claims**



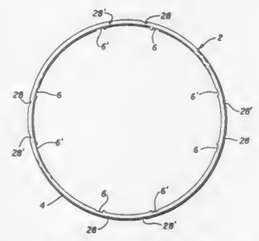
A push toy to be used by small children and adapted to resemble a beehive. It consists of a dome shaped hive having a helical path for balls to circle downwardly on its periphery. The balls are striped to resemble bees. When the balls reach the bottom, they roll to the center of the hive through a tube and are forced upwardly through a vertical tube to the top of the hive by means of a cam connected to the wheels of the toy.

3,523,386
SPINABLE STRINGLESS TOP
Paul L. Brown, San Francisco, Calif., assignor to Mattel, Inc.
Filed May 17, 1968, Ser. No. 730,175
Int. Cl. A63h *1/00*
U.S. Cl. 46—50 **12 Claims**



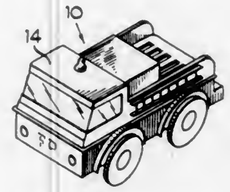
The invention relates to a gyroscope type top and comprises a rotatable shaft, a flywheel or rotor secured on said shaft, a bearing on said shaft; said bearing including an outer race, a casing supporting said shaft for rotation and engaging said outer race of said bearing for rotation therewith and in unison with said shaft and said rotor, and a friction roller on a portion of said shaft extending outside of said casing; said roller serving by successive rolling engagement with a surface to accelerate said shaft with consequent increased spinning of said rotor to keep the top spinning for an appreciably increased period of time. One modified embodiment of said invention comprises a handle section on an extended portion of said rotatable shaft exteriorly of the casing with the elimination of said friction roller; said handle serving to bring the outer surface of said casing into successive engagements with a surface of any area thereby to accelerate the spinning of said rotor at an increasing rate whereby the top is kept spinning for appreciable times. Another modified embodiment of the invention dispenses not only with the friction roller but also the casing and comprises an integral unit consisting of a rotatable shaft journaled in a bearing which is confined within a rotor mounted on the rotatable shaft, a friction-resistant coating on the outer surface off said rotor, and a handle on the shaft serving to stroke the rotor successively over a surface to effect acceleration of said rotor about said shaft.

3,523,387
TOY HOOPS
Robert Eugene Smith, Box 1108, Denver, Colo. 80201
Filed Jan. 9, 1969, Ser. No. 790,111
Int. Cl. A63h *5/00*
U.S. Cl. 46—52 **4 Claims**



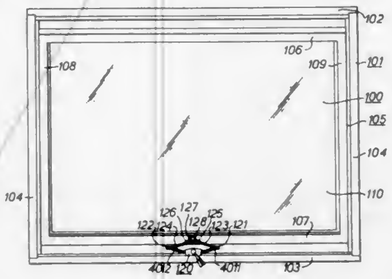
A toy hoop having a hollow body with spaced air inlet and outlet openings and an air restrictor inbetween which produce one whistling sound when the hoop is rotated in one direction and a different sound when it is rotated in the opposite direction.

3,523,388
PULL TOY WITH PHONOGRAPH
Marvin I. Glass and Gordon A. Barlow, Chicago, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership
Filed Jan. 12, 1968, Ser. No. 697,420
Int. Cl. A63h *7/00*
U.S. Cl. 46—111 **3 Claims**



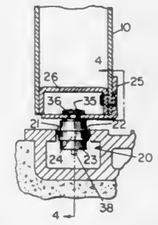
A childs pull-toy which produces a sound characteristic of the configuration of the toy as the latter is pulled along a supporting surface. The toy is wheel supported and includes a housing containing a record turntable which is driven from one of the axles carrying a pair of the supporting wheels. A tone arm within the housing includes a stylus which is positionable to ride in the sound groove on the record with the tone arm engaging an acoustical amplifying cone.

3,523,389
LEVER-TYPE WINDOW OPERATOR
William W. Gray, Burlington, Ontario, Canada, assignor to H. & A. Supply Company Limited, Burlington, Ontario, Canada
Filed Oct. 25, 1968, Ser. No. 778,375
Claims priority, application Canada, Oct. 26, 1967, 3,511
Int. Cl. E05f *11/00, 11/24, 11/28*
U.S. Cl. 49—324 **54 Claims**



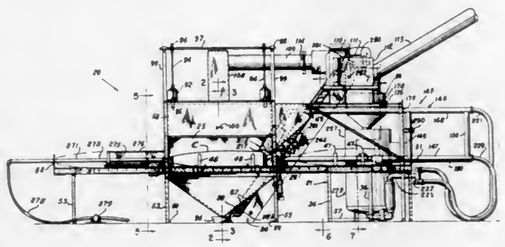
A window operator is provided by this invention and the operator includes a base member and at least one and preferably two arms pivotally mounted on the base member for oscillation about an axis which is perpendicular to the plane of the base member. Operator means are provided to oscillate the arms, including a handle mounted for oscillation about an axis parallel to the plane of the base member, and means for translating the oscillatory motion of the handle into the oscillatory motion of the arm or arms. The operator means preferably includes a lever pin mounted on the arms, the lever pins being urged to follow a circumferential path by means of engagement with slots in a slide. Link means, preferably a plate which is slidable in the plane of the member and which includes slots for engagement with the lever pins, are provided for actuating the operator means. The link means is actuated by a handle which is manually oscillatable about an axis which is perpendicular to the axis of rotation of the arms, preferably by means of an oblate cam which is rotationally mounted on the base member for manual oscillation by means of the manually movable handle member, the oblate cam engaging a pin which is urged to follow a circumferential path, the pin engaging a slot in the slide member.

3,523,390
ELEVATOR DOOR GUIDE
John McAulay, Jr., Ardsley, N.Y., assignor to Otis Elevator Company, New York, N.Y., a corporation of New Jersey
Filed May 10, 1968, Ser. No. 728,228
Int. Cl. E05d *13/02*
U.S. Cl. 49—411 **6 Claims**



A door guide arrangement for an elevator door including a door supported by a wall and slidable to open and closed positions relative to an opening in the wall, door support means slidably supporting the door from the wall, door sill means disposed below the door having an elongate groove with oppositely facing groove sidewalls, and a door guide fixedly connected to the door at the bottom edge thereof by a support bracket, comprising rotatable bearing means having an inner shaft portion mounted on said support bracket and an outer race portion with an outer surface facing said groove sidewalls and supported by said inner shaft portion for rotation relative thereto, and an annular friction member mounted on and fixedly connected to said outer race surface having a surface with a substantially greater coefficient of sliding friction than said outer race surface.

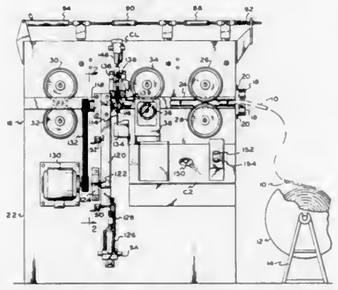
3,523,391
ABRASIVE BLAST CLEANING APPARATUS
Louis E. Levinson and Herbert Ford Elsenson, Dallas, Tex., assignors to Intercontinental Manufacturing Company, Inc., Garland, Tex., a corporation of Texas
Filed Mar. 13, 1967, Ser. No. 622,629
Int. Cl. B24c *3/08*
U.S. Cl. 51—8 **14 Claims**



An apparatus for cleaning cylindrical bodies such as bomb casings, which include a storage rack which the cylindrical bodies may be stored in horizontal longitudinally parallel positions, a conveyor extending perpendicularly to the rack and onto which the casings are movable from the rack for transport thereby into longitudinal alignment with an opening in a housing through which such casing is movable onto a support means in the housing for supporting and rotating a casing about its horizontal axis, nozzle means movable longitudinally

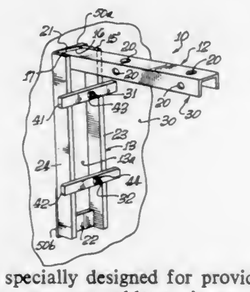
relative to the cylindrical body supported and rotated by the support means to subject small areas of the internal and external surfaces of the casing to blasts of abrasive particles, hood means associated with the nozzle means which directs a spray on the external surfaces of the casing for limiting the movement of particles ricocheting off the external surface of the cylindrical body, means for withdrawing air dust and dirt from the housing during the operation of the cleaning means, and means for moving the cleaned casings back onto the conveyor through the housing opening.

3,523,392
APPARATUS FOR MEASURING AND CUTTING LENGTHS OF CABLE
Allen E. Carl, 3150 Pacific Way, Longview, Wash. 98632
Filed Apr. 29, 1968, Ser. No. 725,044
Int. Cl. B24b *49/00*
U.S. Cl. 51—99 **14 Claims**



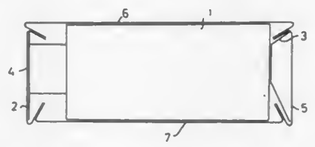
Apparatus for measuring and cutting lengths of cable includes pairs of opposed rollers for gripping said cable and transporting the same along a guide means. A metering roller frictionally engaging the cable in the guide means measures a predetermined length of cable, whereupon transport of the cable in the guide means is discontinued, and a clamping device securely clamps the cable within the guide means. An abrasive wheel is then pivotally moved through a slot in the guide means, and a matching slot in the clamping device, for severing the cable, after which the cable is unclamped, and transport thereof is resumed for measuring and severing another length of cable.

3,523,393
ALIGNABLE WALL BRACKET
Robert H. Sand, Los Angeles, Calif., assignor to Elsters, Hollywood, Calif., a corporation of California
Filed Aug. 19, 1968, Ser. No. 753,586
Int. Cl. A47b *96/06;* **A47f** *5/08;* **E04g** *3/08*
U.S. Cl. 52—36 **2 Claims**



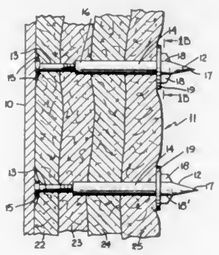
A wall bracket specially designed for providing cantilever support to a restaurant tabletop, in an application in which said table top must be wall mounted with precise leveling as well as vertical and horizontal alignment, regardless of imperfections in the structure to which the bracket is mounted, said bracket being a right angle structure with the vertical member in the form of a vertically extended frame comprised of upper and lower vertical plates, connected by a pair of vertically disposed side members; said bracket is attached to mounting studs projecting from the wall, usually two per bracket, by means of an outboard plate on each of said mounting studs, said plate overlapping said side members; alignment and leveling to precise vertical and horizontal spacing, despite substantial departure of both wall and mounting studs from proper plane and location, is achieved by aligning said frame, and applying shims between said upper and lower plates prior to tightening said outboard plates into tight holding position.

3,523,394
SHEET METAL ENCLOSURE FORMED BY A COVER AND FLAT SHEET METAL WALLS
Francis Marie Robert Devos, Brussels, Belgium, assignor to Ateliers de Constructions Electriques de Charleroi (ACEC) Societe Anonyme, Charleroi, Belgium
Filed Feb. 28, 1968, Ser. No. 708,871
Claims priority, application Belgium, Mar. 1, 1967, 694,823; Sept. 12, 1967, 48,372
Int. Cl. E04b *1/343*
U.S. Cl. 52—127 **2 Claims**



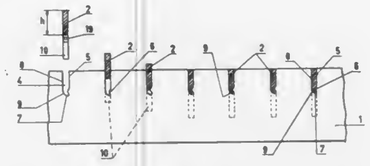
A sheet metal enclosure formed with sheet metal flat walls connected at the ends thereof to one another at right angles to define a quadrilateral body. The ends of the flat walls are folded inwardly of the body, each end making with the corresponding wall an angle comprised between 15 and 50° with the angles of adjacent wall ends being complementary angles. In assembly, the folded ends define inwardly protruding corners and are joined together to form the enclosure.

3,523,395
FURNACE CONSTRUCTION SYSTEM
Donald Paul Rutter, Bernardsville, and Howard Edwin Konrad, Somerville, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Mar. 3, 1969, Ser. No. 803,785
Int. Cl. E04b *1/62;* **F16b** *21/04*
U.S. Cl. 52—410 **10 Claims**



An insulating construction system for high temperature applications comprising a structural supporting member and insulating body superposed over the structural supporting member and secured thereto by means of ceramic pins, and the ceramic securing pins therefor.

3,523,396
GRATING
Martinus C. de Jonge, 17 Hobbemalaan, Bilthoven, Netherlands
Filed Apr. 29, 1968, Ser. No. 724,848
Claims priority, application Netherlands, May 3, 1967, 6706205
Int. Cl. E04c *5/04*
U.S. Cl. 52—668 **4 Claims**



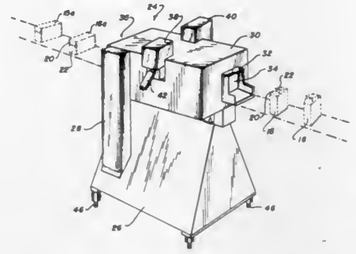
A grating having crossing longitudinal bars and cross bars, of which at least the longitudinal bars are provided with slots of which at least one of the sidewalls is provided with a projection by which the cross bars are reliably secured in the slots of the longitudinal bars.

3,523,397
DISPLAY PACKAGE AND METHOD OF FORMING DISPLAY PACKAGES
Larry C. Carey, Raleigh, N.C., and Ira N. Stone, Highland Park, Ill., assignors, by direct and mesne assignments, to Stone Container Corporation, a corporation of Illinois, and Cooper Industries, Inc., Houston, Tex., a corporation of Ohio
Filed Sept. 19, 1967, Ser. No. 668,821
Int. Cl. B65b *43/10, 47/08*
U.S. Cl. 53—30 **8 Claims**



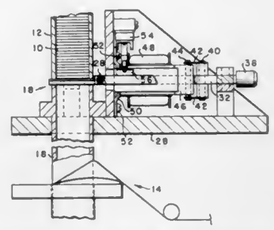
A method of forming a display package having a supporting substratum and a plastic film sheath or pocket shrunk to snugly embrace an article such as a measuring tape, comprising the steps of: moving to deforming station a backer card having an opening substantially covered by a shrinkable, deformable plastic film strip which is secured at three sides to the card and has a fourth side with a remaining edge free of the card; heating and deforming the plastic film to form a three-sided pocket therein of approximately the shape of the article to be formed except at an open end bounded by the remaining edge; and shrinking the plastic film strip to cause the plastic pocket to closely conform to the size and shape of the article but leave the pocket open at the one end and expose a predetermined portion of the article.

3,523,398
METHOD AND APPARATUS FOR SEALING CARTONS
Bayard I. Barnes, Oakland, Calif., assignor to The Finn Industries, Inc., Chicago, Ill., a corporation of Delaware
Filed Sept. 12, 1968, Ser. No. 759,406
Int. Cl. B65b *7/20*
U.S. Cl. 53—47 **21 Claims**



A method for sealing closure flaps at opposite carton ends by receiving a vertically oriented carton with deposited contents, rotating the carton 90° to a horizontal position, plowing the end closure flaps open, applying continuous lines of bonding material to the inside flap surfaces, plowing the closure flaps closed, and compressing the carton end until the bonding material has set. An apparatus for the method includes a machine with a carton entry end, a ring to turn the carton 90°, an endless conveyor to advance the carton past flap opening plows, adhesive applicators, flap closing plows, and compression plates to hold the flaps until the bonding material has set.

3,523,399
COIN DISTRIBUTOR
Richard D. Wylie, Gaffney, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of South Carolina
Filed Oct. 12, 1967, Ser. No. 674,924
Int. Cl. B65b *57/00*
U.S. Cl. 53—77 **2 Claims**

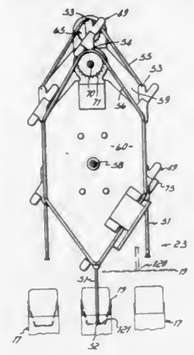


This application discloses a coin handling device which receives a predetermined number of coins from a coin source and evenly supplies the coins to a coin wrapping machine in a manner such that the coins drop vertically but stay substantially in a horizontal plane.

3,523,400
LEAFLET FEEDER AND INSERTER FOR CARTONERS
William C. Daily, Covington, Ky., assignor to R. A. Jones and Company, Incorporated, Covington, Ky., a corporation of Kentucky
Filed Oct. 2, 1967, Ser. No. 672,030
Int. Cl. B65b *61/20*
U.S. Cl. 53—117 **10 Claims**

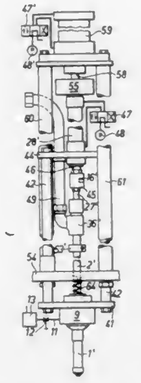
Apparatus for inserting leaflets into horizontally moving cartons in which each leaflet is fed from a stack to a

position overlying the cartons and a trucker having a vacuum cup is moved diagonally toward and away from



the cartons to engage a leaflet and thrust it into a carton while moving horizontally at the speed of the carton.

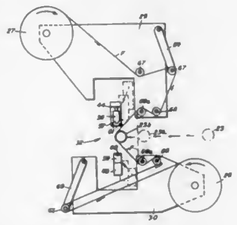
3,523,401
FILLING APPARATUS FOR CONTAINERS OF THERMOPLASTIC MATERIAL
Gerhard Hansen, Hofener Str. 47, 7013 Oeffingen, Germany
Filed Feb. 2, 1966, Ser. No. 524,564
Claims priority, application Germany, Feb. 6, 1965, H 55,085
Int. Cl. B65b *47/02*
U.S. Cl. 53—141 **7 Claims**



A filling device for a container composed of a thermoplastic synthetic substance having a filling tube and an outside tube operable by an operating cylinder. A stop element is provided so that the filling tube and the outside tube may be extended relative to one another and a spring is associated with the filling tube to lift off the latter from a closing element.

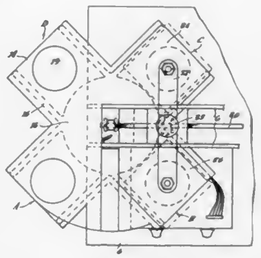
3,523,402
APPARATUS FOR BANDING TUBES
William S. West, San Marino, and Parker C. Henchman, Marina Del Rey, Calif., assignors to Cleo Wrap Corporation, Memphis, Tenn., a corporation of Tennessee
Filed Feb. 20, 1968, Ser. No. 706,988
Int. Cl. B65b *25/14, 13/32*
U.S. Cl. 53—198 **2 Claims**

A machine for applying plastic bands to opposite ends of tubes having sheets of paper or the like rolled thereon. The machine has a continuously, horizontally moving, endless conveyor carrying a series of spaced pairs of transverse rollers, respective pairs being arranged to sequentially receive the tubes to be banded. The rollers engage tracks which impart counterclockwise rotation thereto, and, in turn, clockwise rotation to the supported tubes to maintain the rolls of paper in wound condition on the tubes. As the top run of the conveyor continuously advances, opposite ends of the supported tubes successively engage strips of heat-shrinkable plastic film which intercept the path of travel of the conveyor. Opposite ends of the strips are fed from and supported by separate sup-



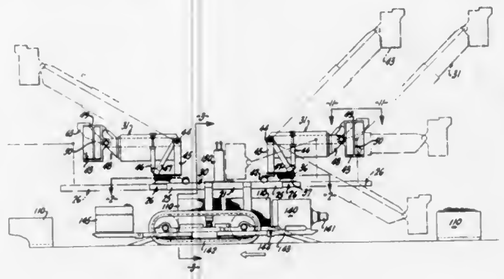
ply reels, and the continued advance of the tubes causes the plastic strips to peripherally embrace the ends of the tubes. Thereafter, alternately opening and closing fusing and severing units engage the strips behind the tubes, fusing the same to form bands around the tubes and simultaneously fusing the severed ends of the adjacent portions of the strips to unite them for the next banding sequence. Following the actual banding operation, where the bands loosely embrace the ends of the tubes, the tubes are advanced to a heating unit to tightly shrink the bands on the tubes.

3,523,403
MEANS FOR MAKING DISPLAY PACKAGES
William George Collins, West Horsley, England, assignor to The Shirley and Warbey Box Company Limited, London, England, a company of Great Britain and Northern Ireland
Filed July 26, 1967, Ser. No. 656,259
Claims priority, application Great Britain, Jan. 20, 1967, 3,185/67
Int. Cl. B65b *51/14, 51/32, 53/02*
U.S. Cl. 53—373 **2 Claims**



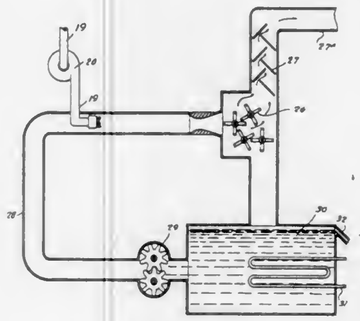
The specification describes a machine for sealing display packages which have one or more transparent windows set in panels between which articles to be packaged are placed so that they are visible through the windows. The machine has a heating station for sealing the panels around the article or articles and conform the transparent window material over them. A cooling station, simultaneously operable with the heating station is also provided. The heating station is in the form of a pair of blocks which sandwich the package and the blocks are provided with replaceable heads so that they can be used for a variety of packages.

3,523,404
ORCHARD APPARATUS
Antonio Lawrence Girardi, 758 W. Acacia St., Salinas, Calif. 93901
Filed Jan. 30, 1967, Ser. No. 612,686
Int. Cl. B65b *67/02;* **B60p** *1/50;* **A01a** *19/04*
U.S. Cl. 53—391 **20 Claims**



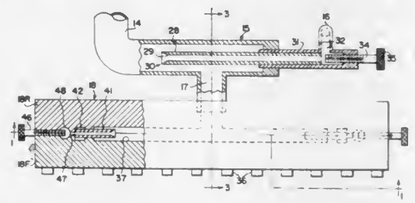
This invention relates to mobile apparatus designed for operation along aisles between rows of trees in an orchard and provided with an arched carriage frame through which large hampers for collecting fruit may be moved successively to and from a fruit collecting station between the ends of the carriage; and also provided with extensible booms mounted adjacent the ends of the carriage and arranged to be moved through wide angles of horizontal and vertical angular adjustment, said booms and the carriage being provided with extensible conveyors and associated devices for delivering fruit harvested by workmen supported on platforms at the ends of the booms to hampers successively moved to and from the fruit collecting station along and over a track extending longitudinally through the bottom portion of the carriage.

3,523,405
METHOD OF SEPARATING GASEOUS HYDROCARBONS
Edward M. Knapp, 951 N. Livingston St., Arlington, Va. 22205, and Weldon T. Ellis, Royal Arms Apt. S–11, 2011 Richard Jones Road, Nashville, Tenn. 37215
Original application Aug. 4, 1964, Ser. No. 387,453, now Patent No. 3,449,213, dated June 10, 1969. Divided and this application June 2, 1969, Ser. No. 829,537
Int. Cl. B01d *53/14*
U.S. Cl. 55—27 **1 Claim**



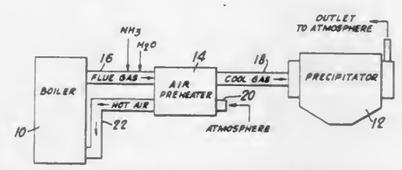
Total absorption of the effluent from pyrolysis in an oil bath, followed by partial desorption thereof and by vapor phase fractionation of the resulting gas stream.

3,523,406
METHOD AND APPARATUS FOR REMOVING ENTRAINED DISCRETE IMMISCIBLE MATTER FROM LIQUIDS BY VELOCITY GRADIENT SEPARATION
Dean B. Chenoweth, Minneapolis, and Richard Louis Barnard, Wayzata, Minn., assignors, by mesne assignments, to Eastman Kodak Company
Application Feb. 19, 1963, Ser. No. 259,707, now Patent No. 3,299,195, dated Jan. 17, 1967, which is a continuation-in-part of application Ser. No. 178,128, Mar. 7, 1962. Divided and this application Jan. 16, 1967, Ser. No. 627,278.
Int. Cl. B01d *19/00*
U.S. Cl. 55—55 **10 Claims**



Contaminating particles and/or bubbles are removed from viscous liquids by propelling the contaminated liquid in laminar flow through an outer conduit in which a smaller concentric inner conduit is located having an open end facing the flow of liquid whereby contaminating particles in the contaminated liquid move as a result of velocity gradient separation toward the center of the flowing liquid and are removed through the inner conduit. Preferably, the capacity of the inner conduit is in the range of from 1/36 to 9/16 the capacity of the outer conduit and extends through the wall of the outer conduit at a point downstream from the inner opening of the inner conduit, the capacity of the downstream portion of the outer conduit together with the capacity of the inner conduit being substantially equal.

3,523,407
METHOD FOR ELECTROSTATIC PRECIPITATION OF DUST PARTICLES
Clyde O. Humbert, Baltimore, Md., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Mar. 29, 1968, Ser. No. 717,130
Int. Cl. B03c *3/01*
U.S. Cl. 55—106 **6 Claims**

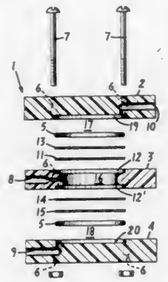


A method for the electrostatic precipitation of dust particles entrained in a gas stream which comprises adding predetermined amounts of ammonia and water into the particle-laden gas stream in a location preceding the precipitation apparatus where the gas is at an elevated temperature.

3,523,408
GAS SEPARATOR
David Rosenberg, Glen Cove, N.Y., assignor to Pall Corporation, Glen Cove, N.Y., a corporation of New York
Filed Apr 2, 1968, Ser. No. 718,088
Int. Cl. B01d *19/00*
U.S. Cl. 55—159 **22 Claims**

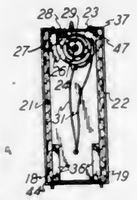
A gas separator is provided capable of separating gases and liquids, and especially, of removing and venting gases contained in liquids. The separator is based on a com-

bination of two filters, one of which is wetted by the liquid, and one of which is liquid repellent. The liquid-



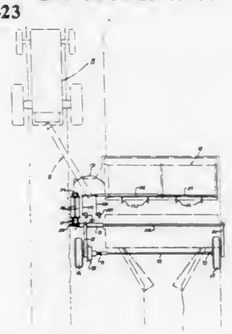
wetted filter passes the liquid, and the liquid-repellent filter passes the gas.

3,523,409
PORTABLE AIR FILTER
Werner A. Paterson, 3222 N. Main St., Racine, Wis. 53402
Filed Aug. 26, 1968, Ser. No. 755,078
Int. Cl. B01d *46/10*
U.S. Cl. 55—471 **2 Claims**



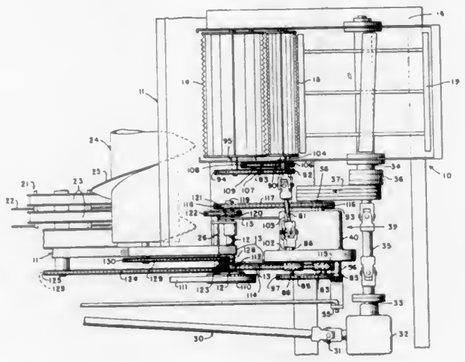
A portable air filter with a support structure and an air-pervious filter member and an air blower. A support structure is shown to be box shaped, and it is also shown to contain the air outlet in communication with the blower. The effective area of the filter member is many times larger than the area of the air outlet so that the velocity of the air moving over the filter member will be low, and the entire unit is therefore efficient in filtering the air.

3,523,410
APPARATUS FOR MOWING, CONDITIONING AND WINDROWING FORAGE
Clyde L. Taylor, 1545 S. Chinowith St., Visalia, Calif. 93277, and William Ernest Hamel, 718 Madera St., Dos Palos, Calif. 93620
Filed Apr. 26, 1968, Ser. No. 724,468
Int. Cl. A01d *43/10*
U.S. Cl. 56—23 **5 Claims**



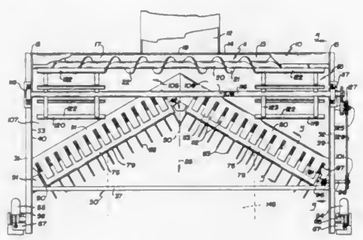
Apparatus for mowing, conditioning and windrowing of forage which is hydraulically controlled and which has means to prevent it from canting sideways while being towed by the use of ground engaging wheels of different sizes interconnected by an adjustable slip clutch.

3,523,411
FORAGE HARVESTER DRIVE
Thomas W. Waldrop, Ronks, and Harry C. Eberly, Narvon, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Mar. 4, 1968, Ser. No. 710,081
Int. Cl. A01d *87/00*
U.S. Cl. 56—344 **9 Claims**



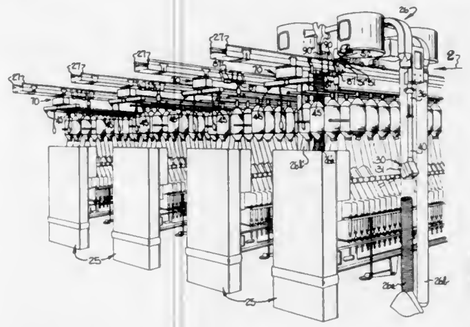
A forage harvester comprising in combination a wheeled frame support for a cutterhead for comminuting crop material, upper and lower infeed conveyors for delivering crop material in a mat-like form to said cutterhead, power for operatively driving the cutterhead and operating the conveyors, a slip clutch for providing a safety overload for the conveyors, and whereby the slip clutch provides an inherently smooth forward and reverse drive with the reverse drive being substantially slower to better clear the conveyors in the event plugging occurs.

3,523,412
HARVESTER PICKUP ATTACHMENT
Allen Dacyszyn, P.O. Box 753, Lethbridge, Alberta, Canada
Filed Apr. 29, 1968, Ser. No. 724,761
Int. Cl. A01d *89/00*
U.S. Cl. 56—364 **8 Claims**



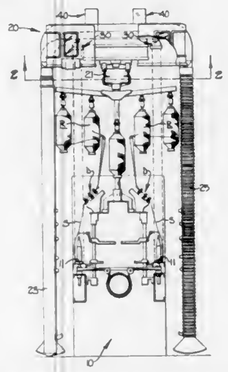
A pickup attachment for combine-type harvesters, having a pair of rotary rakes arranged in end-to-end relationship to pick up and deliver the crop on to a table, where it is moved by an impeller into the feed assembly of the combine. The rotational axes of the rakes are angularly disposed to each other in the form of a forwardly opening V whereby the rake tines will strike the swather crop at an angle to the axis of the stalks thereof so as to pick up the latter and spread it laterally as it moves toward the table.

3,523,413
APPARATUS AND METHOD FOR DETECTING AND REPORTING ENDS DOWN ON TEXTILE MACHINES
Maynard Ford, Fitchburg, Mass., and Charles D. Lee, Jr., Charlotte, N.C., assignors to Parks-Cramer Company, Fitchburg, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 706,287, Feb. 19, 1968. This application Jan. 29, 1969, Ser. No. 794,880
Int. Cl. D01h *13/26, 13/16, 13/32*
U.S. Cl. 57—34 **53 Claims**



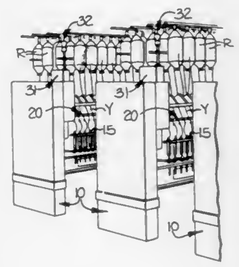
Apparatus and method for detecting and reporting the ends down condition of textile yarn or thread forming machines such as spinning and twisting machines, wherein a detector mounted on and/or movable with a traveling unit such as a pneumatic cleaner monitors the yarns or threads being formed on the textile machine. Data as to the presence and absence of ends of yarn on a traversed machine is collected from the detector and transmitted from the traveling unit to a data collecting and display system for indicating an ends down condition of a traversed machine and for permitting a machine operator to selectively patrol the particular machine sides the operator is assigned to tend, in accordance with the indicated conditions of the machines and for the purposes of improving efficiency in the tending of the machines.

3,523,414
TEMPERATURE RESPONSIVE ENDS DOWN DETECTING AND REPORTING APPARATUS AND METHOD
Robert L. Black, Jr., and William L. Mulligan, Charlotte, N.C., assignors to Parks-Cramer Company, Charlotte, N.C., a corporation of Massachusetts
Filed Aug. 2, 1968, Ser. No. 749,659
Int. Cl. D01h *11/00*
U.S. Cl. 57—56 **9 Claims**



An apparatus and method for detecting and registering the existence of ends down on a textile yarn forming machine such as a spinning machine wherein a detector means mounted on and movable with a traveling machine tending means scans elements of the textile machine which are heated by the formation of ends of yarn, the detector means being responsive to variations in the temperature of the machine elements and sensing such temperatures as indicative of the absence and presence of yarns formed by the machine.

3,523,415
APPARATUS FOR REPORTING ENDS DOWN ON TEXTILE YARN FORMING MACHINES
Teijiro Suzuki, Hirakata, Osaka, Japan, assignor to Parks-Cramer Company, Fitchburg, Mass.
Filed Sept. 26, 1968, Ser. No. 762,870
Int. Cl. D01h *13/16*
U.S. Cl. 57—81 **12 Claims**



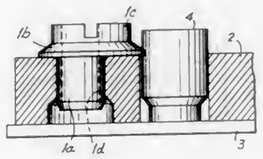
In order to make possible greater efficiency in the tending of textile yarn forming machines such as spinning and twisting machines, the apparatus of the present invention includes detector operable in response to ends down on the machines for signaling the presence of ends down, a discriminator for receiving end down signals and for distinguishing the signaling of a predetermined number of ends down on particular machine sides, which number is selected as indicative of an inefficient operating condition for a machine side, and a warning annunciator device operatively connected to the discriminator for directing a machine operator to the particular machine side most needing attention.

3,523,416
METHOD OF MAKING A COMPOSITE YARN
Richard B. Wolf, Coral Gables, Fla., assignor to Bobbie Brooks, Incorporated, Cleveland, Ohio, a corporation of Ohio
Original application Aug. 15, 1968, Ser. No. 752,858. Divided and this application May 23, 1969, Ser. No. 839,130
Int. Cl. D02g *3/02*
U.S. Cl. 57—140 **4 Claims**



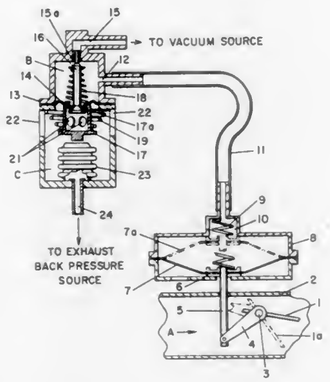
A composite yarn formed from twisting together textured filamentary acetate and textured filamentary polyester yarns. The acetate is preferably solution dyed, while the textured polyester filaments are preferably dyed to a color which substantially corresponds to the color of the acetate filaments.

3,523,417
DIAL PIN FOR A WATCH
Katsuhiko Morita, Tokyo, Japan, assignor to Kabushiki Kaisha Daini Seikosha, Tokyo, Japan
Filed June 13, 1969, Ser. No. 833,054
Claims priority, application Japan, June 29, 1968, 43/54,764
Int. Cl. G04b *19/06*
U.S. Cl. 58—127 2 Claims



A dial pin for a watch having a cylindric portion dimensioned for snug receipt within an aperture in the watch plate and a head portion having a frusto-conical collar portion extending radially from and eccentrically disposed relative to said cylindric portion with the base of larger diameter of said frusto conical collar portion being adjacent to said cylindric portion.

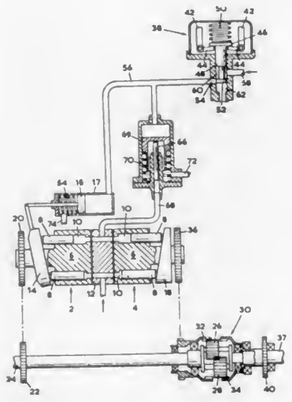
3,523,418
EXHAUST BACK PRESSURE CONTROL SYSTEM FOR AN INTERNAL COMBUSTION ENGINE
Frederick J. Marsee, Clawson, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
Filed Oct. 7, 1968, Ser. No. 765,363
Int. Cl. F01n *3/00*; F02b *75/10*
U.S. Cl. 60—29 3 Claims



An exhaust back pressure control system for a spark ignition internal combustion engine is described. The control system combines a throttling element in the exhaust pipe, a vacuum activated control unit and a sensing element which modulates the control unit in response to the engine vacuum and the exhaust back pressure. The exhaust flow is throttled during part load engine operation; no throttling occurs at high load engine operation. In a preferred embodiment, no throttling of the exhaust occurs at idle.

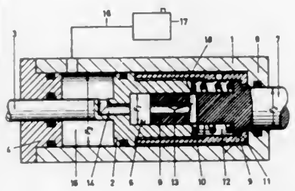
The system also effects a reduction in unburned hydrocarbons in the exhaust gases.

3,523,419
HYDRAULICALLY CONTROLLED ROTARY TRANSMISSIONS
John Anthony Hindle, Leeds, England, assignor to Sundstrand Corporation, a corporation of Delaware
Filed June 27, 1968, Ser. No. 740,750
Claims priority, application Great Britain, June 27, 1967 29,538/67
Int. Cl. F15b *15/18*
U.S. Cl. 60—53 11 Claims



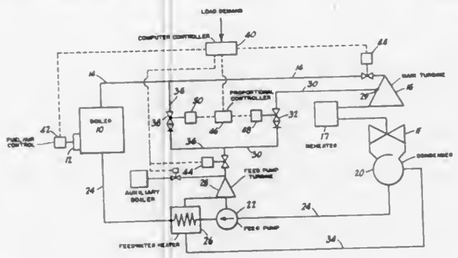
A constant speed drive comprising a variable displacement hydraulic pump adapted to be driven at variable speed, a hydraulic motor driven by fluid supplied by the pump, means for varying the displacement of the pump to vary the speed of the motor relative to the speed of the pump, means for sensing the motor speed and controlling the displacement varying means to maintain a constant motor speed, and means for sensing the pressure of fluid in the hydraulic circuit connecting the pump and motor as indicative of the load on the drive for controlling the displacement varying means to handle the load in a manner to maintain the motor speed constant.

3,523,420
HYDRAULIC BOOSTER ASSEMBLAGE
Gunter Strauff, Kaarst, Germany, assignor to Langen & Co., Dusseldorf, Germany
Filed Nov. 5, 1968, Ser. No. 773,571
Int. Cl. F15b *7/00*
U.S. Claims 60—54.5 5 Claims



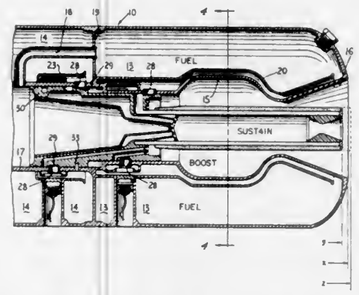
A hydraulic booster assembly which is provided with transmitter and booster pistons in which the transmitter piston is of lesser diameter than the booster piston and for a rapid bridging of idle strokes or the like, a rigid connection exists between the transmitter and booster piston so long as an external actuating force on the booster piston does not exceed a certain value but upon such force being exceeded, the rigid connection is interrupted and the actual boost develops.

3,523,421
PEAKING LOAD STEAM CYCLE
Wolfram G. Schuetzenduebel, Del Mar, Calif., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed July 24, 1968, Ser. No. 747,149
Int. Cl. F01k *7/34*
U.S. Cl. 60—67 2 Claims



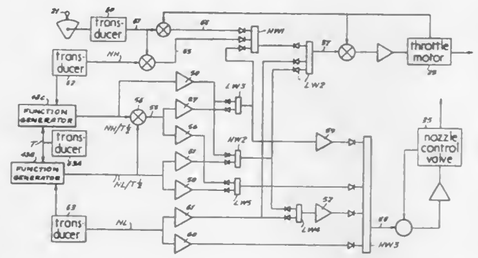
A steam cycle for operating at a peaking load a steam power plant having a feedwater pump turbine which within normal operating load range of the steam power plant is driven with extraction steam taken from the high pressure stage of a multi-stage main turbine. Upon peaking load demand controls are set in motion for discontinuing the withdrawal of extraction steam from the main turbine to the pump turbine, and for supplying the pump turbine instead with high pressure steam directly from an auxiliary source or the main steam line of the boiler, whereby the steam normally withdrawn from the main turbine is free to perform additional work in further expanding through the lower pressure stages of the main turbine.

3,523,422
TWO-STAGE LIQUID ROCKET POWERPLANT
Herbert S. Wolf, Denville, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Mar. 3, 1964, Ser. No. 349,043
Int. Cl. F02k *3/00*
U.S. Cl. 60—224 10 Claims



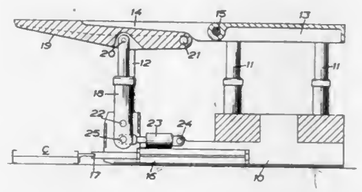
1. The combination with a liquid propellant rocket powerplant including propellant tankage defining a thrust chamber terminating in an exhaust nozzle, propellant inlet ports formed in said tankage and communicating with the thrust chamber to admit propellant thereto, shear cups sealing said ports, and a shear slide supporting said cups and movable upon rocket ignition from a storage position to a second position to shear the cups and admit propellant into the thrust chamber; of a second thrust chamber terminating in an exhaust nozzle mounted in the first thrust chamber on the slide for movement therewith and communicating with said ports to provide a two stage propulsive effect.

3,523,423
GAS TURBINE ENGINES
Pierre Henry John Young, London, England, assignor, by mesne assignments, to Rolls-Royce Limited, Derby, England, a British company
Filed Mar. 11, 1968, Ser. No. 711,958
Claims priority, application Great Britain, Mar. 11, 1967 11,509/67
Int. Cl. F02k *1/18, 3/12*; F02c *9/08*
U.S. Cl. 60—236 9 Claims



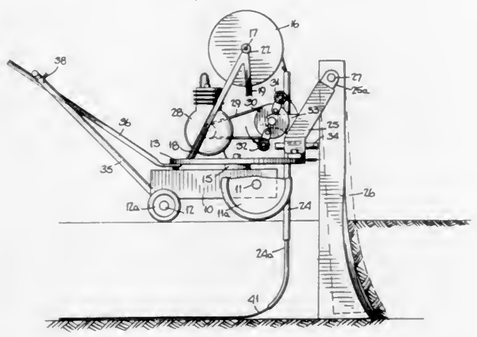
The disclosure of this invention pertains to a two-spool gas turbine engine having a system whereby, to avoid surge, the speed of the low pressure compressor is made to conform to a schedule which is a function of the speed of the high pressure compressor. The system includes means for acting on the fuel flow so as to control the speed of the high pressure compressor if the low pressure compressor cannot respond fast enough to the action of the schedule.

3,523,424
MINE ROOF SUPPORTS
Archelaius Dawson Allen, Leyland, England, assignor to Gullick Limited, Wigan, Lancashire, England, a British company
Filed Nov. 25, 1968, Ser. No. 778,640
Int. Cl. E21d *23/00*
U.S. Cl. 61—45 8 Claims



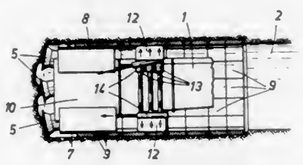
A mine roof support comprises a floor-engaging base, hydraulically extensible props mounted on said base, a roof-engaging structure supported on said props for application thereby to a mine roof and a roof-supporting bar extendible and retractable, relatively to said roof-engaging structure, to positions of maximum and minimum extension and to positions therebetween. A pressure-fluid jack is provided between the extendible roof-supporting bar and the base to set said bar against the roof at such position and transmit a load on the roof-supporting bar to said base independently of said hydraulic props of the support. The jack may be pivotally mounted on the support so that the extendible roof-supporting bar can be extended or retracted by adjusting the jack angularly about its pivot and can be set to a mine roof by extending said jack. Angular adjustment of the jack about its pivot may be effected by a pressure-fluid piston and cylinder device.

3,523,425
CABLE LAYING APPARATUS AND METHOD
Wayne M. Pierce, Jr., Milford, Conn., assignor to Hunt-Pierce Corporation, Milford, Conn., a corporation of Connecticut
Filed Feb. 12, 1968, Ser. No. 704,679
Int. Cl. F16l *1/00*
U.S. Cl. 61—72.6 4 Claims



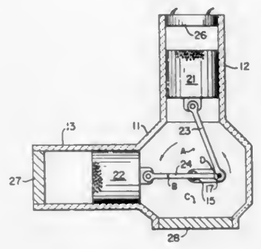
A cable laying apparatus is equipped with a share adapted to cut a groove. The share is activated by horizontally directed intermittent force.

3,523,426
PROCESS AND APPARATUS FOR DRIVING TUNNELS IN ROCK HAVING ZONES DIFFERING IN STABILITY
Ernst Lauber, Thun, Switzerland, assignor, by mesne assignments, to Atlas Copco MCT AB, Nacka, Sweden
Filed Mar. 25, 1968, Ser. No. 715,872
Claims priority, application Germany, Apr. 13, 1967, M 73,591
Int. Cl. E01g *3/03*
U.S. Cl. 61—85 11 Claims



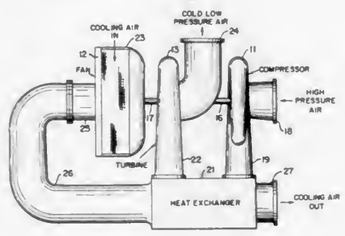
Zones of stable rock are excavated by a tunnel-driving machine having unshielded rotatable and radially adjustable cutting tools. The tunnel-driving machine is advanced in steps in a zone of stable rock to the transition to a zone of rock of low cohesion and is operated during such steps to excavate on a diameter which is larger than the diameter of the excavation in the preceding portion of the zone of stable rock. The tunnel-driving machine is retracted after each of said advancing steps with the cutting tools in a radially inwardly adjusted position. A section of a tubular shield is installed ahead of the tunnel-driving machine after each of said retracting steps and before the next succeeding advancing step. Each section consists of a plurality of separable segments. The tunnel-driving machine is then anchored in the shield and the latter is advanced through the zone of rock of low cohesion until stable rock is reached. The tunnel behind the shield is lined with lining rings. The tunnel-driving machine is released from the shield when the stable rock is reached and is used alone for excavating the stable rock. The shield is knocked down.

3,523,427
GAS ENGINE-REFRIGERATOR
Anthony Unwin Simpson, Manhattan Beach, Calif., assignor to the Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Dec. 23, 1968, Ser. No. 786,051
Int. Cl. F25b *9/00*
U.S. Cl. 62—6 4 Claims



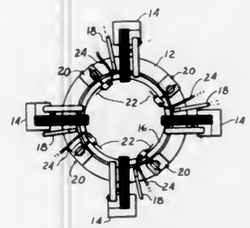
The apparatus has an enclosure with protruding closed-end cylinders arranged in out-of-phase relationship wherein porous blocks functioning as regenerators are connected to a common crank on a crankshaft so that the porous blocks slide in their respective cylinders. The apparatus includes means, in the form of a piston and cylinder assembly disposed substantially opposite one of the closed-end cylinders, for changing the total volume of the enclosure. The piston is subjected to a substantially steady pressure and the piston is also connected to the common crank. A heat source is applied to the other closed-end cylinder so that when the crankshaft is started to rotate in a given direction, a low temperature refrigeration is obtained in the cylinder without the heat source, and, with a predetermined quantity of gas in the enclosure, uninterrupted energy may be coupled from the crankshaft.

3,523,428
AIR COOLING SYSTEM
Lorant Nagyszalanczy, Sherman Oaks, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Jan. 16, 1969, Ser. No. 791,580
Int. Cl. F25d *9/00*
U.S. Cl. 62—402 11 Claims



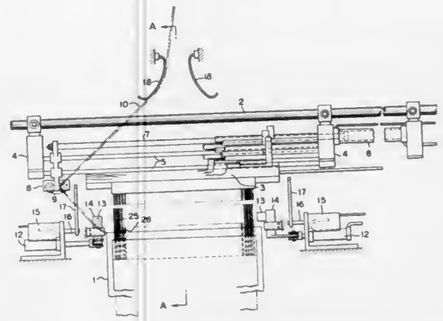
An air cooling system having a source of pressurized air wherein the air is further compressed in a centrifugal compressor, cooled in a heat exchanger to ambient temperature, and then expanded through a turbine having two turbine spools which rotate at different speeds. The faster spool powers the centrifugal compressor while the slower spool operates a fan to move ambient coolant air through the heat exchanger.

3,523,429
METHOD OF PILE TREATMENT IN PILE FABRIC MANUFACTURE
Wolfgang Herkenberg, R.R. 6, Galt, Ontario, Canada
Original application June 19, 1967, Ser. No. 646,909, now Patent No. 3,461,689, dated Aug. 19, 1969. Divided and this application Mar. 28, 1969, Ser. No. 811,537
Int. Cl. D04b *9/14*
U.S. Cl. 66—9 9 Claims



In a method of producing pile fabric, typically on a pile circular knitting machine, the pile filaments are treated with a fluid directed transversely of the filaments while they are in exposed condition transversely of the ground fabric, and before they have been covered by a succeeding layer of pile held by the next course of knitting. Usually each carding head of the machine has an air nozzle to blow the pile inward, and this is followed by a needle-like nozzle to deliver the fluid transversely of the pile, and to a desired part only of the length of the pile.

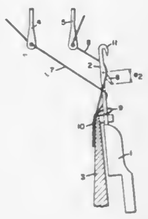
3,523,430
HEATING WIRE INSERTING APPARATUS
Toshiaki Inui, 4–153 Gakuen Daiwacho, Nara, Japan
Filed Feb. 7, 1968, Ser. No. 703,736
Int. Cl. D04b *23/12*
U.S. Cl. 66—84 3 Claims



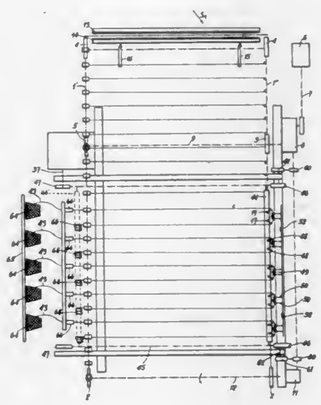
An apparatus for knitting double fabrics with a warp knitting machine together with inserting and knitting bodily the insulatably coated heating wires with one process.

3,523,431
RASCHEL MACHINE
Walter Hugo Scheibe, Oberursel, Taunus, Germany, assignor to Knit-All Research AG, Zug, Switzerland, a corporation of Switzerland
Filed Aug. 18, 1966, Ser. No. 573,363
Claims priority, application Luxembourg, Aug. 18, 1965, 49,340
Int. Cl. D04b *23/00*
U.S. Cl. 66—86 3 Claims

In a Raschel machine for blind stitching, a row of needles. Each of the needles includes needle hook points and downwardly turned latches having tips. The latches are of a predetermined length, and as seen from the back side of the needles, front guide bars and rear guide bars are coordinated to the row of the needles. The front guide bars place threads which lie on the side of the latches below the tips of the needle latches and form blind stitchings, while the rear guide bars pass warp threads and produce the ground, which warp threads lie above the tips of the needle latches and below the needle hook points, prior to the downward movement of the needles, so that the guide bars alone perform the blind stitchings and the loops without the use of a fall plate.

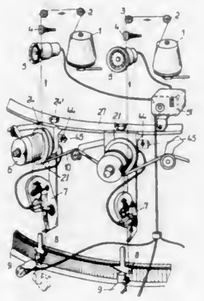


3,523,432
APPARATUS FOR FORMING A SYSTEM OF WEFT THREADS
Andrej Vajda, Vladimír Svoboda, and Josef Skopalik, Brno, and Jaroslav Valníček, Pozorice, Czechoslovakia, assignors to Elitex Zavody Textilniho Strojirenstvi, Generalni Reditelstvi, Liberec, Czechoslovakia
Filed July 31, 1968, Ser. No. 749,104
Claims priority, application Czechoslovakia, Aug. 2, 1967, 5,577/67
Int. Cl. D04b *23/12*
U.S. Cl. 66—125 10 Claims



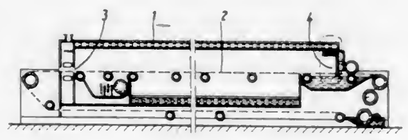
A main conveyor carries loops of weft threads to a warp knitting machine. Each loop extends across the main conveyor and is held by a pair of main grippers on one side and by holding fingers on the other side of the main conveyor. A transverse conveyor carries pulling fingers by which the loops of weft threads are formed and pulled across the main conveyor. Guide tubes are operated to insert weft threads first into auxiliary grippers from where the weft threads are transferred after loop formation to the main grippers.

3,523,433
THREAD FEEDING DEVICE FOR CIRCULAR KNITTING MACHINES
Charles Hatay, Schaffhausen, Switzerland, assignor to Fouquet-Werk Frauz & Planck, Rottenburg, Neckar, Germany, a corporation of Germany
Filed Mar. 22, 1967, Ser. No. 625,110
Claims priority, application Germany, Mar. 25, 1966, F 48,764
Int. Cl. D04b *15/48*
U.S. Cl. 66—132 8 Claims



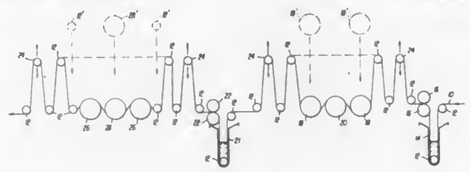
To provide for feeding thread at an even tension during knitting, the thread is wrapped around a no-slip feed drum which has a shell of electrically conductive material; interiorly of the shell, a rotating electromagnetic field is generated, for example by a rotating winding to rotate at a speed in excess of maximum speed requirement of the drum; by eddy current induction, the drum will be carried along with more or less force, depending on the magnetic field. Field strength is controlled by a thread tension sensor.

3,523,434
APPARATUS FOR THE TREATMENT OF LOOSE AND ENDLESS FIBRES OR FILAMENT-LIKE MATERIALS
Heinz Fleissner and Gerold Fleissner, Frankfurt am Main, Germany, assignors to VEPA AG, Frankfurt am Main, Germany
Continuation-in-part of application Ser. No. 655,549, July 24, 1967. This application July 8, 1969, Ser. No. 839,960
Claims priority, application Germany, July 10, 1968, 1,760,851
Int. Cl. F26b *25/00*
U.S. Cl. 68—5 11 Claims



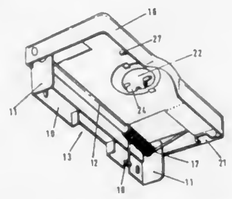
The present disclosure is directed to an apparatus for the treatment of materials which comprises a treatment chamber, a conveying means rotatively disposed within the treatment chamber, said treatment chamber being provided with an inlet and outlet therefor, said inlet and/or outlet having associated therewith a means for producing a flowing liquid curtain across said inlet and/or outlet for substantially hermetically sealing the treatment chamber from the atmosphere.

3,523,435
APPARATUS FOR PRODUCING HEAT INDUCED EFFECTS ON FLEXIBLE SUBSTRATES
Sumner H. Williams, Short Hills, N.J., and Joseph Reid Ellis, Easton, Pa., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware
Continuation-in-part of applications Ser. No. 614,520, Feb. 7, 1967, Ser. No. 660,167, Aug. 3, 1967, and Ser. No. 810,323, Mar. 25, 1969. This application June 13, 1969, Ser. No. 833,128
Int. Cl. D06c *23/00*; D06p *7/00*
U.S. Cl. 68—13 17 Claims



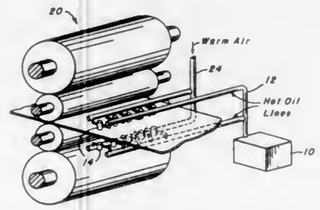
Apparatus for producing a chemical reaction or physical change on a flexible substrate, e.g., textile fabric, which comprises: a first means to apply a liquid reagent to such flexible substrate; a first heating means adapted to apply heat to a first face of such flexible substrate, the first heating means comprising a first series of rollers so arranged that the flexible substrate is made to travel an undulating or sinusoidal path around such rollers, such path being one whereby a first face of the flexible substrate is brought into contact with rollers heated at a temperature of from 500 to about 1500° F.; a second means to apply a second liquid reagent to the flexible substrate; and a second heating means subsequent thereto and adapted to apply heat to the second face of the flexible substrate, such second heating means comprising a second series of rollers so arranged that the flexible substrate is made to travel an undulating or sinusoidal path around such rollers, whereby the second face of the flexible substrate only is brought into contact with rollers heated to a temperature of from about 500 to 1500° F. Preferably, each heated roller of the first and second series of rollers is practically surrounded by a heat shield, at least one of the rollers of each of the first and second series carrying a three-dimensional pattern. Additionally, one or more of the rollers of each of the first and second series of rollers is preferably adjustable in position so as to be raised out of alignment with the other rollers of the first or second series so as to eliminate the undulatory or sinusoidal travel of the flexible substrate.

3,523,436
LOCKS FOR SUITCASES AND LIKE ARTICLES OF LUGGAGE
William Ernest Chance, Sutton Coldfield, England, assignor to C. W. Cheney & Son Limited, Birmingham, England, a British company
Filed Apr. 2, 1968, Ser. No. 718,151
Int. Cl. E05b *65/48*
U.S. Cl. 70—75 1 Claim



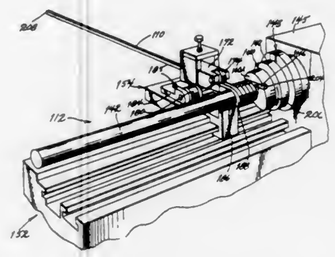
A key operated lock for articles of luggage having three degrees of security, with one part of the luggage pivotally and slidably mounting a key operated spring biased cover having a peripheral skirt. The cover when pivoted to a closed position snap-engages with a keeper part to close the luggage to provide the first degree of security. The skirt also carries a tab which projects inwardly, and when the cover is slid laterally the tab engages a slot in the keeper preventing pivoting and opening of the cover providing the second degree of security. The cover may be locked by inserting a key in the cover and turning a key operated part which engages with a slot in the keeper providing the third degree of security.

3,523,437
METHOD OF COLD REDUCING
John W. Bales, Jr., North Huntingdon Township, Westmoreland County, and William G. Miller, Penn Hills Township, Allegheny County, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Dec. 7, 1967, Ser. No. 688,780
Int. Cl. B21b *45/02*
U.S. Cl. 72—43 4 Claims



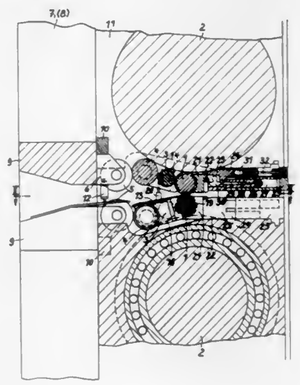
An improved method of cold reducing metal work is described which involves first lubricating the work by atomizing a liquified oil lubricant with gas of a temperature which precludes solidification of the oil. The work is coated with the atomized oil and then cold reduced.

3,523,438
APPARATUS FOR COILING A BAR FOR USE IN MAKING A BEARING ASSEMBLY
Chester C. Moore, Aurora, Ill., assignor, by mesne assignments, to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware
Original application Sept. 22, 1965, Ser. No. 489,141, now Patent No. 3,373,427, dated Mar. 19, 1968. Divided and this application June 9, 1967, Ser. No. 661,155
Int. Cl. B21f *3/04*
U.S. Cl. 72—144 2 Claims



A method of making a ball bearing assembly and apparatus for use in making a locking collar therefor, in which the ball bearing assembly is concerned with using a special inner race member that receives a shaft or the like to be journaled and has at least one end of same formed with a plurality of spaced slots extending longitudinally thereof, assembling an outer race and bearing balls in abutting relation therewith, and applying a C-shaped clamping collar to the inner race slotted end portion and clamping the collar against the inner race to lock the inner race to the shaft or the like. The apparatus for use in making the locking collar involves the forming of a bar into a coiled helix by securing one end of the bar to a rotating head with the bar extending at right hangles to the axis of rotation of the head, rotating the head while holding the bar against rotation of movement, and while the head rotates, simultaneously winding the bar on an arbor and camming the bar to define a helix of uniform pitch along the arbor.

3,523,439
MULTIROLL STANDS
Klaus Leifeld, Kaarst, and Clemens Volkhausen, Dusseldorf, Germany, assignors to Schloemann Aktiengesellshaft, Dusseldorf, Germany, a German company
Filed Mar. 29, 1967, Ser. No. 626,892
Claims priority, application Austria, Mar. 30, 1966, A 3,021/66
Int. Cl. B21b *13/14*
U.S. Cl. 72—241 4 Claims

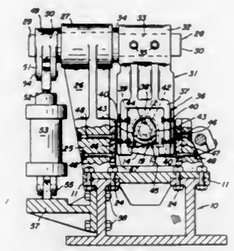


In multiroll stands for rolling metal strips comprising a pair of upper and lower working rolls, reversing rolls, and supporting rollers, the supporting rollers being a plurality of individual rollers of short axial length in axially spaced relationship on the two axes and journalled to supporting bridges. In the past, the supporting rollers were in direct contact with the backing rolls, and because of their construction the supporting rollers formed circumferential streaks on the backing rolls which in turn imparted the streaks to the working rolls which defaced the strip being formed. To overcome this, and make the rolls more easily serviceable, the instant invention provides a pair of intermediate rolls between the supporting rolls and the backing rolls.

3,523,440
MANDREL BAR STEADIER FOR SEAMLESS-TUBE MILLS
Gunnar Sanderson, McKeesport, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed July 26, 1967, Ser. No. 656,253
Int. Cl. B21b *39/20*
U.S. Cl. 72—250 3 Claims

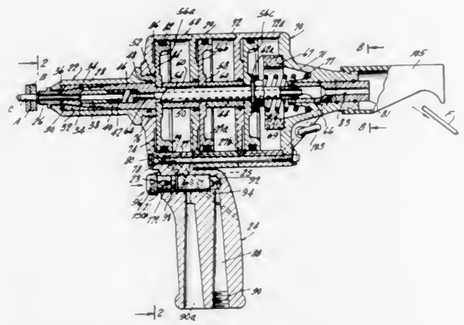
In a steadier, a base and standard thereon support a rotatable shaft over the axial path of a mandrel bar or tube thereon. A crank on the shaft mounts a steadier head, the latter rotatable in and out of an operative position

whereby it confines a bar or tube. The latter may also be confined by the steadier head and guide means therebelow. One or more guide means may be spaced on op-



posite sides of the base along the axial path. Size changes are provided by yoke-shaped blocks removably disposed in the steadier head.

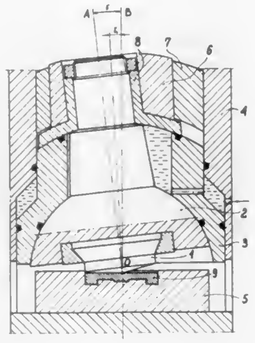
3,523,441
BLIND RIVET AIR TOOL
Walter Bell, Monroe, Zdzislaw Richard Kurc, Cornwall, and George L. Timm, Highland Mills, N.Y., assignors to Star Expansion Industries Corporation, Mountainville, N.Y., a corporation of Delaware
Filed May 10, 1968, Ser. No. 728,204
Int. Cl. B21d *9/05*
U.S. Cl. 72—391 **8 Claims**



An improvement in a rivet setting tool which is pneumatically operated wherein the pneumatic means is operable to retain rivets in position and to eject the severed rivet mandrel stems therefrom automatically utilizing a common source of pneumatic power, which improvement resides in a new and unique trigger for the tool which permits ejection of rivet mandrels and air out of the device only when the trigger is at least slightly depressed, said trigger being the same trigger which operates the rivet pulling means of the rivet setting tool.

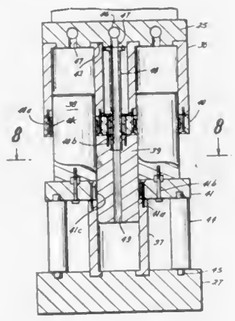
3,523,442
METHOD OF PRODUCING THE METAL OBJECTS OF VARIABLE THICKNESS AND A DEVICE FOR APPLICATION OF THIS METHOD
Zdzislaw Marciniak, Szczesliwicka 1/5 m. 45, Warsaw, Poland
Filed Jan. 22, 1968, Ser. No. 699,698
Claims priority, application Poland, Jan. 20, 1967, P 118,606
Int. Cl. B21j *7/20*
U.S. Cl. 72—406 **4 Claims**

A method and apparatus for producing disk-like objects of non-uniform thickness by compressing moldable material between a fixed die and a movable die, the latter of which moves axially and performs additional motions resulting from a combination of at least two component motions each of which individually would cause the axis



of the movable die to describe a conicord having a constant vertex angle. The additional motions may have the same or different speeds.

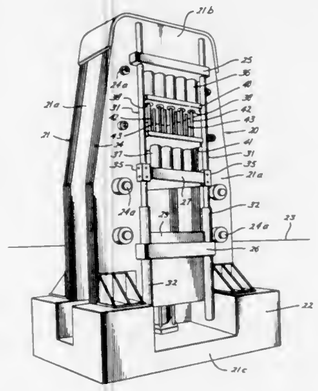
3,523,443
HYDRAULIC PRESS
Herbert Allen, Houston, Tex., assignor to Cameron Iron Works, Inc., Houston, Tex., a corporation of Texas
Filed Aug. 30, 1967, Ser. No. 664,431
Int. Cl. B21j *9/12*
U.S. Cl. 72—453 **29 Claims**



A hydraulic press comprising a frame having upright sides, a first platen fixed to one end of the frame, and a second platen supported between the ends of the frame for movement toward and away from the first platen. Cylinders are arranged between the platens in substantially parallel, longitudinally and laterally extending rows, with alternate cylinders in each row forming a first set extending from the inner face of one platen and the remaining cylinders forming a second set extending from the inner face of the other platen. The axes of the cylinders are parallel and the axis of each cylinder is laterally offset from the axis of each adjacent cylinder in the same row by a distance not substantially greater than the the sum of their inner radii. Each ram of a first set of rams is sealably reciprocal in a cylinder of the first set and in force-transmitting relation with adjacent cylinders of the second set, and each ram of a second set of rams is sealably reciprocal in a cylinder of the second set and in

force-transmitting relation with adjacent cylinders of the first set. A means is also provided for introducing hydraulic fluid into each cylinder so as to urge the rams and thus the platens in opposite directions.

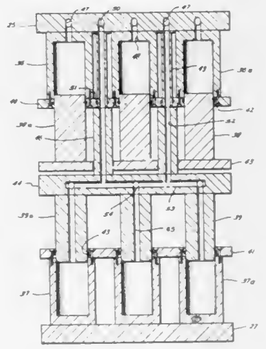
3,523,444
HYDRAULIC PRESS
Maurice C. Lucky, Houston, Tex., assignor to Cameron Iron Works, Inc., Houston, Tex.
Filed Jan. 5, 1968, Ser. No. 696,064
Int. Cl. B21j *9/12*
U.S. Cl. 72—453 **10 Claims**



A hydraulic press comprising a frame, a first platen fixed to the frame, and a second platen mounted on the frame for movement toward and away from the first platen. First and second sets of cylinders are arranged on different levels between the inner faces of the platens, with all the cylinders being perpendicular to the inner platen faces and parallel to one another. The cylinders in each set are arranged in substantially parallel, longitudinally and laterally extending rows, with the rows of one set being parallel to and offset with respect to the rows of the other set, respectively. A ram is sealably slidable within each cylinder, and a means is provided for introducing hydraulic fluid into each cylinder so as to move the ram therein from a retracted to an extended position with respect to the cylinder. Rods extend parallel to the cylinders for transmitting the force developed in the cylinders of the first set to one of the platens and the force developed in the cylinders of the second set to the other platen. When the rams are retracted, the outer ends of the cylinders of the two sets are spaced from one another a distance at least equal to the stroke of each ram from retracted to extended position.

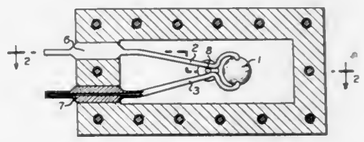
3,523,445
PRESS AND RAM TYPE ACTUATORS FOR MOVING THE PLATENS THEREOF
John V. Pennington, Houston, Tex., assignor to Cameron Iron Works, Inc., Houston, Tex.
Filed Apr. 30, 1968, Ser. No. 725,400
Int. Cl. B21j *9/12*
U.S. Cl. 72—453 **20 Claims**

A press comprising a frame, a first platen fixed to the frame, and a second platen mounted on the frame for movement toward and away from the first platen. First and second sets of cylinders are arranged on different levels between the inner faces of the platens, with the cylinders of the first set extending from the inner face of the fixed platen, and the cylinders of the second set extending from the inner face of the movable platen. A ram is sealably slidable within each cylinder, and a means is provided for introducing pressure fluid into each cylinder so as to move the ram from a retracted to an extended position with respect to the cylinder. Each ram slidable in a cylinder of one set is connected to the cylinders of the other set so that the aligned cylinders and rams provide actuators for transmitting the forces developed in the first set of cylinders to the movable platen and transmitting the forces developed in the second set of cylinders to the



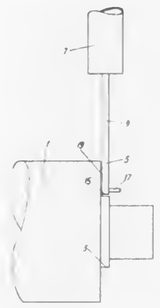
fixed platen, and thereby moving the movable platen away from the fixed platen with the combined forces of both. In the illustrated press, these connections between the rams and cylinders include posts disposed outwardly of the paths of movement of the rams to permit the outer ends of the rams to move into positions substantially adjacent to one another upon movement from retracted to extended positions. An alternative embodiment discloses a single actuator disposable between other load bearing members, the ram slidable in each cylinder is connected directly to the other, axially aligned cylinder.

3,523,446
DEVICE FOR DENSITY DETERMINATION
Otto Kratky, Leonhardgurtel 32, and Hans Leopold and Hans Stabinger, both of August-Musgergasse 4, all of Graz, Austria
Filed Feb. 7, 1968, Ser. No. 703,639
Claims priority, application Austria, Mar. 21, 1967, A 2,704/67; Aug. 4, 1967, A 7,282/67
Int. Cl. G01n *9/00*
U.S. Cl. 73—32 **4 Claims**



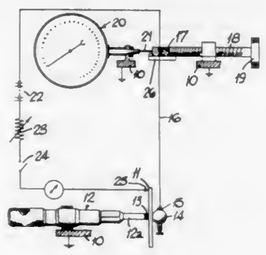
An apparatus for density determination of objects, particularly of liquids and gases, comprising a mechanical oscillator having V-shaped elastic elements supporting a hollow member for holding the object to be measured and an excitation amplifier including circuit means for keeping the amplitude of the mechanical oscillator constant and including a D.C. coupled differential amplifier providing a high phase linearity response and including a feed back loop operative on the excitation amplifier by means of the mechanical oscillator.

3,523,447
PROXIMITY GAUGES
Royds Sharp, Busby, Glasgow, Malcolm Bath, East Kilbride, Glasgow, and David Brown, High Blantyre, Glasgow, Scotland, assignors to National Research Development Corporation, London, England, a British corporation
Filed May 9, 1968, Ser. No. 728,256
Claims priority, application Great Britain, May 15, 1967, 22,498/67
Int. Cl. G01b *13/12*
U.S. Cl. 73—37.5 8 Claims



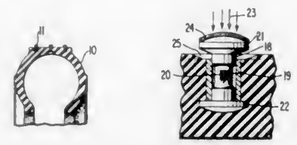
A proximity gauge is described in which a compressed fluid is directed through an open-ended tube of rectangular internal cross-section onto a surface to be tested. The "back pressure" at a predetermined point in the tube is measured to give an indication of the spacing between the open end of the tube and the surface to be tested. The gauge has a sharp response to variations in the spacing and is particularly useful for gauging narrow shoulders on workpieces.

3,523,448
MEASUREMENT OF SURFACE CHARACTERISTICS
Alan Jack Westell Rozelaar, Solihull, and John Brunton, Moseley, Birmingham, England, and Umit Imre, Samsun, Turkey, assignors to National Research Development Corporation, London, England
Filed Dec. 14, 1967, Ser. No. 690,559
Int. Cl. G01n *13/00*; G01r *31/02*
U.S. Cl. 73—104 14 Claims



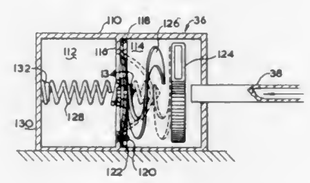
A method of testing the surface characteristics of a body comprises placing the body in contact with a member of known surface properties and measuring the force required to separate the body from the member when at least one is electrostatically charged. With electrically conductive bodies charging can be effected by connecting the body and the member in an electrical circuit such that there will be a potential difference between the body and the member when these are not in contact.

3,523,449
INSTALLATION FOR MEASURING THE DYNAMIC WHEEL LOAD
Hans Steinbrenner, Stuttgart, Hans-Jörg Florus, Goppingen, and Paul Schwerdt, Esslingen-Hegensberg, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Nov. 15, 1968, Ser. No. 776,027
Claims priority, application Germany, Nov. 15, 1967, 1,648,443
Int. Cl. B60c *19/00*
U.S. Cl. 73—146 23 Claims



An installation for measuring the dynamic wheel load of tires or of the road force which includes force-measuring members built into the contact surface of the tire that produce signals indicative of these forces. A commutator and slip ring device is connected to the force-measuring members to receive the signals and render the necessary readout.

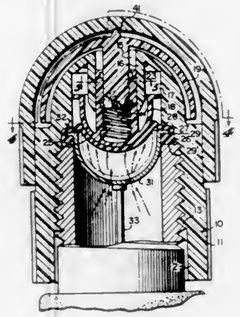
3,523,450
TIRE PRESSURE INDICATORS
Alexander N. Openshaw, 36 Kinghigh Drive, Concord, Ontario, Canada; Charles K. Ogilvie, 24 Abitibi Ave., Willowdale, Ontario, Canada; and Alvin E. Joslin, 1559 Elite Drive, Clarkson, Ontario, Canada
Filed Apr. 4, 1968, Ser. No. 718,688
Int. Cl. B60c *23/04*
U.S. Cl. 73—146.5 8 Claims



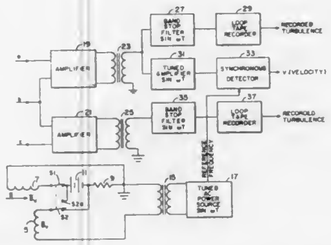
A pressure-responsive device for providing an electrical signal indicative of the pressure of a body of fluid material and especially suited for providing a signal indicative of the air pressure within a pneumatic tire comprises a chamber bounded in part by a resilient diaphragm. A contact arm usefully having a helical configuration is mounted on the diaphragm so as to be angularly disposed with respect to an electrically resistive disc. As the pressure within the chamber varies with the tire pressure, the extent to which the contact arm engages the resistive disc varies so as to provide a variable resistance value between the contact arm and a terminal point on the disc.

3,523,451
PRESSURE GAUGE
Theodore Kohn, 3500 Kensington Ave., Richmond, Va. 23221
Filed Sept. 5, 1967, Ser. No. 665,395
Int. Cl. B60c *23/04*
U.S. Cl. 73—146.8 8 Claims

A tire gauge is constructed from a plurality of interrelated components designed with a common configuration for condensing the assembly to minimum length and size. A domed shaped portion in the opening of the gauge forces the tire valve downward to permit the pressure of air from the tire to be measured. The gauge may be left on the tire and a continuous pressure reading obtained or electronic equipment may be associated with the gauge to provide readings in areas remote from the gauge.

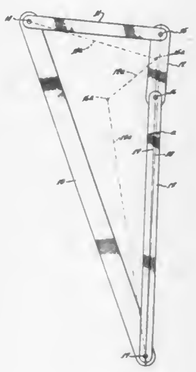


3,523,452
DEVICE FOR MEASURING IONIZED GAS VELOCITY AND TURBULENCE
Charles M. Cason III, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed June 13, 1968, Ser. No. 736,849
Int. Cl. G01f *1/00*
U.S. Cl. 73—194 4 Claims



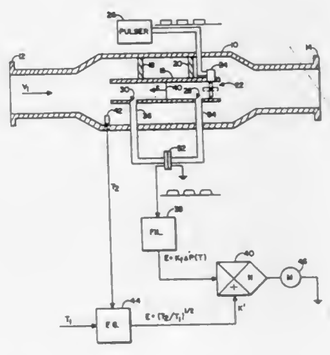
Two selectable orthogonal magnetic fields are provided. One field is provided by a D-C source, has its flux lines parallel to the direction of gas flow, and may be selectively energized or deenergized. The other field is provided by selectable D-C and A-C sources, and has its flux lines orthogonal to the direction of gas flow. The arrangement is such that when the one field is energized by the D-C source, the other field is energized by the A-C source. When the one field is deenergized, the other field is connected both to the A-C and D-C sources. Three sensing electrodes are arranged parallel to each other and to the direction of gas flow, with a first and second of the electrodes in a first plane parallel to the flux lines of the one magnetic field, and with the second and third electrodes in a second plane normal to the first plane. Outputs taken between coplanar pairs of electrodes are used to determine gas velocity and turbulence by taking advantage of Faraday's law, i.e., when a moving conductor (the ionized gas) moves through a magnetic field $\overline{B}$ at velocity $\overline{V}$, an electric potential $\overline{E}$ is established by the vector cross product $\overline{E}=\overline{V}\times\overline{B}$. In asmuch as both $\overline{E}$ and $\overline{B}$ can be determined, $\overline{V}$ can readily be determined by: $V=E/B$. The turbulence and velocity of the gas, with proper selection of the magnetic fields, can be measured by output equipment to the sensing electrodes.

3,523,453
APPARATUS FOR GENERATING SQUARE ROOTS, AND SQUARE ROOT INTEGRATOR
Warren L. Perrine, 900 Sea Lane, Apt. 5, Corona del Mar, Calif. 92625
Filed Oct. 23, 1967, Ser. No. 677,243
Int. Cl. G01f *1/00*
U.S. Cl. 73—205 11 Claims



A four-bar linkage which generates, over a predetermined range of operation, a square root function. The disclosure further relates to a method of employing the linkage to generate a square root function, and to an integrator which incorporates the linkage.

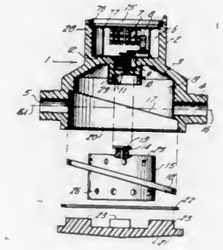
3,523,454
CONTROL APPARATUS
Jerome J. Rusnak, St. Paul, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 694,911
Int. Cl. G01f *1/00*
U.S. Cl. 73—205 5 Claims



A flowmeter having a sampling tube in the flow stream with a valve at one end of the tube which is periodically closed, obstructing the flow and thereby generating a

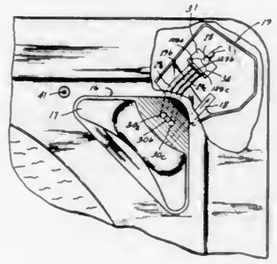
shockwave. The change in pressure associated with the shockwave, which is a function of the mass flow rate, is sensed by a transducer which provides an electrical signal proportional to the mass flow rate.

3,523,455
LIQUID METER
Abraham Branitzky, Harvey, Ill., assignor to U.S. Meter Corporation, Houston, Tex., a corporation of Texas
Filed Jan. 9, 1967, Ser. No. 608,081
Int. Cl. G01f *3/12, 15/14*
U.S. Cl. 73—258 **16 Claims**



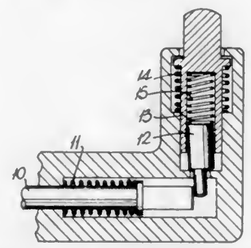
A liquid meter having an internal shoulder which is diagonally disposed to the major axis of the meter and a measuring chamber within the meter having an external flange which is similarly diagonally disposed. The shoulder and flange seat together to divide the interior of the meter into inlet and outlet compartments.

3,523,456
LIQUID LEVEL INDICATOR FOR A DISPENSER
David A. Matzen, St. Joseph, and John D. Siebler, Sawyer, Mich., assignors to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware
Filed May 28, 1968, Ser. No. 732,694
Int. Cl. G01f *23/10*
U.S. Cl. 73—313 **5 Claims**



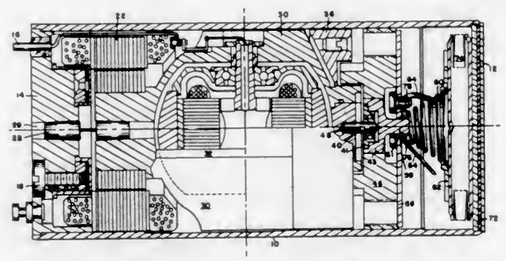
A liquid level indicating means for use in conjunction with liquid dispensers, including a plurality of light transmitting rods positioned in a liquid reservoir, a light source positioned in the reservoir in spaced relation to the ends of the rods, a float arranged to float on the liquid contained in the reservoir, and a shutter carried by the float and positioned to intercept the light passing between the light source and the ends of the rods, the shutter serving to control the amount of light passing between the source and certain ones of the rods, thereby giving a visual indication of the relative position of the float in the liquid reservoir.

3,523,457
LATCH DEVICES
Kenneth Albert Walters Kemp, Ealing, London, England, assignor to C.A.V. Limited, London, England
Filed Jan. 6, 1969, Ser. No. 789,185
Claims priority, application Great Britain, Jan. 5, 1968, 762/68
Int. Cl. G05g *17/00*
U.S. Cl. 74—2 **5 Claims**



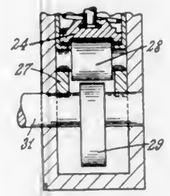
A latch device of the kind intended to retain a resiliently loaded member in a first position, the latch device comprising a first member which extends into the path of the member, a second member telescopically engaged with the member, and movable between first and second axial positions, the arrangement being that as the member is moved from its first to its second position the member will telescope relative to the member and as the latter is returned to its first position the friction between the two members will cause the member to be moved out of engagement with the resiliently loaded member.

3,523,458
DAMPING MEANS FOR RATE GYROS
Howard W. Boothroyd, Amherst, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Nov. 13, 1967, Ser. No. 682,287
Int. Cl. G01c *19/04*
U.S. Cl. 74—5.5 **10 Claims**



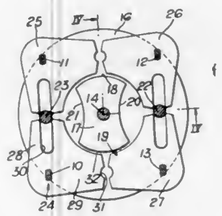
Improved damping means for gyros and more particularly to means for providing relatively constant damping in subminiature rate gyros over a broad temperature range while minimizing gyro size. Longitudinal travel of a bellows, occasioned by change in the volume of damping fluid in the gyro which results from temperature change, is converted to rotational motion of an orifice plate which controls the area of the damping control orifice. Drive links are attached to the bellows and the orifice plate. One end of each link is attached to the bellows about the perimeter of a circle of relatively large radius, while the opposite end of each link is attached to an orifice plate about the perimeter of a circle of much smaller radius. Bellows movement changes the effective length of the drive links thereby rotating the orifice plate. Because of the difference in radius of the two circles a minimum longitudinal motion is amplified to a much greater rotational motion, and thus a smaller bellows can suffice resulting in a shorter gyro.

3,523,459
RECIPROCATING MECHANISMS
Dorian Farrar Mowbray, Burnham, England, assignor to C.A.V. Limited, London, England
Filed Sept. 13, 1968, Ser. No. 759,690
Claims priority, application Great Britain, Sept. 25, 1967, 43,491/67
Int. Cl. F16h *25/14*
U.S. Cl. 74—55 **2 Claims**



A reciprocating mechanism including a tappet which carries a roller, a cam for imparting movement to the tappet and the tappet being provided with flank portions which extend adjacent the side faces of the cam thereby to prevent angular movement of the tappet.

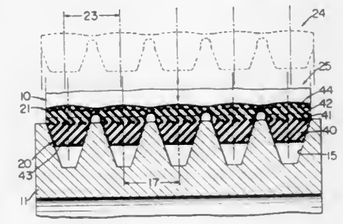
3,523,460
MECHANICAL LINKAGE
Maurice Beauvais, Maisons-Alfort, France, assignor to Rhone-Poulenc S.A., Paris, France, a French body corporation
Filed June 27, 1968, Ser. No. 740,568
Claims priority, application France, June 30, 1967, 112,714
Int. Cl. F16h *21/44*
U.S. Cl. 74—96 **4 Claims**



A mechanical linkage for controlling rotation of four elements such as plug valves. A drive shaft carries two drive pins for engagement in the forks of four connecting members of a Maltese linkage, and also carries a locking disc which engages cam surfaces on two of the connecting members to prevent rotation thereof, while the other two are rotated, and vice versa.

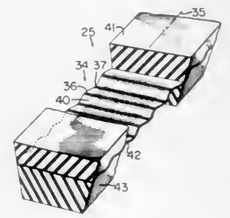
3,523,461
TRANSMISSION BELT
Paul E. Nemecek and Dewey D. Henderson, Springfield, Mo., assignors to Dayco Corporation, Dayton, Ohio, a corporation of Delaware
Filed May 6, 1968, Ser. No. 726,908
Int. Cl. F16g *5/16;* **F16h** *7/02*
U.S. Cl. 74—229 **5 Claims**

A transmission belt having a plurality of substantially identical V-belt elements fastened together by a tie band so that the V-belt elements have a greater center-to-center spacing than the center-to-center spacing beween a plurality of grooves provided in an associated sheave to be used with such transmission belt whereby an improved



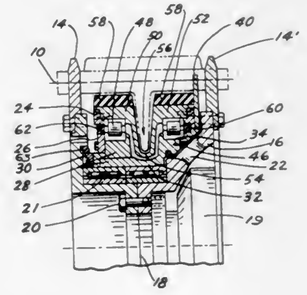
mating is provided between the V-belt elements and their associated grooves.

3,523,462
TRANSMISSION BELT
Lucian J. Beindorf, Springfield, Mo., assignor to Dayco Corporation, Dayton, Ohio, a corporation of Delaware
Filed June 26, 1968, Ser. No. 740,356
Int. Cl. F16g *5/10, 5/16*
U.S. Cl. 74—233 **10 Claims**



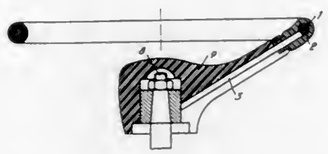
A transmission belt wherein such belt has a load-carrying section made of a metallic material and provided with a plurality of integral transverse undulations along the full length of the load-carrying section.

3,523,463
SPROCKET WHEEL
Paul R. Van Thielen, Birmingham, Mich., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Feb. 19, 1969, Ser. No. 800,651
Int. Cl. F16h *55/30*
U.S. Cl. 74—243 **8 Claims**



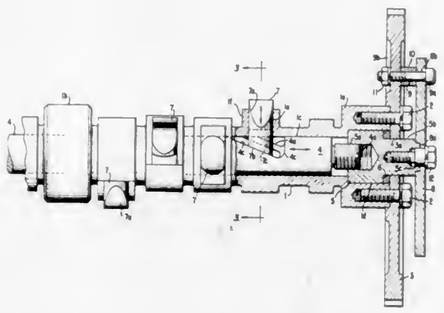
A sprocket wheel for an endless track including an eccentrically adjustable, freely rotatable wheel mounted thereon to delay engagement of the track and the sprocket teeth.

3,523,464
STEERING WHEEL WITH PLASTIC FOAM SHEATHING
Henri Paul Marcel Quillery, La Garenne-Colombes, and Georges Gonzalez, Paris, France; said Quillery assignor to Societe Quillery, La Garenne-Colombes, Haute-de-Seine, France, a French company
Continuation-in-part of application Ser. No. 619,189, Feb. 28, 1967, which is a continuation-in-part of application Ser. No. 473,838, July 21, 1965. This application Apr. 20, 1967, Ser. No. 632,233
Claims priority, application France, Apr. 26, 1966, 59,079
Int. Cl. B62d *1/04*
U.S. Cl. 74—552 3 Claims



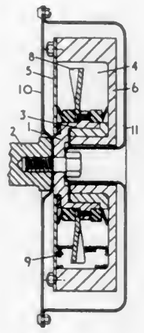
A steering wheel comprised of a steering wheel hub which supports an overlaying flexible foam material with the foam material having on its surface a non-foam elastomer layer, said foam covered steering wheel acting to protect the user thereof against shocks, vibrations, and the like.

3,523,465
ADJUSTABLE CAM SHAFTS
William Emory Harrell, % General Delivery, Clyattville, Ga. 31601
Filed Oct. 31, 1968, Ser. No. 772,146
Int. Cl. F01l *13/00*; F16h *53/00*
U.S. Cl. 74—568 3 Claims



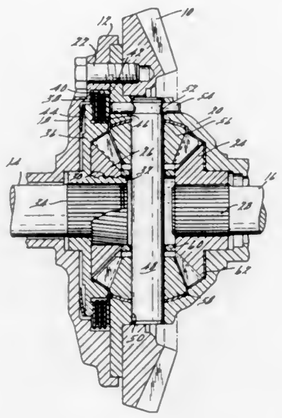
The adjustable cam shaft for internal combustion engines includes an elongated tubular hub having a timing spur gear secured to one end thereof, the hub having a series of lobe inserts radially slidably mounted therein for operating the usual valve mechanism of the engine cylinders respectively. An axially slidable cam shaft is rotatably mounted in the link terminating short of the spur gear, the shaft having a threaded reduced inner end engaging a thrust nut rotatably journaled in an enlarged bore in the adjacent end of the hub, with means for locking the nut in adjusted rotational position with respect to the gears. The cam shaft has a series of inclined recesses therein receiving the inner ends of the lobe inserts respectively and provided with T-splines engaging T-slots in the inner ends of the lobe inserts which are correspondingly inclined, whereby axial adjustment of the cam shaft in the hub will cause simultaneous radial adjustment of the lobe inserts in the hub.

3,523,466
MECHANICAL TRANSMISSIONS
Anthony Owen Hunt and Alan Edward Harrison, Leeds, England, assignors to Powder Couplings Limited, Leeds, England, a British company
Filed Oct. 6, 1967, Ser. No. 673,364
Claims priority, application Great Britain, Oct. 7, 1966 44,984/66
Int. Cl. F16f *9/30*
U.S. Cl. 74—574 13 Claims



A torsional vibration damper for a rotary shaft comprising a housing member of circular transverse cross-section and a concentric plate member or the like mounted within and for rotation relative to said housing member, one of said members being adapted to be driven by the shaft and the other member being rotatable independently of said shaft, with the housing member containing a charge of solid particulate matter, so that torque can be transmitted through the aforesaid charge between the plate member and the housing member when the charge is centrifugally distributed within the housing member.

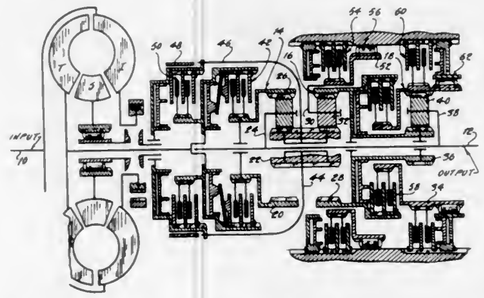
3,523,467
AUTOMATIC LIMITED SLIP DIFFERENTIAL
Moses Shachter, Oak Park, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed June 3, 1968, Ser. No. 733,877
Int. Cl. F16h *1/44*
U.S. Cl. 74—711 4 Claims



A geared differential having a pair of side gears, a driving carrier assembly including pinions engaged with each side gear, each side gear being connected to a separate driving axle, and friction clutch means for connecting one axle shaft to the housing for the carrier assembly

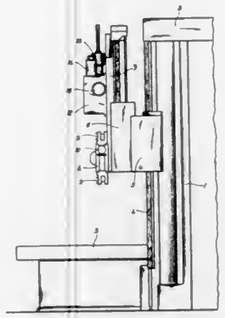
wherein provision is made for normally engaging the clutch when the driving torque is reduced thereby disengaging the clutch in response to an increase in the torque applied to one side gear to effect normal differential action during operation of the mechanism under torque and to provide a locking torque bias when one axle shaft loses tractive effort.

3,523,468
FOUR SPEED RATIO PLANETARY GEAR MECHANISM
Larry A. Kepner, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Nov. 4, 1968, Ser. No. 772,963
Int. Cl. F16h *57/10*
U.S. Cl. 74—759 4 Claims



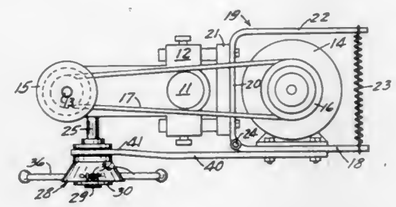
A planetary gear system capable of providing four forward driving speed ratios and a single reverse speed ratio with three simple planetary gear sets including, in addition to conventional, multiple-element, planetary gear units, an additional gear unit that cooperates with the elements of the conventional planetary gearing to produce a modified, torque ratio range.

3,523,469
TOOL CARRIAGE WITH TURRET
Gert Traugott, Buderich, Germany, assignor to Schiess Aktiengesellschaft, Dusseldorf-Oberkassel, Germany
Filed Jan. 17, 1968, Ser. No. 698,539
Claims priority, application Germany, Jan. 20, 1967, Sch 40,118
Int. Cl. B23b *39/20*
U.S. Cl. 77—4 5 Claims



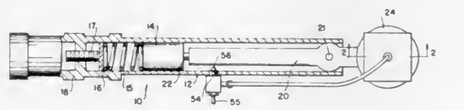
A machine tool carriage with turret pivotable about an axis at least approximately perpendicular with regard to the direction of displacement of said carriage and with a drive shaft extending in the direction of displacement of said carriage and selectively connectable with and disconnectable from a boring drill receiving sleeve in said turret.

3,523,470
DRILL PRESS CONTROL DEVICE
Carl S. Miller, 44 Miller Crest Lane, St. Paul, Minn. 55106
Filed May 1, 1968, Ser. No. 725,802
Int. Cl. B23b *47/16*; F16h *7/14*
U.S. Cl. 77—5 5 Claims



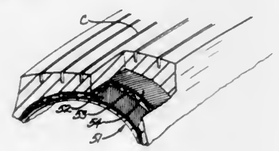
A fail-safe clutch device for a drill press, wherein the drill-advancing handle members are pivotally mounted for lateral movement which is transmitted to a hinged motor mount, thereby controlling the rotation of the drill.

3,523,471
PRECISION TORQUE RELEASE AND PART MARKING WRENCH
Christopher James Lance, Royal Oak, Mich., assignor of fifty percent to Ivan F. Belknap, Detroit, Mich.
Filed Nov. 8, 1967, Ser. No. 681,423
Int. Cl. B25b
U.S. Cl. 81—52.5 18 Claims



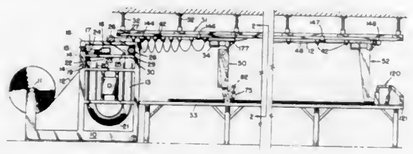
A high precision-type torque release or torque limiting wrench is disclosed which has extremely simple provisions to mark a threaded part which is tightened by the wrench at the instant that the exact intended maximum torque has been applied to the part, and precisely simultaneously with the cessation of application of torque to the part.

3,523,472
TIRE CONSTRUCTIONS
Alfred Marzocchi, Cumberland, Gustav E. Benson, Edgewood, and Robert E. Leach, Cumberland, R.I., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Feb. 16, 1968, Ser. No. 706,160
Claims priority, application Belgium, Feb. 17, 1967, 694,232
Int. Cl. B60c *11/00*
U.S. Cl. 152—361 4 Claims



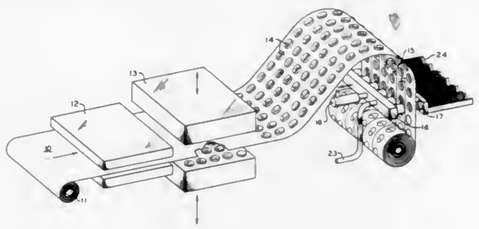
Tire constructions featuring glass reinforcement in the form of a tread reinforcing band, in the form of load supporting stiff toroidal hoops, in the form of a spiral wrap for organic cord plies and/or in the form of a plurality of non-woven plies of mutually parallel cords.

3,523,473
APPARATUS AND METHOD FOR SPREADING FLEXIBLE SHEET MATERIAL
Gilbert F. Norcross, Greensboro, North Carolina; Fred Birdsong, Greensboro, North Carolina; Martin L. Wimbs, Greensboro, North Carolina and Homer B. Beers, Tupelo, Mississippi, assignors to Blue Bell, Inc., Greensboro, North Carolina a Corp. of Delaware
Filed April 24, 1967, Ser. No. 633,274
Int. Cl. B26d 7/14; B65h 29/46
U.S. Cl. 83—18 12 Claims



An apparatus and method for spreading flexible sheet material such as textile fabric from a source of supply to a lay-out and cutting table in which the material is withdrawn from an accumulator and guided vertically above the table by a sheet material conveyor, control box and cutter assembly, in one direction of travel, to a predetermined location remote from the accumulator for spreading on the return travel to a predetermined location at the termination of which travel the material may be severed in a preselected length.

3,523,474
PRECISION TRIMMING OF THERMOFORMED PARTS
William G. Kinslow, Jr., Kansas City, Missouri, assignor to Phillips Petroleum Company, a Corp. of Delaware
Filed April 15, 1968, Ser. No. 721,377
Int. Cl. B26f 1/40
U.S. Cl. 83—40 5 Claims

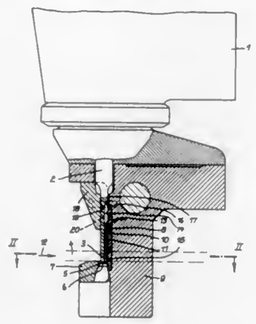


Formed thermoplastic objects are accurately trimmed from a sheet on which they are formed by drawing a vacuum between the objects and a punch member thereby positioning the object on the punch before the cooperating action of the punch and a corresponding die shear the object from the sheet. When simultaneously trimming a plurality of formed objects from a sheet with cooperating die and punch members, the sheet can be slit between the formed objects to compensate for distortion of the sheet material due to shrinkage and the like resulting from the forming operation to thereby allow each part to be more accurately seated or centered on a corresponding punch member.

3,523,475
NIBBLING TOOL WITH RECESSED PUNCH
Berthold Leibinger, Gerlingen, Germany; Eugen Herb, Ditzingen, Germany and Wolfgang Eichenbrenner, Stuttgart-Weilimdorf, Germany, assignors to Trumpf & Co, Stuttgart-Weilimdorf, Germany
Filed March 4, 1968, Ser. No. 710,142
Claims priority, application Germany, March 3, 1967, 1,627,294
Int. Cl. B26d 7/16
U.S. Cl. 83—467 9 Claims

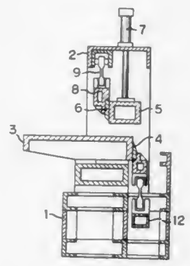
A nibbling tool has a punch guided for reciprocation on a die holder carrying a work feed limiter in the form of a relatively narrow rib or strip. The surface of the punch facing the work feed limiter is formed with a recess extending longitudinally of the direction of reciprocation of the punch, and this recess has a cross sectional area greater than the cross sectional area of the work feed limiter so that the punch does not contact the work feed limiter but bears on surfaces disposed laterally of the work feed limiter.

The work feed limiter is interchangeably mounted on the die holder, as by being formed on a detachable plate positioned



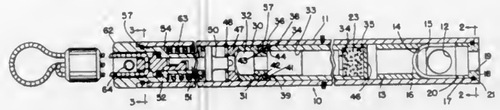
in a recess in the die holder, this recess having a depth corresponding substantially to the thickness of the plate. Preferably, the plate carrying the work feed limiter can be inverted in its recess or can be so formed that it may be turned around in its recess whereby when the wear on the surface facing the punch reaches a preset value, a new punch-engaging surface can be presented.

3,523,476
MACHINE FOR CUTTING BOARDS
Takeo Nakagawa, No. 254-6 Takatsu-Shinden, Yachiyo-shi, Chiba-ken, Japan
Filed July 8, 1968, Ser. No. 743,217
Claims priority, application Japan, July 12, 1967, 42/44,394; July 2, 1968, 43/45,604
Int. Cl. B26d 7/26, 7/02
U.S. Cl. 83—517 6 Claims



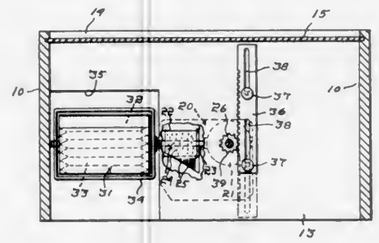
Machine for cutting boards, such as veneer boards, comprising a base, a frame mounted on said base for forward or backward movement thereon to adjust the relative horizontal position of the frame and the base, a cutting table fixed on said base on which boards to be cut are fed, a presser plate movably supported by said frame and adapted to move downward to hold the boards on the table, an upper cutter vertically slidable along the front side surface of the presser plate and adapted to abut against the upper surface of the cutting table to cut one side of the boards on the table and a lower cutter vertically slidable along the rear side surface of the cutting table and adapted to abut against the lower surface of the presser plate to cut another side of the boards, the arrangement being such that the boards to be cut are fed on the cutting table and held in position by lowering the presser plate on the boards and then the boards are cut at the two sides thereof by lowering the upper cutter and raising the lower cutter simultaneously.

3,523,477
SUBMINIATURE REEFING LINE CUTTER
John A. Miller, Cocoa Beach, Florida, assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 15, 1969, Ser. No. 791,294
Int. Cl. B26d 5/12
U.S. Cl. 83—639 3 Claims



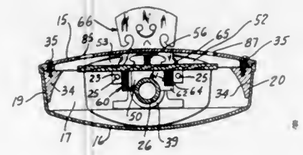
A sub-miniature ballistic cutter for parachute reefing lines having an energy absorbing stop member firmly secured in the operational path of the edge member. The various components, once assembled, are incapable of being disassembled.

3,523,478
ANIMATED MUSIC BOX WITH ADDITIONAL SOUND REPRODUCTION
Peter Van Zanten, PO Box W, Wilton, Maine
Filed June 26, 1968, Ser. No. 740,321
Int. Cl. G10f 1/22
U.S. Cl. 84—2 3 Claims



Music box in combination with at least one animated figure and an additional sound producing device, the music box being the means providing both the desired movement of the figure and the desired operation of the additional device.

3,523,479
SHELL VIOLIN WITH FLOATING SOUND BOARD
Walter D. Ludwig (Bloomfield Township, Michigan, 3865 W. Lincoln Drive, Birmingham, Michigan)
Filed Dec. 31, 1968, Ser. No. 788,121
Int. Cl. G10d 1/02, 3/02
U.S. Cl. 84—274 20 Claims

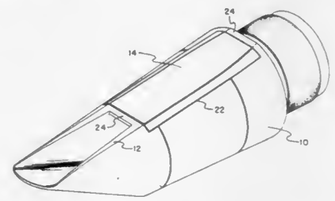


A violin having a shell or resonating enclosure which has a traditional shape and in which is disposed an internal, axially extended substructure on which is rockably mounted an independent and floating sound board that supports a bridge which extends through a slot in the top wall or belly of the shell. The pressure of the violin strings on the bridge maintains the bridge in position on the sound board, and when the violin strings vibrate laterally they transmit a rocking motion to the bridge and it transmits most of the motion to the sound board and to an adjustable treble bar which replaces the usual sound post and to a base bar mounted to the sound board.

3,523,480
LONGITUDINAL MODE TUNING OF STRINGED INSTRUMENTS
Harold A. Conklin, Jr., Cincinnati, Ohio, assignor to D. H. Baldwin Company, Cincinnati, Ohio a Corp. of Ohio
No Drawing. Filed Dec. 12, 1967, Ser. No. 689,815
Int. Cl. G10d 3/14
U.S. Cl. 84—312 18 Claims

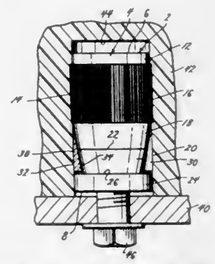
Stringed musical instruments in which the strings are tuned both for flexural modes of string vibration and for longitudinal modes of string vibration, the instrument and its strings being so designed that the frequencies of the fundamental longitudinal modes will bear a specific relationship to the frequencies of the fundamental flexural modes of string vibration.

3,523,481
MOUNTING FOR MUSICAL INSTRUMENT REED
Norman B. Stevens, 3709 Calle Cita, Santa Barbara, California
Filed April 19, 1968, Ser. No. 722,740
Int. Cl. G10d 9/02
U.S. Cl. 84—383 6 Claims



A mouthpiece for a clarinet or other beating reed musical instrument is provided with a resilient inlay at the reed mounting surface.

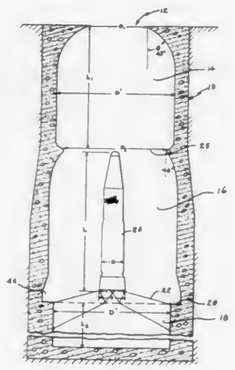
3,523,482
ANCHOR
Henry W. Ploch, Chesterfield, Missouri and Charles M. Burpo, Florissant, Missouri, assignors to McDonnell Douglas Corporation, St. Louis County, Missouri a Corp. of Maryland
Filed Feb. 7, 1969, Ser. No. 797,626
Int. Cl. F16b 13/06
U.S. Cl. 85—73 11 Claims



An anchor having a body provided with means for preventing it from rotating in a hole and a ring embracing the body and expanded into engagement with the walls of the hole by

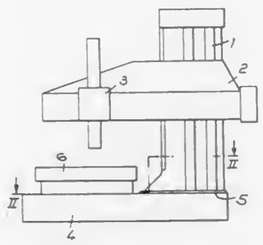
the camming action of a tapered surface associated with it. The body is shifted axially in the hole by the passage of mating threads along one another, and this shifting movement causes the camming action which expands the ring.

3,523,483
SHELTER PIT
Hyman Serbin, Beverly Hills, California, assignor to the United States of America as represented by the Secretary of the Air Force
Filed June 28, 1962, Ser. No. 206,559
Int. Cl. F41f *3/04*
U.S. Cl. 89—1.8 9 Claims



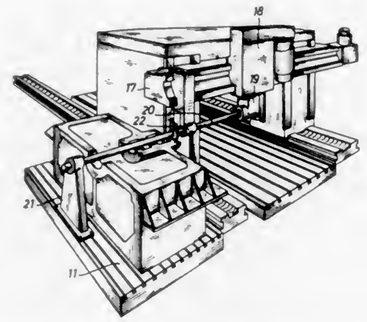
This invention relates to a choke-type shelter pit and, more particularly, to a chamber located below ground, and so designed as to protect equipment housed therein from damage due to shocks originating above ground, a particular application being the construction and design of missile launching pits.

3,523,484
MACHINE TOOL
Marcel L. Neuman, Collonges-au-Mont D'Or, France, assignor to Societe Anonyme des Anciens, Etablissements Charles Berthiez, Paris, France, a French society of France
Filed Dec. 5, 1967, Ser. No. 688,156
Claims priority, application France, Dec. 20, 1966, 88,182
Int. Cl. B23c *1/00*; E04c *1/26*
U.S. Cl. 90—11 8 Claims



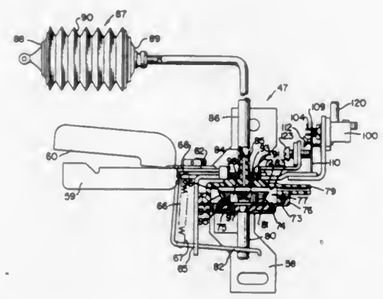
A machine tool wherein the vertical tool carrying column of the machine tool is secured to the supporting bed by tensioned rods whereby the vertical column and bed are held together rigidly in compression.

3,523,485
MACHINE TOOL WITH A MOVABLE PORTAL
Ernst Gerhard Klein, 1 Walter-Flex Strasse, 59 Siegen, Westphalia, Germany
Filed March 13, 1968, Ser. No. 712,668
Claims priority, application Germany, March 18, 1967, W43592
Int. Cl. B23c *1/02*, *1/06*
U.S. Cl. 90—15 2 Claims



A milling machine has a movable portal which includes a double post and a single post. The double post may consist of a strut support having an inclined outer surface and firmly connected to a substantially narrow rectangular post, or it may consist of a single elongated member of uniform cross section. A yoke interconnects the two posts. The posts have base plates carried upon two elongated bed guides for the movement of the portal. A clip plate is located between the two bed guides while an additional clip plate is located to one side of a bed guide. A movable tool-carrying support is located close to the additional clip plate. An elongated spindle may extend across the two clip plates.

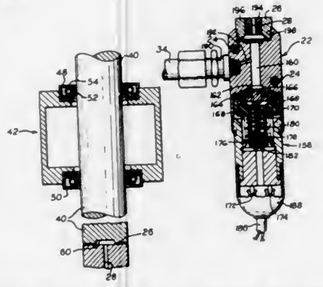
3,523,486
WASHING MACHINE HAVING DOOR LATCH CONTROL MEANS
Harvey J. Shopsky, Latrobe, Pennsylvania, assignor to Robertshaw Controls Company, Richmond, Virginia, a Corp. of Delaware
Original application Aug. 24, 1967, Ser. No. 663,034, now Pat. No. 3,451,233. Divided and this application Feb. 17, 1969, Ser. No. 816,451
Int. Cl. F15b *21/02*
U.S. Cl. 91—35 7 Claims



This disclosure relates to a pneumatic control system for a washing machine or the like wherein the washing compartment cannot be spun unless the door or lid means for the machine is in its closed position, the pneumatic control system positively moving a latch member to its latching position to hold the door means in its closed position before

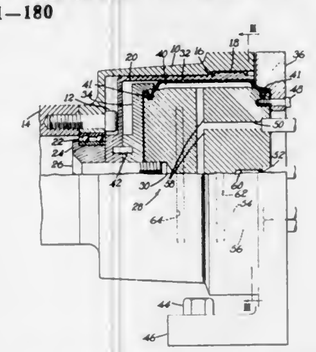
pneumatically operating the mechanism for spinning the washing compartment. The actuator means that moves the latch member to its latching position has means for delaying movement of the latch member to its unlatching position after the pneumatic signal to the actuator has been terminated by automatic or manual means, such delaying means comprising a suction cup means on the flexible diaphragm of the pneumatically operated actuator and an accumulator in combination therewith.

3,523,487
FLUID OPERATED DETECTOR FOR RECIPROCATING PARTS
George Wintriss, Carversville, Pennsylvania, assignor to Industrionics Controls, Inc., New York, New York a Corp. of New York
Filed Jan. 11, 1968, Ser. No. 697,197
Int. Cl. F15b *13/04*; F01b *19/00*; F16j *3/00*
U.S. Cl. 91—47 11 Claims



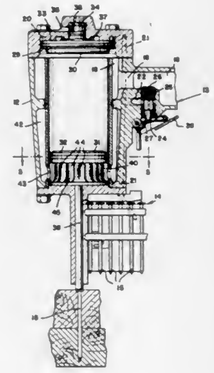
This specification discloses apparatus for indicating a failure of a reciprocating part to complete a full stroke. If the reciprocating part of a press, molding machine, or other apparatus is prevented from moving to the intended limit of its stroke, through failing to strip a workpiece or from other cause, this invention produces a pulse in a fluid passage to an actuator which controls an electric switch, valve or other device for sending a signal for operating a warning means or for stopping the machine. A stream of fluid is obstructed when an abutment surface that moves with the reciprocating part reaches its intended limit of travel. The abutment surface contacts with a sensor, but there is a channel through which some fluid can escape even when the abutment surface contacts with the sensor, and this provision for fluid escape is important to the sensitivity of the apparatus.

3,523,488
FLUIDIC STEPPING MOTORS
Hugh A. Robinson, Wenham, Massachusetts, assignor to USM Corporation, Flemington, New Jersey a Corp. of New Jersey
Filed Nov. 1, 1968, Ser. No. 772,757
Int. Cl. F01l *33/02*; F16h *33/20*
U.S. Cl. 91—180 4 Claims



Pulsated fluid is employed to effect a circumferential wave of radial deflection in the flexspline of a harmonic drive type transmission to provide an effective control device of high response characteristics. An elastomeric wave generator comprises a tubular diaphragm diametrically opposite portions of which are sequentially pressurized circumferentially to drive a flexspline or its cooperating coaxial circular spline.

3,523,489
TRAPPED AIR RETURN SYSTEM FOR FLUID ACTUATED FASTENER DRIVING MACHINES
Garry R. Perkins, West Chicago, Illinois, assignor to Swingline Inc., Long Island City, New York a Corp. of New York
Filed May 17, 1968, Ser. No. 731,364
Int. Cl. F15b *15/17*, *13/42*; F01b *11/02*
U.S. Cl. 91—416 4 Claims



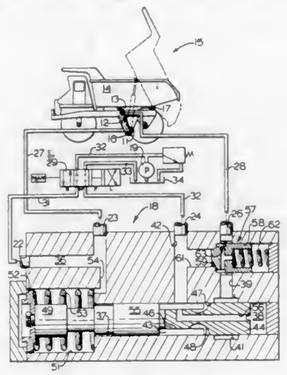
A fluid actuated fastener driving machine is shown which is provided with a body having a drive chamber therewithin. A piston has a plurality of vertical laterally spaced openings therewithin. A bumper is provided with a number of openings and is impingeable with the piston at the completion of the drive stroke thereof. A return chamber is connected to the drive chamber through the openings within the bumper.

A lower poppet control chamber and an upper poppet control chamber are provided. An upwardly movable poppet valve has a lower face disposed within the lower poppet control chamber and an upper face disposed within the upper poppet control chamber. The lower face is a smaller operational area than the upper face. A first conduit is provided to conduct pressure air into the lower poppet control chamber and a second conduit is provided to conduct pressure air into the upper poppet control chamber. A trigger housing is connected to said second conduit. An exhaust conduit is connected with the trigger housing. A trigger is disposed within the trigger housing which can selectively block either the second conduit or the exhaust conduit. The poppet valve is provided with an opening which normally abuts the upper face of the piston. Above the opening in the poppet is a seal which is normally spaced therefrom and a second exhaust conduit which is open to atmosphere. A spring normally biases the poppet into its normal position.

3,523,490
ANTI-CAVITATION MECHANISM FOR FLUID DRIVEN SYSTEMS
Donald L. Bianchetta, Coal City, Illinois, assignor to Caterpillar Tractor Co., Peoria, Illinois a Corp. of California
Filed March 28, 1968, Ser. No. 716,745
Int. Cl. F15b *11/08*, *13/42*
U.S. Cl. 91—420 1 Claim

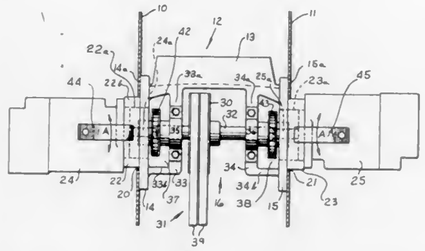
A valve supplies driving fluid to the head end of a hydraulic cylinder while presenting a variable flow restriction to

fluid being expelled from the rod end of the cylinder. The flow restriction is varied automatically in response to fluid



pressure changes at the head end of the cylinder whereby the rod cannot extend, in response to external load forces, at a rate faster than that provided for by the inflow of driving fluid at the head of the cylinder.

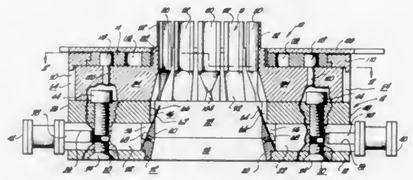
3,523,491
MOUNTING FOR SUPPORTING TWO HYDRAULIC PUMPS IN AXIAL ALIGNMENT WITH A DRIVING SHAFT
Edmund O. Howell, New Holland, Pennsylvania, assignor to Sperry Rand Corporation, New Holland, Pennsylvania a Corp. of Delaware.
Filed April 14, 1969, Ser. No. 815,787
Int. Cl. F04b *21/00*
U.S. Cl. 92—12.2 **9 Claims**



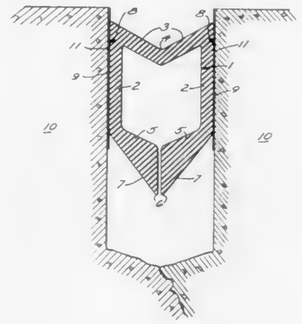
A rigid mounting member has a beam extending transversely between two longitudinally extending frame members and two flanges attached to the frame members. Two hydraulic pumps are fastened to the flanges with the input shafts extending towards one another in axial alignment and secured to axially aligned drive means rotatably mounted in bearings supported by the mounting member.

3,523,492
APPARATUS AND METHOD FOR ATTACHING A FLEXIBLE BAG TO A CONTAINER BODY
John K. Bruce, Santa Ana, California and Roger K. Bruce, Costa Mesa, California, assignors to Sterigard Company, Santa Ana, California a California Limited Partnership
Filed June 12, 1968, Ser. No. 736,400
Int. Cl. B31b *7/00, 1/52, 1/90*
U.S. Cl. 93—36.01 **24 Claims**

A plurality of cam actuated fingers are disposed in a radial array to expand the mouth of a bag prior to the attachment of the bag over the top of an open container body. The fingers are actuated by a cam plate having a plurality of cam slots configured such that alternate fingers move radially inward ahead of their neighbors to a contracted position. In the fingers' expanded position, the bag's mouth is expanded slightly to receive a container body. With the fingers in their expanded position, the container is raised by a ram to a position where the container's top flange extends slightly above the fingers to engage the bag. The fingers are relaxed slightly against the side of the container and the ram continues upward through the fingers to remove the bag from the fingers and allow the bag to collapse tightly against the outer surface of the container body.



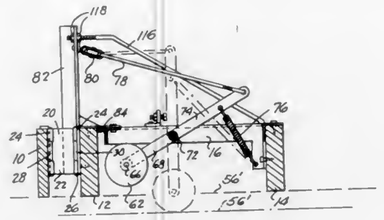
3,523,493
COMPOSITION OF MATTER AND USE THEREOF IN JOINT SEALING
Peter M. Berry, Longueuil, Quebec, Canada and John Joe Kavalir, Two Mountains, Quebec, Canada, assignors to Uniroyal, Inc., New York, New York, a Corp. of New Jersey
Filed July 31, 1967, Ser. No. 657,230
Claims priority, application Canada, April 24, 1967, 988,651
Int. Cl. E01c *11/10*; **C08f** *15/00*
U.S. Cl. 94—18 **6 Claims**



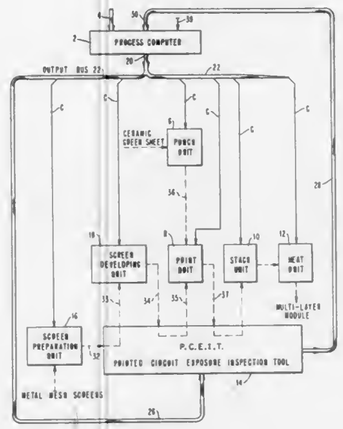
There is disclosed a new composition of matter comprising a thermoplastic block copolymer of butadiene and styrene and reclaimed rubber and use thereof particularly for joint sealing purposes. This composition is extruded into a strip used to seal joints. In a preferred embodiment the extrusion is a hollow strip with flat sidewalls and slotted bottom, a special rubber cement as a primer is applied to the flat sidewalls of the strip and to the walls of the joint in the pavement or the like, whereupon the strip is inserted in the joint, the walls of the strip are allowed to spring outwardly into contact with the walls of the joint, and the solvent in the primer is then allowed to evaporate. Thus the uncured strip is cemented tightly in place.

3,523,494
OSCILLATING POWER SCREED
LeRoy O. Kraemer, PO Box 321, Sturgis, South Dakota
Filed March 29, 1968, Ser. No. 717,317
Int. Cl. E01c *19/22*
U.S. Cl. 94—45 **3 Claims**

An oscillating power screed comprising: a pair of parallel screeds secured together and spaced from each other by frame members adjacent each end of the screeds and by a central frame member; a lead screed parallel to said first-name screeds and hinged to one of said screeds by a plurality of hinges; power means on said central frame member; an eccentric driven by said power means and a connecting rod between said eccentric and said lead screed.

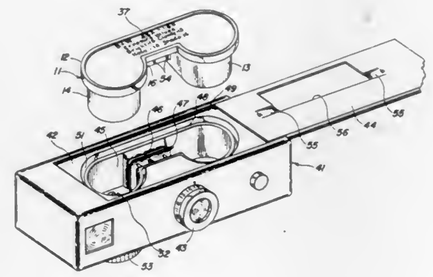


3,523,495
APPARATUS FOR FORMING CIRCUIT MASKS ON PHOTOSENSITIZED SCREENS AND INSPECTING THE SAME AND/OR INSPECTING SUBSTRATES HAVING CONDUCTIVE CIRCUIT PATTERNS
Gary R. Giedd, Wappingers Falls, New York and Merlyn H. Perkins, Hopewell Junction, New York, assignors to International Business Machines Corporation, Armonk, New York a Corp. of New York
Filed March 15, 1968, Ser. No. 713,521
Int. Cl. G03b *29/00*
U.S. Cl. 95—12 **4 Claims**



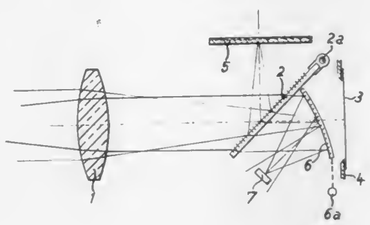
A printed circuit exposure and inspection tool automatically generates a printed circuit mask by direct optical exposure of a photosensitized wire mesh mask screen in response to information stored in a computer as calculated circuit data. The mask may then be used in a silk screen printing operation which deposits a conductive printed circuit pattern on individual layers of a ceramic substrate followed by stacking and bonding of the individual layers to form a multilayer module. The printed circuit exposure and inspection tool automatically inspects the latent and developed printed circuit patterns on the screen mask, and also inspects the conductive printed circuit pattern deposited on the ceramic substrates so as to electrically generate actual circuit data. The actual circuit data and calculated circuit data are compared in the computer so as to automatically reject erroneously formed patterns.

3,523,496
PRELOADED FILM MAGAZINE WITH LIGHT SEALING WEB
Hubert Nerwin, Rochester, New York, assignor to Eastman Kodak Company, Rochester, New York a Corp. of New Jersey
Filed June 30, 1967, Ser. No. 650,293
Int. Cl. G03b *19/04*
U.S. Cl. 95—31 **8 Claims**



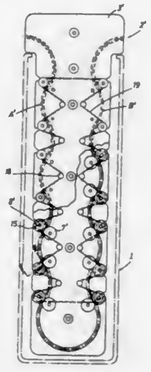
A photographic film magazine having a supply chamber and a take-up chamber with a rotatable take-up spool. The magazine is inserted in a camera transversely to the camera picture taking axis, and one end wall of the magazine has peripheral lip means that cooperate with corresponding slot means in the camera to form a lighttight closure between the magazine and the camera. The magazine further may be provided in the film passageways of both chambers with a predetermined pattern of surface irregularities to reduce reflection of light into the film chambers.

3,523,497
CAMERA LIGHT METER
Werner Holle, Wetzlar, Germany, assignor to Ernst Leitz G.m.b.H., Wetzlar, Germany
Filed June 12, 1967, Ser. No. 645,441
Claims priority, application Germany, June 16, 1966, L 53,857
Int. Cl. G03b *19/12*
U.S. Cl. 95—42 **1 Claim**



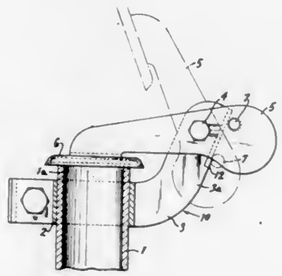
In a behind-the-lens light meter system for a reflex camera, which system includes a concave mirror disposed behind a planar beam-splitting mirror, a light-sensitive element is disposed at the focal plane of the concave mirror for producing a maximum light concentration at the light-sensitive element. With this arrangement the image of the front focal point, or principal focus on the subject side of the camera lens system will be focused on the light-sensitive element instead of the subject image being focused at the plane of the light-sensitive element as described in the prior art.

3,523,498
DEVICE FOR FEEDING PHOTOGRAPHIC FILM OR THE LIKE
Konrad Phleps, Grunwald near Munich, Germany; Alois Deban, Munich, Germany; and Günther Schnall, Munich, Germany, assignors to AGFA-Gevaert Aktiengesellschaft, Leverkusen, Germany, a Corp. of Germany
Filed Aug. 1, 1967, Ser. No. 657,593
Claims priority, application Germany, Aug. 13, 1966, A 53,258
Int. Cl. G03d *3/12*
U.S. Cl. 95—94 **12 Claims**



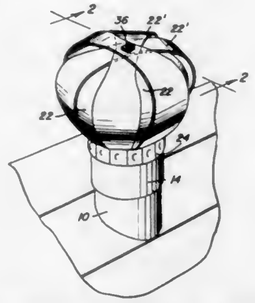
The device for guiding and feeding photographic roll film through a liquid treatment bath comprises two spaced parallel vertical plate-like guides having aligned U-shaped grooves which guide the edges of the film in a U-shaped path having concave sections alternating with convex sections. Pairs of film-advancing rollers are disposed in the regions (turns) between successive sections of the path. The inner roller of each pair is driven by a gear train and the outer roller is biased toward the inner roller. All of the outer rollers can be biased by a single elastic belt or the device may comprise several endless belts, one for each of several clusters of outer rollers.

3,523,499
WEATHER CAP CONSTRUCTION
Walter Bauerschmidt, Esslingen, Neckar, Germany, assignor to J. Eberspacher, Esslingen, Neckar, Germany
Filed Oct. 18, 1968, Ser. No. 768,806
Int. Cl. F231 *17/02*
U.S. Cl. 98—59 **6 Claims**



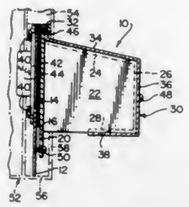
A weather cap preferably for closing vertically disposed pipes such as the exhaust pipe in a motor vehicle including a mounting collar having a crank arm portion providing a fulcrum which extends beyond the end of the pipe over which the collar is placed. An arm carrying a covering element is pivoted on the cranked arm for movement between a closed position at which the covering element covers the pipe in the closed state without bearing directly on the pipe and an opened position at which the covering is removed from but is aligned with the open end of the pipe. The cranked arm advantageously includes an oblique surface or flange which is adapted to contact a stop carried on the covering arm at the opened and closed end positions of the arm.

3,523,500
STATIONARY CHIMNEY VACUUM CAP
Edward J. Artis, P.O. Box 7486, Boise, Idaho and Paul A. Artis, P.O. Box 7486, Boise, Idaho
Filed Oct. 14, 1968, Ser. No. 767,222
Int. Cl. F23l *17/02*
U.S. Cl. 98—78 **3 Claims**



A cap for mounting on the upper end of a chimney or flue incorporating inner and outer generally spherical rows of slots so that when wind impinges on the cap, it creates a vacuum therein to enhance the exhausting and ventilating capabilities of the cap.

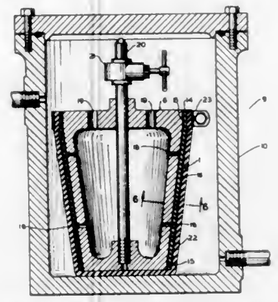
3,523,501
WINDOW VENTILATOR
Irvin C. Willert, 10050 Main St., Clarence, New York
Filed Oct. 17, 1968, Ser. No. 768,415
Int. Cl. E06b *7/02*
U.S. Cl. 98—99.1 **2 Claims**



A window ventilator includes an inner window panel arranged in a window frame below the sash and having two screened openings and two sliding doors on its inner side registerable with the openings, an outer hood extending outside the frame from the outer side of the panel and covering the openings, but open at both ends and at the bottom for entry of air, and a central baffle member connecting the hood and panel between the openings and dividing the hood into two entrance chambers, one for each opening.

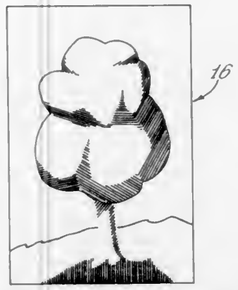
3,523,502
APPARATUS FOR PRODUCING CURVED ELECTROSTATIC PRINTING SCREENS
James W. Edwards, San Mateo, California, assignor to Monsanto Company, St. Louis, Missouri, a Corp. of Delaware
Original application July 19, 1965, Ser. No. 473,013, now Pat. No. 3,454,391, July 8, 1969. Divided and this application Dec. 26, 1968, Ser. No. 787,142
Int. Cl. B30b *5/02*
U.S. Cl. 100—211 **5 Claims**

An apparatus for making stencil screens used in electrostatic stencil printing systems where the screens have masked and open areas enabling electroscopic ink to pass through the opened areas of the screen to form a desired image pattern on a substrate. The method of making the screens includes the steps of applying a photosensitive emulsion to a metal fabric, exposing the emulsion through an image pattern by means of light and washing the nonexposed portion of the



sensitive emulsion. Thereafter, the screen is bent to produce a desired cross-sectional shape. The interstices of the nonimage areas of the screen are filled with a metal powder which is then pressurized to cause the powder to become impacted in the fabric interstices. The fabric is thereafter heated to cause the metal to become sintered to create a substantially rigid member. A modification is disclosed in which a nonmetal fabric is first metalized and then treated as above. In addition, a pressurizing apparatus in the form of a plug-like element accommodates an article inserted thereon. Pressure is applied from the interior of the plug-like element and the exterior atmosphere surrounding the plug-like element so that pressure can be applied opposite the surfaces of the article.

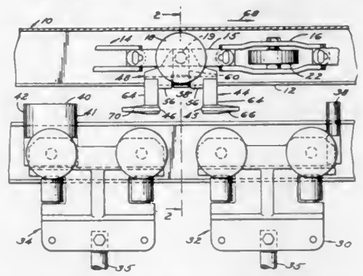
3,523,503
PROCESS FOR FORMING EMBOSSED FOIL PICTURES
Emmett James O'Boyle, St. Paul, Minnesota and Marlyn W. Rodi, Minneapolis, Minnesota, assignors to Webb Publishing Company, St. Paul, Minnesota a Corp. of Minnesota
Filed Oct. 27, 1966, Ser. No. 589,948
Int. Cl. B41m *1/24*; **G03f** *7/16*
U.S. Cl. 101—32 **8 Claims**



Embossed pictures are formed by producing a composite positive made by scribing the dark areas of an enlarged negative, and then scribing the dark areas of the positive formed therefrom. An embossing plate is produced from a reverse negative formed from the composite positive. A panel is printed with a printing plate made from the original art work, and then embossed with the embossing plate.

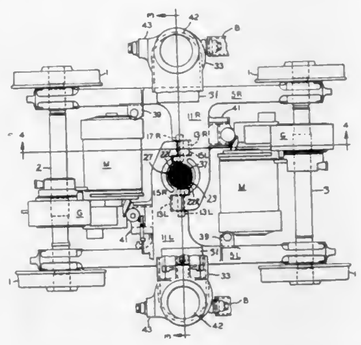
3,523,504
POWER AND FREE CONVEYOR
Roland P. Jones, Wayne, Michigan, assignor to Jervis B. Webb Company, a Corp. of Michigan
Filed Nov. 30, 1967, Ser. No. 686,952
Int. Cl. B65g *17/12, 17/42*
U.S. Cl. 104—172 **10 Claims**

A conveyor for propelling carriers along a track by pusher units on a driven chain supported above the carrier track, with means for stopping, accumulating and transferring carriers. Each carrier has fixed at its front and rear ends, respectively, a driving dog and a combination releasing and transfer



dog. Each pusher unit includes longitudinally spaced hold back and pusher dogs pivotal in unison on a longitudinal axis from a normal operative position by cam means on the hold back dog engaging a stop or the releasing dog of a preceding stopped carrier, the stop and releasing dog each being longer than the spacing between the pusher unit dogs.

3,523,505
MOTORIZED RAILWAY VEHICLE TRUCKS
Richard L. Lich, Town and Country, Missouri, assignor to General Steel Industries, Inc., Granite City, Illinois, a Corp. of Delaware
Filed Mar. 22, 1968, Ser. No. 715,304
Int. Cl. B61f *3/01, 5/10, 5/16*
U.S. Cl. 105—182 **16 Claims**

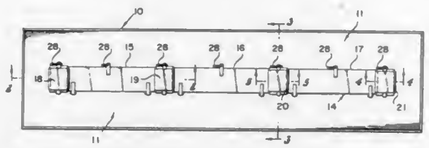


Railway vehicle trucks comprising separate longitudinally extending side frames mounted at their ends on wheeled axles, said side frames being formed respectively with inboard projections offset lengthwise of the truck from each other and connected to each other by transverse pivot-forming means to form a vertical axis pivot recess, a transverse bolster supported on the side frames intermediate the axles and having a depending pivot element pivotally received within said recess, car body support springs mounted on said bolster, and means holding said bolster against substantial rotation relative to the supported car body.

3,523,506
SMALL HATCH AND COVER IN AN ELONGATED HATCH COVER
Robert Arthur Williams, Scottsdale, Arizona, assignor to Stanray Corporation, Chicago, Illinois a Corp. of Delaware
Filed Jan. 2, 1968, Ser. No. 695,175
Int. Cl. B61d *39/00*
U.S. Cl. 105—377 **10 Claims**

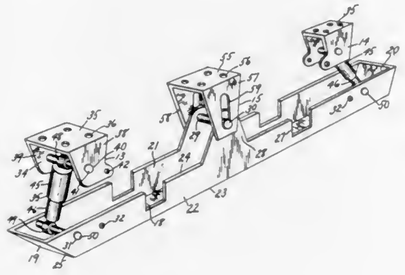
A hatch cover for an elongated hatch in a hopper car roof in which the cover is composed of a plurality of spaced apart elongated hatch cover sections and a number of relatively

small hatch cover sections aligned with and positioned within the spaces between the elongated hatch cover sections. All hatch cover sections are individually swingable and movable back and forth between open and closed position relative to said hatch and have clamping means for securing these hatch cover sections in closed position over the car hatch. The



smaller hatch cover sections are associated with the ends of adjacent elongated hatch cover sections to clamp these latter sections to the car hatch at the same time that the smaller hatch cover sections are clamped to the hatch. In another embodiment the elongated hatch cover sections are positioned adjacent to each other in lengthwise alignment and each has a smaller hatch opening therein. Each smaller hatch opening has an associated pivoted and clampable cover so that the smaller hatch opening can be selectively opened or closed relative to the elongated hatch cover section without a corresponding movement of this cover section.

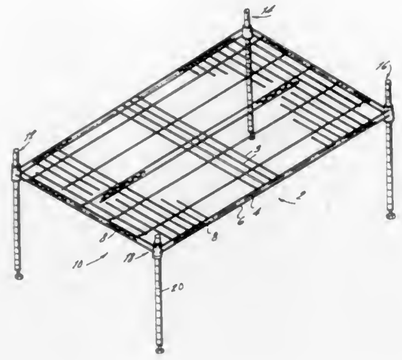
3,523,507
SKID FOR PALLETIZED LOADS HAVING INTEGRAL SHOCK ABSORBING MEANS
Sol Dubin, 1 Rome St., Farmingdale, New York
No Drawing. Filed Sept. 9, 1968, Ser. No. 758,385
Int. Cl. B51d *19/36*
U.S. Cl. 108—51 **4 Claims**



An elongated skid having first and second ends, shock absorbing links attached to each of said ends, and to the undersurface of a pallet supported thereabove, and means interconnecting the skid with the undersurface of the pallet to permit pivotal motion of the skid relative to the pallet, and translational movement of the skid relative to the pallet in a direction perpendicular to the undersurface of the pallet, and preventing translational movement of the skid relative to the pallet in a direction parallel to the undersurface of the pallet.

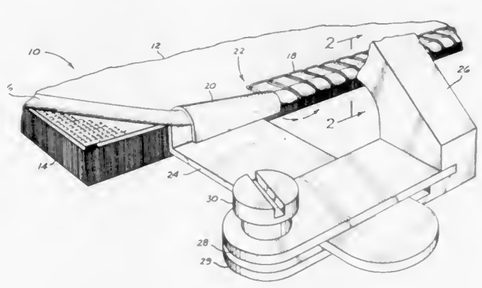
3,523,508
ADJUSTABLE SHELVING
Louis Maslow, Huntsville Road, Dallas, Pennsylvania
Continuation-in-part of Ser. No. 627,120, Mar. 30, 1967, now Pat. No. 3,424,111, this application filed May 2, 1968, Ser. No. 726,080
Int. Cl. A47b *9/00*
U.S. Cl. 108—144 **8 Claims**

Shelving comprising a flat shelf member having corner post receiving members having a frusto-conical section shape and being adapted to receive and securely hold corner posts positioned within a mounting assembly comprising a frusto-conical section shaped member surrounding a post provided on its interior periphery with an inwardly extending rib engageable within any one of a plurality of horizontally running indentations on said post, said mounting assembly provided



with an exteriorly disposed ridge adaptable to engage and hold a corner receiving member.

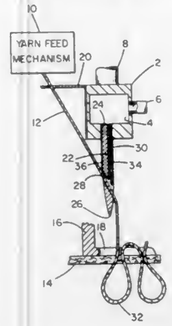
3,523,509
APPARATUS FOR EDGING PILE FABRICS
Jesse McCreery, 2186 NW. Glisan, Portland, Oregon
Filed May 21, 1965, Ser. No. 457,636
Int. Cl. D05b *35/06*
U.S. Cl. 112—137 **2 Claims**



Pile fabric is edged by securing a cord firmly against the fabric edge in a one-step operation with a single thread which is looped about the cord and secured to the fabric base with a blind stitch. An attachment for a blind stitch sewing machine provides an abutting guide surface for the pile fabric edge and an adjacent confining guide for feeding the cord against said edge as the sewing operation progresses.

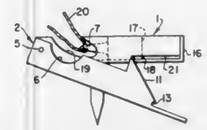
3,523,510
TUFTING NEEDLE
Helmut C. Mueller, Springfield, Massachusetts, assignor to Bigelow-Sanford, Inc., Thompsonville, Connecticut, a Corp. of Delaware
Filed March 20, 1969, Ser. No. 808,958
Int. Cl. D05b *85/10*
U.S. Cl. 112—222 **4 Claims**

A needle for the manufacture of tufted carpeting of the type wherein the pile yarn is fed through the needle by a stream of air, the needle having an eye extending entirely through the needle adjacent its point and inclined to the needle axis, an air conducting bore extending upwardly from the eye to the upper end of the needle, and yarn-accommodating channels in the surface of the needle extending from each opening of the eye in the direction away from the needle



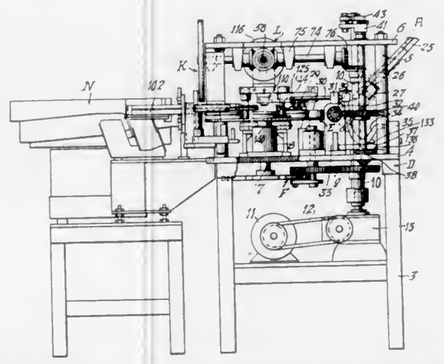
point, the needle point lying substantially on the axis of the needle.

3,523,511
AUTOMATIC NEEDLE SEWING MACHINE THREADER DEVICE
Jose Gomez Montoya, Box 697, Armenia, Colombia and Humberto Vivas Balcazar, Box 697, Armenia, Colombia
Filed April 29, 1968, Ser. No. 724,922
Int. Cl. D05b *87/02*
U.S. Cl. 112—225 **6 Claims**



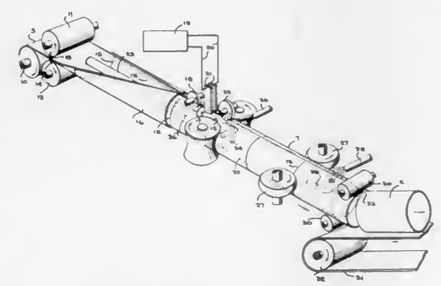
A device is provided for automatically threading a sewing machine needle by passing a hook-like element through the needle eye, hooking the thread, and pulling the thread and the hook-like element through the eye.

3,523,512
MACHINE FOR INSERTING POURING SPOUTS AND SIFTERS ON CARTONS
Frederick A. Plaessman, Edison, New Jersey and George N. Faber, Green-Brook, New Jersey, assignors to Seal-Spout Corporation, Mountainside, New Jersey a Corp. of New Jersey
Filed April 5, 1968, Ser. No. 719,020
Int. Cl. B21d *51/42*
U.S. Cl. 113—1 **12 Claims**



A turret disk rotatable about a vertical axis carries a plurality of anvil blocks step-by-step in a circular path through a plurality of stations, and at one station a carton cover is moved automatically from a supply chute onto an anvil; at the next station a metal pouring spout is inserted into the cover; at a subsequent station a polygonal hole is punched in the cover for a polygonal sifter which is pulled from a supply chute and fed into position in properly oriented relation to said opening and is pressed into the opening at another station; and at a subsequent station the cover with the spout and sifter fitted therein is automatically removed from the anvil.

3,523,513
CAN BODY AND METHOD OF FORMING SAME
Curtis E. Maier, Riverside, Illinois; Lee R. Ullery, Park Forest, Illinois and Paul M. Erlandson, New Canaan, Connecticut, assignors to Continental Can Company, Inc., New York, New York a Corp. of New York
Filed Mar. 9, 1960, Ser. No. 13,825
Int. Cl. B21d *51/26*
U.S. Cl. 113—120 **49 Claims**

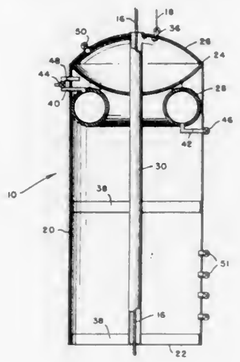


1. A process of producing coated tubular welded seam can bodies comprising the steps of providing sheet metal in strip form and substantially of single can circumference width, shaping the sheet metal into tubular shape, guiding the tubular shaped sheet metal with the edge portions thereof being first disposed in spaced relation and then converging into overlapped relation, moving the tubular shaped strip through a welding zone and there electrically heating the edge portions of the tubular shaped sheet metal to a forge welding temperature as edge portions of the tubular shaped sheet metal converge into overlapping relation and forging the heated overlapped edge portions of the moving tubular shaped sheet metal to effect a welding together of opposed surfaces of the edge portions to form a welded seam tube and reduce the thickness of the metal along the seam to substantially the original thickness of the sheet metal and provide a seam weld wherein the original weld interface when considered in transverse section is rotated to a diagonal position relative to the surfaces of the sheet metal and the weld extends the full width of the interface, fluid treating the metal in the welding zone to reduce oxidation and discoloration of the metal and cool the welded seam area immediately subsequent to the forging operation to minimize distortion of the welded seam, applying a coating on at least a portion of at least one surface of the welded tube, and separating the welded tube into predetermined lengths.

3,523,514
SALVAGE PONTOON
Kenneth R. Fishel, Altadena, California, assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 27, 1968, Ser. No. 779,378
Int. Cl. B63c *7/08*
U.S. Cl. 114—52 **7 Claims**

A salvage pontoon which has a negative metacentric height during its lift phase so that if the payload becomes accidentally detached during the lift phase the pontoon will rotate and fill with water through its open bottom end for a safe ascent to

the surface. The pontoon includes a lift tank which is open at its bottom and closed at its top. A negative buoyancy control tank and a positive buoyancy tank are mounted to the top



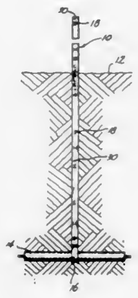
portion of the lift tank. The pontoon has a negative metacentric height and positive buoyancy when the lift tank, positive buoyancy tank, and negative buoyancy control tank are dewatered.

3,523,515

ABOVE SURFACE OBSERVED MARKER SECURED TO UNDERGROUND UTILITIES, ETC. TO INDICATE THEIR DEPTH AND DIRECTION

Clayton S. Brown, 8021 Juanita Drive, Kirkland, Washington

Filed Oct. 2, 1968, Ser. No. 764,567
Int. Cl. G01d *21/00*
U.S. Cl. 116—114 11 Claims



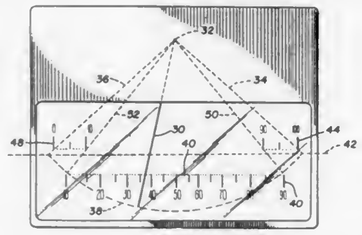
A marker is secured to underground utilities and facilities and extended to and above ground and/or water level to indicate the depth and, when used with others, to indicate the direction of electrical cable, sewers, water mains, gas lines, etc. The marker has: a body capable of substantial upright positioning when finally installed generally upon back filling; an underground anchoring means on its lower body end to initially position and thereafter retain the marker end with underground utilities or facilities; a receiving means along portions of the body to receive optionally, temporary or permanent cross bracing and/or longitudinal ties to hold the marker body or marker bodies in place until back filling is undertaken; indicia means for indicating the depth dimension, what is buried, utilities or facilities, their types, sizes, flows, power capacities, direction, the installation dates, name, address, phone number of utility company and/or contractor; and/or optionally small deposits of active substances to be detected by equipment to be moved over the terrain, later on the above surface portions might possibly be removed, damaged, and/or covered.

3,523,516

METER SCALE HAVING THEREON STRAIGHT LINE POSITIONING MARKINGS

Edwin A. Speaker, Brockport, New York, assignor to Bausch & Lomb Incorporated, Rochester, New York a Corp. of New York

Filed Sept. 20, 1967, Ser. No. 669,212
Int. Cl. G01d *13/02*; G12b *11/02*
U.S. Cl. 116—129 8 Claims



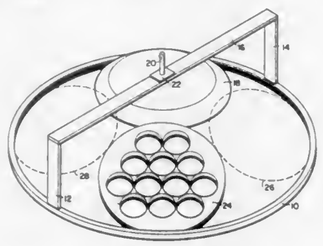
The invention discloses improved meter scales for meter movements including an indicator that pivots over a predetermined angle of a sector. In one embodiment subdivision markings on the scales are positioned in straight lines to afford simpler readings and reduce angular observation errors. In other embodiments the scale is divided into three separate portions that are disposed about the chord of the sector. At least two of the three portions are straight line scales.

3,523,517

ROTATING WORKPIECE HOLDER

John F. Corbani, Santa Barbara, California, assignor to Sloan Instruments Corporation, Santa Barbara, California a Corp. of California

Filed Sept. 4, 1968, Ser. No. 757,235
Int. Cl. B05c *11/14*
U.S. Cl. 118—500 6 Claims



An easily actuated workpiece holder is provided which moves parts around a figure of revolution at the same time that the parts are rotating about an axis which is sharply inclined with respect to the axis of the figure of revolution.

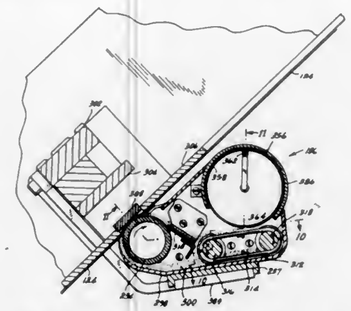
3,523,518

DEVELOPER POWER REPLENISHMENT MEANS

Ira M. Sage, New York, New York; Peter P. Pungitore, Bronx, New York and Peter J. Totino, Edgewater, New Jersey, assignors to Old Town Corporation, Brooklyn, New York a Corp. of New York

Original application Nov. 20, 1964, Ser. No. 412,729, now Pat. No. 3,385,161. Divided and this application Dec. 20, 1967, Ser. No. 716,246
Int. Cl. B05b *5/02*
U.S. Cl. 118—637 10 Claims

This invention is used in a reader-copier which enlarges microfilm images, displays them on a viewing screen, and makes dry electrostatic photocopies of the materials viewed on the screen. Photoconductive oxide-coated copy paper is used, and a dry developer mixture of carrier particles and electrostatically-attractable developer particles is used to develop electrostatic images on the paper. A developer



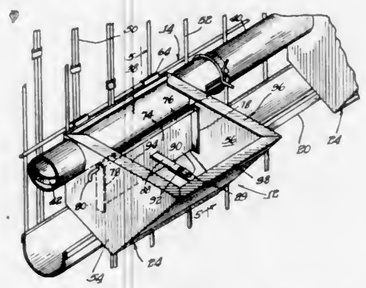
powder replenishing cylinder is provided for replacing developer powder into the mixture as it is used. The replenishing cylinder is a throw-away cartridge with a plurality of longitudinally-disposed holes. A rotatable scraper is provided to scrape the insides of the cylinder; the cylinder is rotated slowly so that every time the holes come into proper position, a measured amount of powder is dropped into the developer mixture. Means is provided for mixing the powder with the developer mixture. This mixing means comprises a flexible webbing which is formed into a belt which moves continuously through the developer mixture. The mixer web serves the additional function of conveying the developer mixture to a rotating magnetic brush which applies the mixture to the copy paper. This feature of the invention is described in greater detail in the portion of the specification entitled "Developer Unit," and is shown in FIGS. 9 and 10 of the drawings.

3,523,519

POULTRY FEEDING APPARATUS

Eldon Hostetler, Middlebury, Indiana, assignor to Chore-Time Equipment, Inc., Milford, Indiana a Corp. of Indiana

Filed Nov. 1, 1967, Ser. No. 679,691
Int. Cl. A01k *05/00*
U.S. Cl. 119—18 14 Claims



There is disclosed an animal or poultry feeder mounted in association with poultry cages. The feeder includes a feed conveyor mounted along one side of the cages and spaced feed cups or containers for receiving feed dropping from openings in the conveyor. Baffles are pivotally mounted in the containers for controlling the amount of feed in each of the containers.

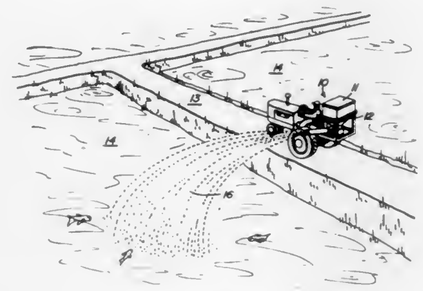
3,523,520

METHOD OF FEEDING FISH

Earl E. Evans, Pine Bluff, Arkansas (1511 Chester St., Little Rock, Arkansas)

Filed Nov. 29, 1967, Ser. No. 686,497
Int. Cl. A01k *5/00*
U.S. Cl. 119—51 4 Claims

A method for feeding fish, especially channel catfish, employing a hopper mounted upon a farm tractor and containing a mechanism powered by the power take-off of the tractor for effectuating the transfer of pelletized fish feed from the hopper to the discharge pipe of a centrifugal blower so that the air will entrain the feed without causing breakage of



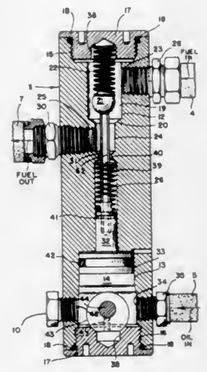
the pellets and discharge the feed in a preselected direction over a relatively large surface area of a pond in spaced relation to its banks.

3,523,521

PRESSURE RESPONSIVE ENGINE FUEL SHUTOFF DEVICE WITH VARIABLE SHUTOFF POINT

Joe E. Goodwin, Houston, Texas, assignor to Sentinel Distributors, Inc., Denver, Colorado a Corp. of Delaware

Filed May 27, 1968, Ser. No. 732,254
Int. Cl. F02b *77/08*
U.S. Cl. 123—198 7 Claims



A device for automatically shutting off the flow of fuel to an internal combustion engine whenever the oil pressure in a lubricating system associated with the engine falls below a desired level having means for varying the oil pressure level at which shutoff occurs in dependence on variations in the pressure of the fuel being supplied to the engine.

3,523,522

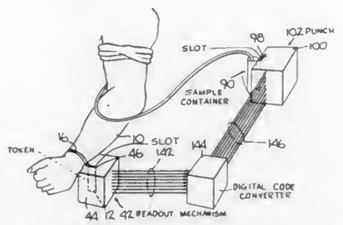
APPARATUS FOR CORRELATING BODY FLUID SAMPLES WITH RESPECTIVE SOURCE INDIVIDUALS

Edwin C. Whitehead, Sloatsburg, New York and Jack Isreeli, Mamaroneck, New York, assignors to Technicon Corporation, Chauncey, New York a Corp. of New York

Filed Dec. 24, 1964, Ser. No. 420,866
Int. Cl. A61b *5/00*
U.S. Cl. 128—2 6 Claims

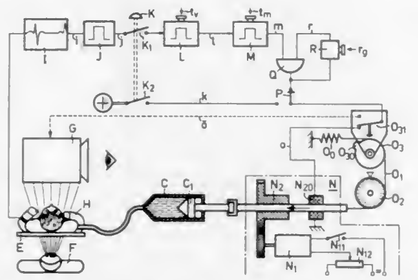
Apparatus for ensuring correlation of the source of a sample with the analysis thereof, including: a token which is at-

tached to the source individual and which bears machine readable indicia uniquely identifying this individual; a sample container for receiving a sample from this individual; and a



mechanism for reading out the indicia from said token and for providing said container with correlated machine readable indicia contemporaneously with the withdrawal of the sample from this individual into said container.

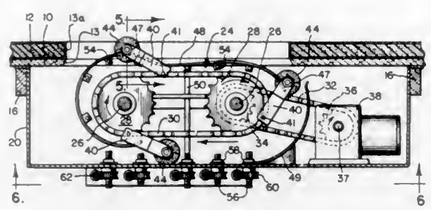
3,523,523
POWER DRIVEN MEDICAL INJECTOR SYRINGE WITH ELECTROMAGNETIC COUPLING MEANS
Heinrich Reich, Wurenlos, Aargau, Switzerland, and Jean Paul Stucky, Zurich, Switzerland, assignors to Contraves, A. G., Zurich, Switzerland
Filed June 29, 1967, Ser. No. 650,084
Claims priority, application Switzerland, June 30, 1966, 9,508/66
Int. Cl. A61b *5/02; A61m 5/20*
U.S. Cl. 128—2.05 **10 Claims**



An arrangement for injecting a contrast medium into the heart of vascular system of a patient, in a precisely controlled fashion. The movement of the injecting syringe is driven by a constantly rotating motor, via an electromagnetic coupling. The coupling connects the syringe piston to the drive shaft of the motor so that when the coupling is actuated by current flowing through the coil of the coupling, the syringe is made to respond immediately to such actuation. The speed of the injection of the contrast medium or medical fluid is closely regulated through the action of the coupling and the driving motor. Indicating means are provided whereby the amount of fluid retained within the syringe is continuously indicated. When the amount of fluid within the syringe drops below a predetermined level, actuation of the syringe is immediately inhibited. Control circuitry provides a signal when the number of injections that have taken place correspond to a predetermined quantity, and a push-button assures that the injection of the medical fluid cannot take place unless the latter is depressed.

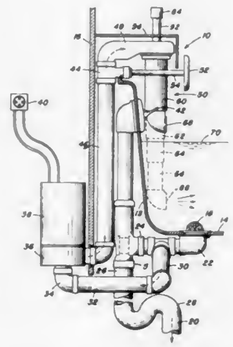
3,523,524
MASSAGE TABLE WITH ROLLERS
William B. Wilson, 3245 Fairlawn Drive, Glenview, Illinois
Filed Jan. 18, 1968, Ser. No. 698,790
Int. Cl. A61h *15/00*
U.S. Cl. 128—58 **6 Claims**

A spinal massaging device comprising a table having an opening for massaging roller means including massaging rollers carried by a conveyor, means to drive the conveyor, track means for guiding the path of travel of the rollers, and



means for adjusting the contour of the track means to make it conform to that of a particular human spine.

3,523,525
HYDROTHERAPEUTIC APPARATUS FOR A BATHTUB
Guillermo J. Vanegas, Louisville, Kentucky; Jack N. Kaiser, Louisville, Kentucky and James E. Niemann, Louisville, Kentucky, assignors to American Standard Inc., New York, New York a Corp. of Delaware
Filed Sept. 5, 1967, Ser. No. 665,503
Int. Cl. A61h *9/00*
U.S. Cl. 128—66 **17 Claims**

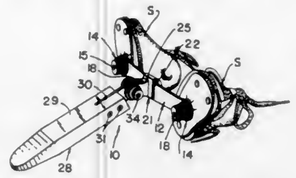


A hydrotherapeutic apparatus for use with a bathtub and the like comprising a plurality of telescoping tubes having an outlet to provide a snorkel. The tubes are movable between an extended position and an elevated position, wherein the outlet is spaced above the water-line of the tub to provide an efficient device which may be raised easily to prevent clogging of the snorkel when the apparatus is not in use and to allow the entire space within the tub to be used for conventional bathing. The apparatus further includes a drain, conduit means connecting the snorkel with the drain, and a pump in the conduit means for withdrawing water from the bathtub and for ejecting it under pressure from the outlet. Air-regulating means are provided for varying the whirlpool action of the circulating water.

3,523,526
ADJUSTABLE SPLINT ADAPTER
Howard L. Phelps, 300 Atwater, Lake Orion, Michigan
Filed Aug. 21, 1967, Ser. No. 662,032
Int. Cl. A61f *3/00*

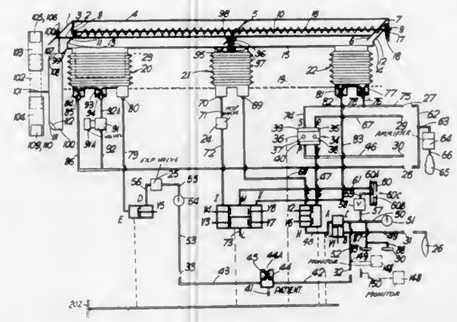
The adapter comprises a rigid transverse cross bar to opposite ends of which infant's shoes are rigidly attached, with the toes of the shoes pointing divergently upwardly and outwardly; and the cross bar has a forwardly elongated support-

ing prop of a tongue-like nature fixedly mounted thereon by a clamp between the shoes for adjustment in a vertical plane at 90° to the bar. The prop extends at a slight downward



angle from the bar for acute-angled engagement with a horizontal surface. A second similar prop, extending in an opposite direction from the cross bar may be provided.

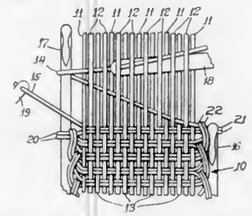
3,523,527
ELECTRONICALLY CONTROLLED VARIABLE MODE RESPIRATOR
Dudley George Foster, Barnet, England, assignor to W. Watson & Sons Limited, Barnet, England, a British company
Filed Feb. 20, 1967, Ser. No. 617,305
Claims priority, application, Great Britain, Feb. 24, 1966, 8,124/66
Int. Cl. A62b *7/04*
U.S. Cl. 128—145.6 **11 Claims**



A medical respirator includes three bellows (20,21,22) mechanically linked together and a manually controlled bag 26. Gas may be supplied to and removed from a patient on open or closed circuit operation or on operation of the manual bag.

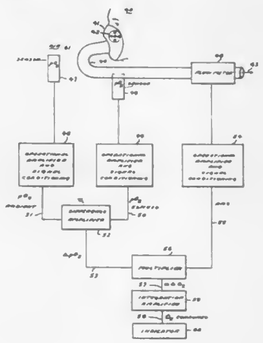
The inspiration and expiration cycle is by an electronic timing circuit, pressure responsive means (89,90) and volume sensitive means (100). The cycles will be determined by time unless the pressure or volume of gas fed to or from the patient reaches predetermined limits before the expiration of the time allowed.

3,523,528
EQUALIZING PRESSURE BANDAGE
Donald Patience, Barrington, Illinois, and Herbert Knohl, Seneca, South Carolina, assignors to The Kendall Company, Walpole, Massachusetts, a Corp. of Massachusetts
Filed July 25, 1968, Ser. No. 747,525
Int. Cl. A61f *13/00*
U.S. Cl. 128—169 **11 Claims**



A woven ribbon-like, light weight, low-modulus compression bandage with ravel resistant side edges incorporating elastomeric warp yarns, synthetic crimp stretch warp yarns and spun warp yarns having the capacity when used as a wrap under tension of partially relaxing after application thereby reducing the initial compression caused by the retroactive force of the bandage.

3,523,529
OXYGEN CONSUMPTION COMPUTER
Abbott T. Kissen, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed June 25, 1968, Ser. No. 739,676
Int. Cl. A61b *5/00*
U.S. Cl. 128—2.07 **3 Claims**



A polarographic oxygen sensor is used to provide an electrical signal proportional to the change in the percentage of oxygen in the inhaled air to that in the exhaled air. A mass flowmeter provides an electrical signal proportional to the mass flow of expired air. The electrical product of these signals integrated over the specific time involved provides an electrical signal representative of the amount of oxygen consumed by the subject.

3,523,530
NEEDLE ASSEMBLY FOR PARENTERAL LIQUID CONTAINER
John N. Pagones, Sunland, California and Elmer F. St. Amand, North Hollywood, California, assignors to American Hospital Supply Corporation, Evanston, Illinois a Corp. of Illinois
Filed Nov. 24, 1967, Ser. No. 685,573
Int. Cl. A61m *5/14, 5/32*
U.S. Cl. 128—214 **9 Claims**

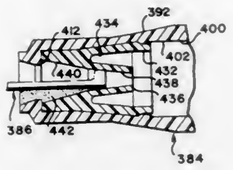


A blood bag with a donor tube having a needle assembly at its distal end. This needle assembly has a cannula with a sharpened forward end and an enlarged tubular adapter cemented to a rear end of the cannula. A soft thermoplastic housing that is not readily bondable to the adapter includes hub and protector sections that encase the adapter and cannula respectively. A pair of longitudinally spaced facing shoulders in the hub section abut ends of the adapter to mechanically lock the adapter against longitudinal movement relative to the hub section. When used to make a venipuncture, the protector section is broken off from the hub section of the housing at a frangible peripheral groove structure, located forward of both shoulders in the hub section. Thus, after the protector section is removed to expose the sharpened end of the cannula, the rear of the cannula and adapter are still firmly anchored in the hub section.

3,523,531
HYPODERMIC NEEDLE

George K. Burke, Bethlehem, Pennsylvania, assignor to Burron Medical Products, Inc., Bethlehem, Pennsylvania a Corp. of Pennsylvania

Original application Aug. 18, 1965, Ser. No. 480,617, now Pat. No. 3,472,227, dated Oct. 14, 1969. Divided and this application Apr. 21, 1969, Ser. No. 817,634
Int. Cl. A61m 5/32
U.S. Cl. 128—221 7 Claims

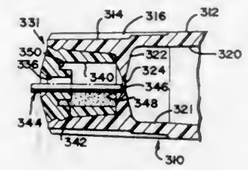


A plastic needle hub is formed in two parts, one of which comprises an inner hub member retained in position in an outer hub member by complementary engaging means. Adhesive is utilized to retain a cannula in position engaging the inner hub member and also serving to secure the inner and outer hub members together.

3,523,532
HYPODERMIC NEEDLE

George K. Burke, Bethlehem, Pennsylvania, assignor to Burron Medical Products, Inc., Bethlehem, Pennsylvania a Corp. of Pennsylvania

Original application Aug. 18, 1965, Ser. No. 480,617, now Pat. No. 3,472,227, dated Oct. 14, 1969. Divided and this application Apr. 21, 1969, Ser. No. 817,644
Int. Cl. A61m 5/00
U.S. Cl. 128—221 4 Claims

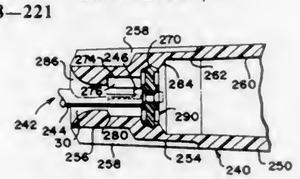


A plastic needle hub is formed with an open front end to receive an apertured plug through which the cannula extends. The plug includes means engaging the cannula shank to rigidify same and is locked in position in the hub proper to resist displacement. Adhesive further retains the cannula in position.

3,523,533
HYPODERMIC NEEDLE

George K. Burke, Bethlehem, Pennsylvania, assignor to Burron Medical Products, Inc., Bethlehem, Pennsylvania a Corp. of Pennsylvania

Original application Aug. 18, 1965, Ser. No. 480,617, now Pat. No. 3,472,227, dated Oct. 14, 1969. Divided and this application Apr. 21, 1969, Ser. No. 817,708
Int. Cl. A61m 5/32
U.S. Cl. 128—221 2 Claims

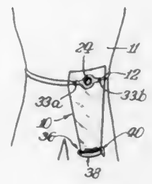


The plastic needle hub is formed of two parts, one of which comprises the hub proper which includes means engaging the cannula shank to stabilize same, the second part comprising an annular plastic insert which acts as a limit stop or support for the end of the cannula shank. Adhesive surrounds the cannula shank within the hub to maintain the cannula in the needle hub.

3,523,534
CLOSURE FOR DRAINAGE POUCH

John L. Nolan, Glenview, Illinois, assignor to Hollister Incorporated, a Corp. of Illinois

Filed April 5, 1967, Ser. No. 628,672
Int. Cl. A61f 5/44
U.S. Cl. 128—283 4 Claims

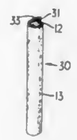


A closure means for a post surgical drainage pouch of the type which is held on the abdomen of a patient and has a normally open end so that excrement may be discharged therethrough, the closure means comprising a two-part clasp which pinches the open end of the pouch together to seal the same against unintended discharge.

3,523,535
TAMPON FOR DENTAL AND CATAMENIAL USE

Ingemar Liss-Albin Croon, Alfredshem, Sweden, and Nils Verner Blomqvist, Ornskoldsvik, Sweden, assignors to Mooch Domsjo Aktiebolag, Ornskoldsvik, Sweden, a limited company

Continuation-in-part of application Ser. No. 606,956, Jan. 3, 1967. This application Aug. 15, 1967, Ser. No. 662,843
Int. Cl. A61f 13/20
U.S. Cl. 128—285 5 Claims



A composite tampon is provided comprising an absorbent layer of cellulose pulp fibers, preferably cellulose fluff fibers, enclosed within a wrapper layer which can be a nonwoven material, or a laminate between nonwoven material and cellulose pulp tissue.

3,523,536
ABSORBENT FIBROUS PRODUCTS

Angelo P. Ruffo, Montreal, Quebec, Canada, assignor to Johnson & Johnson, a Corp. of New Jersey

Filed Feb. 6, 1967, Ser. No. 614,131
Claims priority, application Canada, Feb. 26, 1966, 953,355; 953,356
Int. Cl. A61f 13/16
U.S. Cl. 128—287 4 Claims

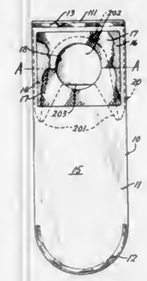


An absorbent fibrous web suitable for use in diapers, underpads, dressings, cosmetic wipes and the like composed of predominately short fibers intermixed in a dry state with long fibers to form a heterogeneous mixture in which the long fibers serve to stabilize the short fibers, the web having a covering of liquid pervious material. The long fibers of the heterogeneous fiber mixture have a length of about three-quarter inches to about three inches and are present in an amount of about 1 percent to 20 percent by weight. The short fibers of the heterogeneous fiber mixture have a length of three eighths of an inch or less and are present in an amount of about 99 percent to 80 percent by weight.

3,523,537
PEDIATRIC URINE COLLECTORS

Edward J. Hill, 1660 Lochridge, Bloomfield Hills, Michigan

Continuation of application Ser. No. 204,884, June 25, 1962. This application Nov. 27, 1964, Ser. No. 415,858
Int. Cl. A61f 5/44
U.S. Cl. 128—295 1 Claim

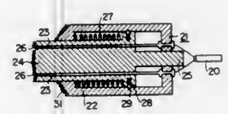


1. A pediatric urine collector comprising:
a sleeve type pliable plastic pouch having a front and a rear wall heat sealed at the lower end thereof,
a rectangular separator element of relatively stiff yet pliable plastic disposed centrally in the upper portion of said pouch having a dome-shaped central portion holding the front wall of said pouch spaced from the rear wall thereof,
the lower portion of said separator element and its dome being centrally cut-away leaving a pair of laterally spaced prongs and providing said dome with an open bottom,
the upper portion of said separator and said front and rear walls of said pouch being heat sealed together at the top thereof,
an adhesive on said rear wall of said pouch opposite said separator,
a removable adhesive guard over said adhesive, and
the said rear wall, adhesive and adhesive guard having an aperture therethrough substantially opposite the dome of said separator of sufficient size to accommodate the uro-genital organ of a patient.

3,523,538
ARREST DEVICE

Kunio Shimizu, 33—2,1-chrome, Asagaya Minami, Suginami-ku, Tokyo, Japan

Filed Dec. 6, 1966, Ser. No. 599,446
Claims priority, applications Japan, Dec. 6, 1965, 40/74,635; Feb. 10, 1966, 41/7,409; Mar. 5, 1966, 41/13,713
Int. Cl. A61m 21/00; A61d 7/00; A61m 37/00
U.S. Cl. 128—404 9 Claims

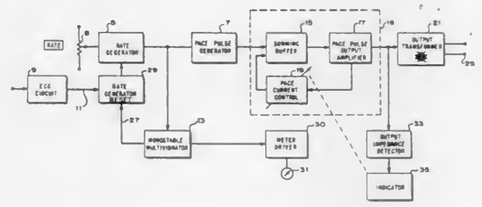


A device for suoduing a criminal includes a projectile having two needle electrodes which have different potentials and are adapted to pierce the skin, means for propelling the projectile at the criminal, and a supply of electric current connected to the electrodes. The current is of sufficient intensity so that when the projectile strikes the criminal and the electrodes pierce his skin, a false state of epilepsy is induced, thus rendering the criminal helpless.

3,523,539
DEMAND CARDIAC PACEMAKER AND METHOD

Kenneth E. Lavezzo, Watertown, Massachusetts and Harold R. Riggert, Sudbury, Massachusetts, assignors to Hewlett-Packard Company, Palo Alto, California a Corp. of California

Filed Feb. 26, 1968, Ser. No. 708,127
Int. Cl. A61h 31/00
U.S. Cl. 128—422 5 Claims

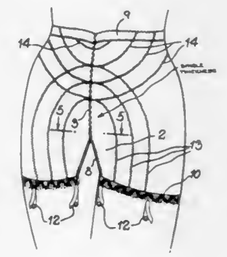


The method and means for demand pacing the heart of a patient inhibits beat synchronization from artificially stimulated heartbeats so that the heart is correctly stimulated at not less than a preselected beat rate during intermittent or continuous failure of natural rhythm. The beat-stimulating pulses applied to the patient are monitored to provide an indication of drop in pulse magnitude below a preselected level.

3,523,540
GIRDLE

Patricia A. Morehouse, Hawthorn Woods, Illinois, assignor to The H. W. Gossard Co., Chicago, Illinois a Corp. of Delaware

Filed Aug. 29, 1968, Ser. No. 756,126
Int. Cl. A41c 1/00
U.S. Cl. 128—539 4 Claims



A light-weight foundation garment of the girdle or panty girdle type, comprising two sections of two-way stretch elastic fabric which are connected together at the front and back. The said two sections of the garment are composed of an outer layer of elastic fabric which extends throughout the garment, and an inner layer of similar fabric which underlies and is secured to said outer layer and has certain areas cut out at the front and back. Thus a double thickness of elastic fabric, providing maximum control, is incorporated only into those areas which require it, and other portions of the garment including the waistline, center of the back, and inner leg areas, are relatively unrestrained.

3,523,541
METHOD OF REMOVING FRIZZINESS FROM MODACRYLIC FILAMENTS AND IMPARTING CURL THERETO

Daniel Frishman, Andover, Massachusetts, assignor to Reid-Meredith, Inc., Lawrence, Massachusetts a Corp. of Delaware

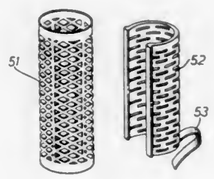
No Drawing. Filed May 24, 1967, Ser. No. 640,834
Int. Cl. A41g 5/00
U.S. Cl. 132—5 13 Claims

The present invention relates to a method of straightening crimped, bent, kinked or otherwise non-straight modacrylic filaments used particularly in the synthetic hair styling art in pieces known as wigs, wiglettes, chignons and falls which is accomplished by immersing the stylable modacrylic filament in a heated solution of non-aqueous liquid, by way of example, of glycol or in an aqueous solution of saturated salt solution (sodium chloride) for 10-60 seconds at 160°- 210°F.

3,523,542
HAIR CURLING AND STRAIGHTENING MEANS INCLUDING AN ELECTRICAL RESISTANCE HEATING SURFACE FILM

Paul Eisler, 56 Exeter Road, London NW. 2, England

Continuation-in-part of application Ser. No. 293,953, July 10, 1963, which is a continuation-in-part of application Ser. No. 783,609, Dec. 29, 1958. This application Mar. 7, 1968, Ser. No. 711,416
Int. Cl. A45d 2/36
U.S. Cl. 132—33 13 Claims



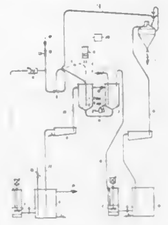
In the curling or straightening of hair an electric resistance heating surface film operating at low voltage and giving uniform surface heating is used with a support such as a roller and clamping means for the hair, the structure having perforations to permit the escape of fluid e.g. having matched meshes. A straightener has flat spring jaws lined with the film. A metal comb or brush has the film on the back. A tape cable carries the supply and a set of curlers can be unplugged as a set from a variable transformer.

3,523,543
PROCESS AND APPARATUS FOR THE CONVEYANCE OF AN EXPLOSIVE OIL

Gerhard Martin, Troisdorf, Germany; Werner Sassmannshausen, Bergisch-Gladbach, Germany; and Jakob Franz Roth, Spich, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany

Filed Sept. 14, 1967, Ser. No. 668,016
Claims priority, application Germany, Sept. 14, 1966, D 51,088
Int. Cl. C06b 21/02
U.S. Cl. 137—1 27 Claims

The present disclosure relates to a process and apparatus for the conveyance of an explosive oil using an emulsifying means, More particularly, the present disclosure is directed to a process and apparatus for the conveyance of an explosive oil from a container to a point of consumption wherein water is drawn into the conveying system during the initiation of the process as well as before shutting off the system, that is, during the critical phases of the operation of the system, and accordingly the entire conveying system is completely filled with water during these operational phases and explosive oil is introduced into the system only when the emulsifying means has substantially reached its full suction power. As a result of this operation there is no air present or introduced

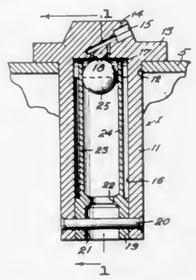


into the conduit conveying system and thus, explosive oil can be conveyed with little or no danger.

3,523,544
ACCELERATION-SENSITIVE VALVE

Howard D. Hoffman, Fair Lawn, New Jersey, assignor to the United States of America as represented by the Secretary of the Army

Filed Aug. 3, 1955, Ser. No. 526,341
Int. Cl. G05b; G05d
U.S. Cl. 137—38 4 Claims

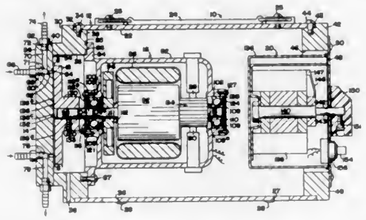


1. In an acceleration responsive valve for a self-propelled projectile, a valve body having a bore open at one end and terminating at its other end in a semi-circular channel extending transversely of the axis of said bore, there being a fuel passage opening into the bottom of said channel between its ends, a ball fitting said channel for rolling in and along the same, said ball obstructing the flow of fluid to said passage for one position thereof in and along said channel, a plug fixed in the end of said bore remote from said channel, and a pair of spring fingers secured at one end to said plug and spaced in the direction of said channel, said fingers at their free ends engaging said ball between them and urging the same to position in said channel forwardly of said opening in the direction of travel of the projectile.

3,523,545
FLUIDIC SIGNAL GENERATOR

Merritt B. Sampson, Shaker Heights, Ohio, assignor to The S-P Manufacturing Corporation

Filed April 8, 1968, Ser. No. 719,512
Int. Cl. G05d 16/20
U.S. Cl. 137—82 12 Claims

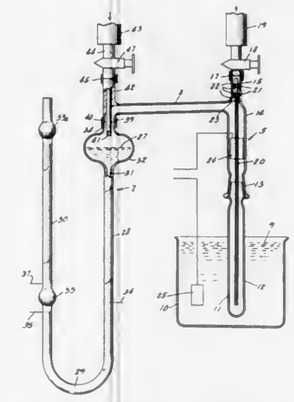


A device for producing a periodically varying fluid flow from an essentially uniform fluid input, for generating a signal input to a fluidic device.

3,523,546
FLUSHING MEANS FOR FLUID METERING APPARATUS AND THE LIKE

Robert H. Berg, 196 Clinton Ave., Elmhurst, Illinois

Filed July 30, 1968, Ser. No. 748,766
Int. Cl. F17d 1/00; F15b 21/04
U.S. Cl. 137—240 10 Claims

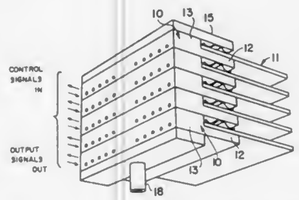


A flushing tube has its discharge end located in the reservoir bulb near the top of one leg of a manometer-like gauging device having a first fluid metering medium with a surface in the reservoir contacted in operation by a second fluid to be metered in an attached handling arrangement. The flushing fluid flow is not only over the surface of said metering medium but also through the handling arrangement.

3,523,547
FLUIDICS PLUG-IN MODULE DEVICE

Richard W. Hatch, Jr., Foxboro, Massachusetts and Hans-Dieter Kinner, Attleboro, Massachusetts, assignors to The Foxboro Company, Foxboro, Massachusetts a Corp. of Massachusetts

Filed Feb. 27, 1968, Ser. No. 708,623
Int. Cl. F16k 11/06; F16l 39/04
U.S. Cl. 137—269 1 Claim



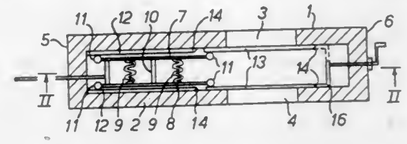
Fluidics coupling means in the form of module manifold means for plug-in assembly with fluid circuit board(s). The coupling means also provides fluid supply plug-in, and lends itself to dense fluidic packaging with plug-in means for integrated fluidic circuits.

3,523,548
GAS SEALING VALVES

John Dougall, Harlow, England, assignor to Associated Electrical Industries, Limited, London, England, a British company

Filed June 24, 1968, Ser. No. 739,443
Claims priority, application Great Britain, June 27, 1967, 29,627/67
Int. Cl. F16k 51/00
U.S. Cl. 137—269 3 Claims

A two way gas sealing valve between aligned apertures in parallel walls comprises a pair of plates laterally movable across the plates and spring pressed apart with means for holding the plates away from the walls except when they are



aligned with the apertures when they are released to engage seatings around the apertures.

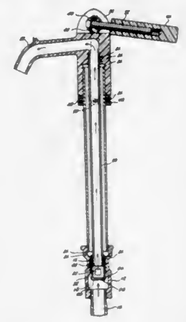
ERRATUM

For Class 137—271 see:
Patent No. 3,523,600

3,523,549
YARD HYDRANT VALVE

Noel M. Anderson, P.O.Box 392, Storm Lake, Iowa

Filed Feb. 8, 1968, Ser. No. 703,973
Int. Cl. E03b 9/14
U.S. Cl. 137—288 4 Claims

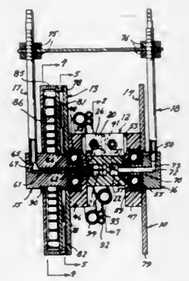


A yard hydrant valve utilizing a hollow fluid flow pipe with a capped bottom and only two O-rings bracketing lateral inlets above the bottom of said pipe. The valve includes a drain hole above the inlets and with only one of the O-rings being effective at any one time as a seal means relative to the control of inlet flow and the effective use of the drain hole. The valve has a controllable handle for regulating the volume of inlet flow. This valve is especially designed for the use of plastic components in producing a highly efficient and extremely economical hydrant valve.

3,523,550
MODULAR HOSE REEL

Howard M. Richardson, 2807 Benner St., Philadelphia, Pennsylvania

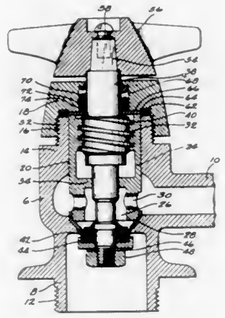
Continuation-in-part of application Ser. No. 450,020, Apr. 22, 1965. This application May 6, 1968, Ser. No. 726,801
Int. Cl. B65h 75/34
U.S. Cl. 137—355.23 8 Claims



The instant invention is disclosed herein as a reel having a rotary, internally hollow core about which a hose is wound for

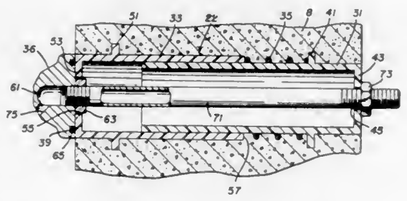
coiling and uncoiling, and to which the hose is connected in fluid communication with the core interior, the latter being in turn adapted for connection to a source of fluid supply. The particular reel core is advantageously modular or sectional in construction.

3,523,551
FAUCET CONSTRUCTION
William C. Schmitt, Brown Deer, Wisconsin, assignor to Milwaukee Faucets, Inc., Milwaukee, Wisconsin a Corp. of Wisconsin
Continuation-in-part of application Ser. No. 437,695, Mar. 8, 1965. This application Mar. 18, 1968, Ser. No. 713,631
Int. Cl. F16k *27/00*
U.S. Cl. 137—454.6 **1 Claim**



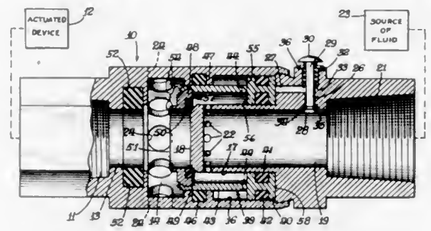
A faucet wherein the valve and all attendant moving parts comprise a unitary readily accessible and removable assembly and a highly efficient independently functioning seal is provided between the stuff nut, valve stem and valve body.

3,523,552
PASSAGEWAY FORMING SLEEVE
John F. Ogden, 3005 Olive St., Columbus, Ohio
Filed Jan. 30, 1967, Ser. No. 612,695
Int. Cl. E03b *11/02;* **E04h** *3/16;* **E04g** *17/06*
U.S. Cl. 137—592 **10 Claims**



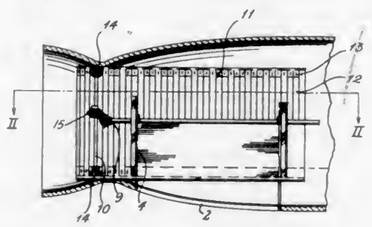
A resiliently extendible sleeve for forming voids in molded structures such as for example the walls of concrete swimming pools. The sleeve may be placed between juxtaposed mold walls where it is resiliently extended into contact with those mold walls. The preferred embodiment is a sleeve comprising two telescopically related tubes having a helical spring urging the sleeve to longitudinal extension. Each end of the sleeve is partially enclosed by a closure with a hole therethrough. Fluid carrying conduits may be positioned within the sleeve and extend out through the holes. The holes may be formed to mate with various conduits, couplings, and fixtures.

3,523,553
MOTOR OPERATED FLUID VALVE
Leonard R. Beck, Rolling Meadows, Illinois and Richard N. Wilke, Addison, Illinois, assignors to Martin Tool Works, Inc., Rolling Meadows, Illinois a Corp. of Illinois
Filed July 30, 1968, Ser. No. 748,860
Int. Cl. F16k *11/10*
U.S. Cl. 137—596.14 **4 Claims**



An in-the-line fluid valve is defined by a cylinder, a portion of which is annular, and an annular piston means in the cylinder. The inner wall of the annular portion is formed by a core which has an axial passageway connected to a fluid source and radial openings at the distal end thereof. The piston means has two ends connected by a web which spans the radial openings. The piston means is movable along the core between a first position at which it blocks fluid flow from the source passage to the other end of the cylinder, and a second position at which fluid can flow from the radial openings through the cylinder to the other end thereof at which end there is a connection for a hydraulic cylinder. In the fist position the hydraulic cylinder connection communicates through the cylinder to exhaust ports. Air is introduced into the cylinder at the proximal end of the core to drive the piston means from the first to the second position.

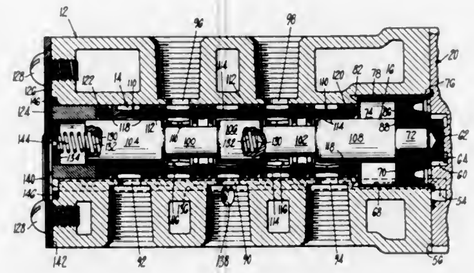
3,523,554
THREE DUCT JUNCTION FOR DISTRIBUTING FLOWING AIR
Dante Straulino, Lautaro 1081, Buenos Aires, Argentina
Filed Dec. 9, 1966, Ser. No. 600,527
Int. Cl. F16k *1/16, 3/00, 13/00*
U.S. Cl. 137—625.4 **4 Claims**



In a three duct junction for distributing flowing air alternatively to either of two openings provided therein by means of two sliding doors and two sliding screens, which slide over the face of said openings. Both said doors and said screens closing upon each other alternately by reason of a multiple rack and pinion arrangement, one each for the respective doors and screens, and a rail arrangement for guiding said sliding parts.

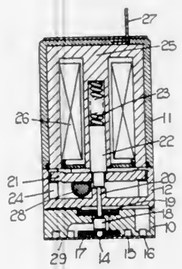
3,523,555
SOLENOID CONTROLLED FOUR-WAY VALVE
Lawrence D. Padula, New Britain, Connecticut, assignor to Skinner Precision Industries, Inc., New Britain, Connecticut a Corp. of Connecticut
Filed July 12, 1967, Ser. No. 652,810
Int. Cl. F16k *11/02, 11/24*
U.S. Cl. 137—625.64 **4 Claims**

Apparatus comprising a ported body having a chamber and a valve spool reciprocable therein, a piston reciprocable in the chamber and fixed at one end of the spool, a return spring in one end of the chamber engaging an opposite end of the spool, a solenoid actuated valve mounted on the body and having a fluid passage in communication with the chamber for selectively directing fluid against the piston in



opposition to the spring, and a pilot channel formed in the body and connecting a supply port therein in constant communication with the fluid passage of the solenoid actuated valve and with said one end of the chamber.

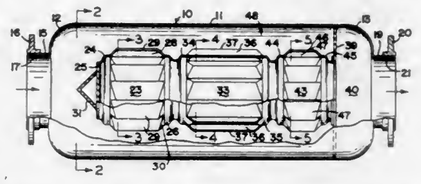
3,523,556
FLUID CONTROL VALVES
Brian Stanley Worrall, Sutton Coldfield, England, assignor to Expert Industrial Controls Limited, Lount, Ashby-de-la-Zouch, England, a British company
Filed May 20, 1968, Ser. No. 730,364
Claims priority, application Great Britain, June 2, 1967, 25,590/67
Int. Cl. F16k *11/07, 31/02*
U.S. Cl. 137—625.65 **10 Claims**



A solenoid operated valve including a valve member which is urged into contact with a seating defined on an insert, by means of a coiled compression spring, there being provided an armature movable by a solenoid which reduces the force exerted by the spring and the valve member thereby permitting fluid pressure to effect opening of same.

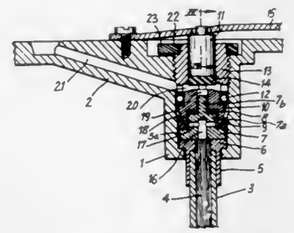
3,523,557
PULSATION DAMPENER
Alan L. Colter, Parma Heights, Ohio, assignor to International Basic Economy Corporation, New York, New York a Corp. of New York
Filed Jan. 19, 1968, Ser. No. 699,115
Int. Cl. F15d *1/00;* **F16l** *55/04*
U.S. Cl. 138—37 **25 Claims**

A method and apparatus for dampening the pulsation of fluid in a fluid-transmission system wherein a portion of fluid is caused to rotate in one direction and another portion of the fluid is caused to rotate in the opposite direction. By subsequently re-combining the counter-rotating portions of fluid flow, pulses in the fluid are effectively minimized or removed. A plurality of rotation-inducing members are provided in a housing, each having louvered segments and slots



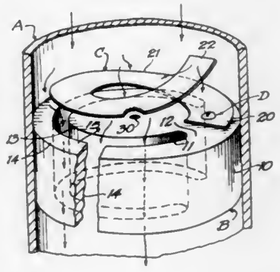
so arranged that the desired rotating, counter-rotating and cancelling effects are achieved.

3,523,558
METERING VALVE
Lucien Francois Simon Tissot-Dupont deceased, late of Paris, France, by Andre Pierre Francois Tissot-Dupont, heir and legal representative, Paris, France, assignor to S. T. Dupont Societe Anonyme, Paris, France
Continuation-in-part of application Ser. No. 385,260, July 27, 1964. This application Nov. 24, 1967, Ser. No. 689,238
Claims priority, application France, July 31, 1963, 943,290
Int. Cl. F15d *1/04;* **F23d** *13/04*
U.S. Cl. 138—43 **12 Claims**



A metering valve particularly for use in gas cigarette lighters, a manually operable driving member connected to a driven member the displacement of which causes compression of a porous pad affecting the rate of gas flow; between the driving member and the driven member there is provided a step-down connection of variable ratio; further means are provided to cause a total disengagement between the two members when said pad is in a predetermined state of maximum compression.

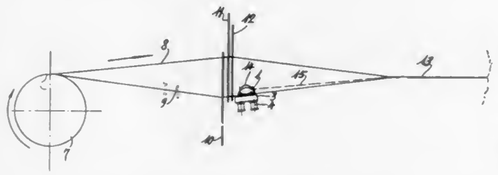
3,523,559
FLUID FLOW CONTROL DEVICE
William H. Gibson, Sepulveda, California, assignor to Crane Co., a Corp. of Illinois
Filed May 17, 1968, Ser. No. 729,960
Int. Cl. G05d *7/01*
U.S. Cl. 138—46 **10 Claims**



A fluid flow regulator consisting of a body having a port beginning in a seat at an upstream end of the body, and a

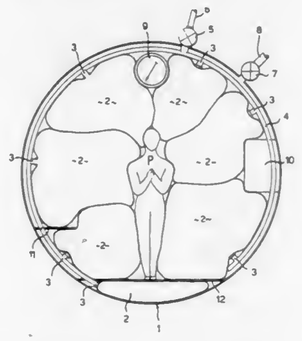
flexible flow-restricting element in the form of a leaf spring anchored at one end to the seat and cantilevered away from the seat in a bowed curvature which, in operation, is gradually flattened with increasing pressure drop across the port resulting from increased flow with the result that an increasing portion of the length of the spring closes on the seat so as to increasingly restrict the port, thereby providing automatic regulation of flow to a substantially constant rate in a selected operating range.

3,523,560
SHUTTLE DRIVE FOR LOOMS
Anisio Mattar, Jr., 2.603 Avenida Indianopolis, Sao Paulo, Brazil
Filed May 3, 1968, Ser. No. 726,468
Claims priority, application Brazil, May 3, 1967, 189,431
Int. Cl. D03d *49/24*
U.S. Cl. 139—133 **6 Claims**



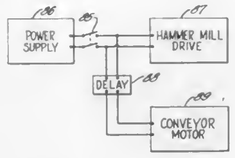
A loom shuttle is reciprocated between two parallel series of driven rolls which are engaged by the spring pressed lateral walls of the shuttle.

3,523,561
METHOD AND MEANS FOR COMPLETELY SUBSTITUTING GASEOUS MIXTURES IN CLOSED ROOMS
Roberto Galeazzi, Via Oldoini 75, La Spezia, Italy
Filed Oct. 10, 1967, Ser. No. 674,341
Claims priority, application Italy, Oct. 17, 1966, 26,732/66
Int. Cl. A61m *16/02*; **F17c** *5/00*
U.S. Cl. 141—7 **5 Claims**



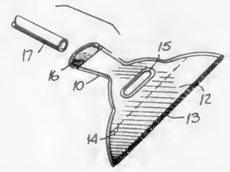
In order to substitute an original gaseous mixture with another breathable substitution mixture in a closed chamber, provided with an inlet and an outlet, in presence of persons, in the chamber flexible impervious membranes or bags are so arranged that by introducing into the chamber the gaseous substitution mixture under pressure through said inlet, it inflates the membranes or bags within the chamber and promotes the expulsion, through said chamber outlet, of the original mixture. By putting the space which originally contained the original mixture into communication with the space containing the breathable substitution mixture, this fills up the space where the persons are present and completely substitutes the original mixture.

3,523,562
MATERIAL HANDLING APPARATUS
Edward G. Haupricht, 4330 Hill Ave., Toledo, Ohio
Filed June 29, 1967, Ser. No. 650,076
Int. Cl. B65b *1/24*
U.S. Cl. 141—80 **45 Claims**



The material handling apparatus disclosed herein is particularly useful for uniformly delivering compactable, discrete material. The apparatus includes a receiver, material processing equipment, and means for dispensing or loading the material into containers. The receiver includes a bulk storage means which has a live floor and end barrier means which cooperate to uniformly feed material through a discharge port. The material may be processed further to remove lumps and to shred the material before loading. The loading equipment includes means for feeding containers past a loading station, means for returning excess material to the bulk storage area and means for continually feeding containers for filling.

3,523,563
INTEGRALLY FORMED SELF-SEALING VALVE HAVING ADDITIONALLY INTEGRAL MEANS TO RENDER VALVE AIRTIGHT
Louis Mirando, 34 Coach Lane, Upper Saddle River, New Jersey
Filed Sept. 26, 1967, Ser. No. 670,720
Int. Cl. B60c *23/00*
U.S. Cl. 141—313 **6 Claims**

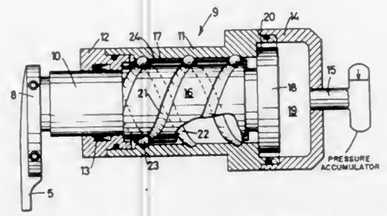


The described valve is intended to be used primarily with miniaturized inflatable toys such as dolls, balls, animals, etc. The minaturized toys are of the type that are shipped flat and are inflated by the user, usually by blowing into the valve. The valve consists of several layers which are forced apart by the insertion of a tube or rod through which the miniaturized inflatable toy is inflated. When the rod is remove the valve seals itself closed to prevent the escape of air. This is accomplished by having a plurality of layers which adhere to one another either because of the tackiness of the material from which the valve is made or because of the internal pressure within the article that has been inflated.

3,523,564
MEANS FOR MOUNTING DEBARKING TOOLS ON AN ANNULAR DEBARKING ROTOR
Karl-Erik A. Jonsson, Gavle, Sweden and August Matlik, Gavle, Sweden, assignors to Brundell Och Jonsson AB, Gavle, Sweden, a Corp. of Sweden
Filed Feb. 6, 1968, Ser. No. 703,387
Claims priority, application Sweden, Feb. 17, 1967, 2,229/67
Int. Cl. B27l *1/00*; **F01b** *3/00*
U.S. Cl. 144—208 **2 Claims**

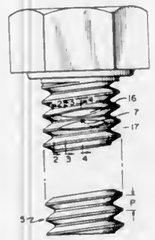
An improved log debarking machine having an annular debarking rotor and at least one debarking tool mounted on

said rotor. The improvement comprises mounting said rotor on a rotatable shaft which is a piston provided with a helical thread which coacts with a corresponding thread on the inside of a cylinder surrounding the piston. One end of the



piston is acted upon by a resilient force striving to screw the piston in such direction that the tool is rotated onto the axis of the rotor while moving simultaneously axially oppositely to the intended direction of infeed of a log.

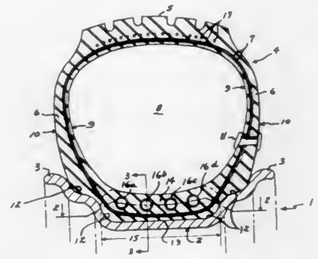
3,523,565
SELF LOCKING MALE THREADED FASTENER
Bruce E. Olsen, Westchester, Illinois, assignor to Allied Products Corporation, Chicago, Illinois a Corp. of Illinois
Filed April 29, 1968, Ser. No. 724,790
Int. Cl. F16b *39/30*
U.S. Cl. 151—22 **2 Claims**



Self locking male threaded fastener having shank portions provided with standard V-shaped thread forms with axially aligned flank portions of at least two adjacent threads deformed in opposite axial or longitudinal directions so as to have opposing, mirror image, generally epicycloidal concave surfaces. These surfaces provide the self locking action and if desired there may be a plurality of such surfaces axially spaced along the threaded shanks. The self locking epicycloidal concave surfaces are formed during the thread rolling action by means of an insert in the die having a projecting working surface which in a direction transverse to the threads (i. e. coaxial with the shank) preferably has a radius of curvature between about one-half to about one thread pitch, and which in a direction generally transverse to the longitudinal axis has a radius of curvature approximately two times the major diameter of the threads.

3,523,566
FILAMENT WOUND TOROIDAL TIRE
Theodore J. Reinhart, Jr., 345 Forrer Blvd., Dayton, Ohio, and Weldon M. Scardino, 340 Edgebreak Drive, Dayton, Ohio
Filed July 29, 1968, Ser. No. 748,446
Int. Cl. B60c *9/06*, *5/16*
U.S. Cl. 152—355 **6 Claims**

An inflatable filament wound toroidal tire for drop center solid rims, in which the reinforcing filament strands are toroidally wound around the circular axis of the tire and inflation area and are imbedded in the carcass thereof between the inner and outer tire surfaces. The inner circumferential rim seating area of the tire is made of a relatively softer elastic rubber-like matrix, shaped to fit and seat in a conventional drop center solid rim with the toroidal reinforcing filament strands molded in the tire and extending transversely to the circular axis thereof. Annular resilient tensioning means extend around the inner annular portion of the tire and are imbedded in the softer circumferential rim fitting area between the toroidal strands and the interior inflatable tire area and radially and yieldably contact the rim fitting and seating area of the tire into intimate seating contact with the

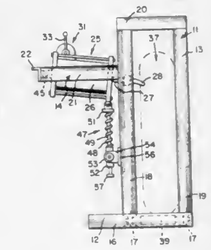


drop center tire receiving portion of the rim. It is contemplated that the drop center portion of the rim and the inner annular rim seating portion of the tire may be formed with annular or circumferentially spaced complementary interengaging lugs or shoulders to resist slippage between the tire and the rim and retained in interlocking engagement by the resilient tensioning means.

ERRATUM

For Class 152—361 see:
Patent No. 3,523,472

3,523,567
TIRE BEAD BREAKER
Ralph R. Voigts, Rte. 1, Cornell, Illinois
Filed April 7, 1967, Ser. No. 629,319
Int. Cl. B60c *25/06*
U.S. Cl. 157—1.17 **5 Claims**

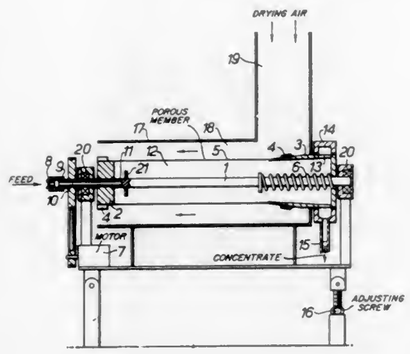


Inexpensive and efficient means for removing a truck or industrial tire from its wheel rim, particularly from such rims having a removable locking rim wherein the spade of the tire bead breaking means is mounted for vertical adjustment and substantially horizontal reciprocation, so that it may be aligned with the side of a vertically positioned tire close to the tire rim, and the spade advanced to engage the tire and separate at least a portion of the tire bead from its rim.

3,523,568
CONCENTRATING LIQUID SOLUTIONS AS FILMS ON GAS SWEPT ROTATING HOLLOW POROUS MEMBERS
Berardus Van Leeuwen, Zevenaar, Netherlands, assignor to Lever Brothers Company, New York, New York a Corp. of Maine
Filed March 12, 1968, Ser. No. 716,266
Claims priority, application Luxembourg, March 13, 1967, 53170
Int. Cl. B01d *1/22*
U.S. Cl. 159—6 **4 Claims**

Aqueous solutions containing volatile components may be concentrated by flowing the solution as a thin film over one

side of a membrane which selectively transmits water but retains the volatiles in the solution, the transmitted water



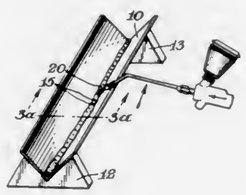
being removed from the other side of the membrane by a drying gas. The membrane is preferably cylindrical or conical, and may be rotated.

3,523,569

METHOD OF PRODUCING CARBIDE CONTAINING MATERIALS

Joseph F. Quaas, Island Park, New York, assignor to Eutectic Welding Alloys Corporation, Flushing, New York a Corp. of New York

Original application May 11, 1964, Ser. No. 366,420, now Pat. No. 3,304,604, dated Feb. 21, 1967. Divided and this application Jan. 6, 1967, Ser. No. 636,224
Int. Cl. B22d *23/00*
U.S. Cl. 164—97 17 Claims



A method for producing a material comprising particles of refractory carbides entrapped within a matrix alloy which method comprises applying a molten metal base matrix alloy over the refractory carbide particles by successive passes with a flame spray torch whereby heat exposure of the particles is minimized.

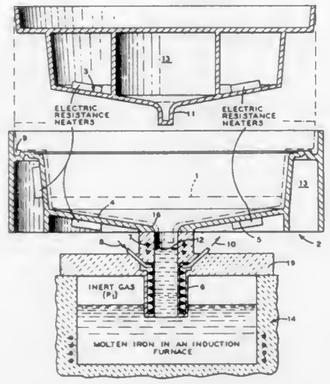
3,523,570

METHOD OF PRESS FORMING THIN-WALLED CAST IRON PARTS

Daniel Edward Groteke, Jeffersonville, Indiana and James Alexander Stavrolakis, Louisville, Kentucky, assignors to American Standard Inc., a Corp. of Delaware

Continuation-in-part of application Ser. No. 379,919, July 2, 1964, now Patent No. 3,318,370, dated May 9, 1967. This application Dec. 27, 1966, Ser. No. 604,773
Int. Cl. B22d *27/14*
U.S. Cl. 164—119 11 Claims

A process for press casting thin-walled articles is disclosed in which the metal to be cast is maintained under a first pressure and in a molten state. The pressure is then increased to a second pressure allowing the molten metal to flow through a confined path into a mold and allowed to solidify while maintaining a region of metal within said confined path in a molten state. The pressure is then decreased causing the molten metal to separate from the solidified metal to yield a cast metal article.

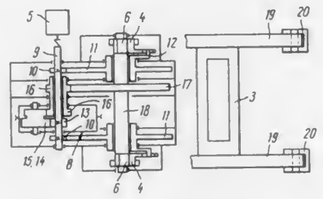


3,523,571

MOLD JOGGLER FOR CONTINUOUS CASTING

Vitaly Maximovich Niskovskikh, ulitsa Festivalnaya, 21, kv.60, Sverdlovsk, U.S.S.R.; Mechislav Ludvigovich Sadlutsky, ulitsa Pecherskaya, 2, kv.21, Sverdlovsk, U.S.S.R.; Evgeny Jukhimovich Gelfenbein, ulitsa 40 Let Oktyabrya, 28, kv.51, Sverdlovsk, U.S.S.R.; and Anatoly Mikhailovich Gavrilov, ulitsa Kosmonavtov, 43-b, kv.69, Sverdlovsk, U.S.S.R.

Filed March 1, 1967, Ser. No. 619,787
Int. Cl. B22d *27/08*
U.S. Cl. 164—260 3 Claims



A mold joggler for use while continuously casting metal, the joggler comprising a mold support pivotably supported at one end and retaining the continuous casting mold intermediate its ends. A device for oscillating the mold support, which device comprises at least one link mechanism pivotably connected to the other end of the mold support. A shaft having a first eccentric mounted on it for actuating the link mechanism and drive means for rotating this eccentric to thereby oscillate the mold support. An additional eccentric mounted within the first mentioned eccentric and capable of being moved relative thereto to vary the total eccentricity imparted to the mold support.

ERRATUM

For Class 164—252 see:
Patent No. 3,523,995

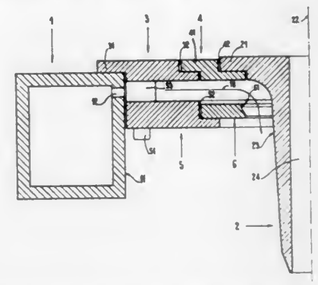
3,523,572

APPARATUS FOR CONTINUOUS CASTING AND COOLING SYSTEM FOR SAME

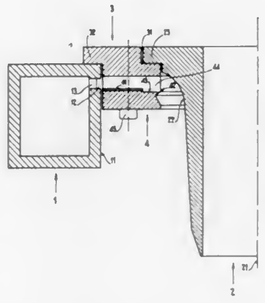
Serge Peyraud, Issoire, France and Jean Freiche, Issoire, France, assignors to Cegedur GP, Paris, France

Filed June 21, 1968, Ser. No. 738,979
Claims priority, application France, June 29, 1967, 112,364
Int. Cl. B22d *11/12*
U.S. Cl. 164—283 9 Claims

An apparatus for continuous vertical casting of metals and alloys which includes one or more molds and a casting frame surrounding the molds in horizontally spaced relation therebetween with passages through the casting frame for the flow of liquid therethrough to the mold, means extending crosswise between the casting frame and the mold including a horizontally disposed frame member connected at one end to the casting frame, a mold support connected at one end to the other end of the frame and at the other end to the mold to support the mold on the casting frame, a deflector and overspill suspended from the frame with a spaced relationship therebetween to define a channel through which the cooling liquid flows from the openings in the casting frame to the mold and which includes a draft edge on the edge of the overspill adjacent the mold to form the liquid into a sheet for application onto the mold.

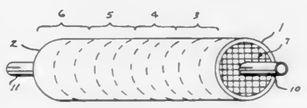


3,523,573
CONTINUOUS VERTICAL CASTING APPARATUS WITH IMPROVED COOLING
Serge Peyraud and Jean Freiche, Issoire, France, assignors to Cegedur GP, Paris, France
Filed June 21, 1968, Ser. No. 739,031
Claims priority, application France, June 29, 1967, 112,363
Int. Cl. B22d *11/12*
U.S. Cl. 164—283 8 Claims



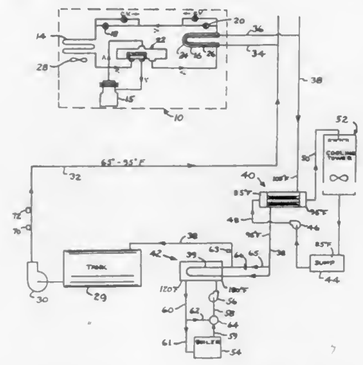
The apparatus for continuous vertical casting with a vertical mold and a casting frame having a spaced relationship therebetween, a system for cooling the mold by deflection of a stream of cooling liquid onto the outer wall of the mold comprising a groove in the side wall of the frame having openings through which cooling liquid flows and which extend perpendicularly through the wall of the frame into the groove and having a diameter equal to the width of the groove and at least one mold supporting frame interconnecting the casting frame with the mold and a deflector plate extending crosswise between the frame and the mold with its upper face having channels extending substantially parallel to the axis of the openings and positioned beneath the frame to provide a duct through which the cooling liquid flows from the openings for deflection onto the mold and which includes a smooth ledge and draft edge on the portion of the deflector plate adjacent the mold for distribution of the cooling liquid.

3,523,574
THERMAL REGENERATOR
William L. Haskin, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Mar. 6, 1969, Ser. No. 804,871
Int. Cl. F28d *19/04*; F25b *9/00*
U.S. Cl. 165—10 3 Claims



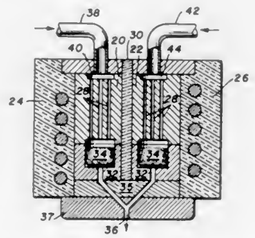
A progressively packed thermal regenerator utilizing europium selenide, neodymium, europium telluride, and europium sulfide as thermal regenerator materials is disclosed. Thermal regenerators utilizing one, two, or three of the above-named materials may also be fabricated.

3,523,575
AIR-CONDITIONING SYSTEM HAVING HEAT STORAGE RESERVOIR
Joseph B. Olivieri, Mount Clemens, Mich., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed June 12, 1968, Ser. No. 736,416
Int. Cl. F24f *3/00*
U.S. Cl. 165—22 3 Claims



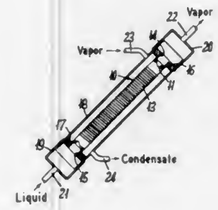
This invention proposes a room cooling-heating system wherein a large number of rooms or spaces can be selectively and individually heated or cooled to the same or different temperatures. The system comprises reversible refrigeration machines in the individual spaces, and a controlled temperature liquid (water) flowing through the various machines to extract heat from the refrigerant. The heated liquid is pumped into a large storage tank and later pumped back through the refrigeration machines to give back to the refrigerant the heat stored in the tank. The cycle is preferably controlled so that the circulating liquid takes heat out of the refrigerant to assist in condensing same, and later adds heat to the refrigerant to evaporate same, the general concept being to reduce the energy requirements of the compressors in the various machines, and the amount of energy required to be transferred to or from the circulating water by central station equipment.

3,523,576
HEAT EXCHANGER APPARATUS
Cecil C. Gibson, Jr., and Jimmy O. Love, Pensacola, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Oct. 29, 1968, Ser. No. 771,454
Int. Cl. F24h *3/00*
U.S. Cl. 165—47 6 Claims



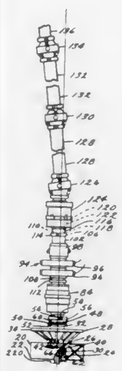
Small elongated heat transfer passages with high ratios of surface area to volume. A relatively large hole or aperture is drilled through a heat transfer plate. A relieved insert core is mounted in the aperture, the relieved portion defining with the opposed aperture wall a non-circular fluid passage.

3,523,577
HEAT EXCHANGE SYSTEM
Robert M. Milton, Buffalo, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Application May 12, 1964, Ser. No. 366,853, now Patent No. 3,384,154, dated May 21, 1968, which is a continuation-in-part of applications Ser. No. 849,608 and Ser. No. 849,665, both Oct. 29, 1959, which in turn are the continuation and division of application Ser. No. 607,233, Aug. 30, 1956. Divided and this application Apr. 1, 1968, Ser. No. 717,691
Int. Cl. F28f *1/42*; F28b *1/02*
U.S. Cl. 165—110 5 Claims



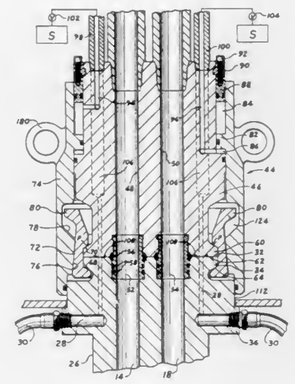
A tube type heat exchanger having a porous layer bonded to one wall and constructed of thermally conductive particles integrally bonded together to form interconnected pores of capillary size.

3,523,578
RISER DRILLING SYSTEM WITH CONTROLLED DEFLECTION GIMBAL JOINTS
Clyde E. Nolan, Jr., and Robert L. Crain, Houston, Tex., assignors to Gray Tool Company, Houston, Tex., a corporation of Texas
Filed May 16, 1968, Ser. No. 729,716
Int. Cl. E21b *43/00*; E21c *19/00*
U.S. Cl. 166—.5 13 Claims



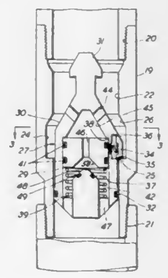
The underwater petroleum well being drilled includes a marine environment-excluding tubular riser system extending from the subaqueous floor to the drilling platform. The riser system may include a blowout preventer near the floor and a telescoping joint near the surface. The riser system is maintained in tension from the platform. At least one gimbal joint is provided in the riser system, allowing relative angular movement of the system portions thereabove and therebelow. Load cell means mounted on the joint control deflection thereof, prevent snaking and tend to return the riser to an undeflected condition.

3,523,579
SUBSEA WELLHEAD VALVE SYSTEM AND COLLET CONNECTOR MECHANISM THEREFOR
Norman A. Nelson, Houston, Tex., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Nov. 15, 1968, Ser. No. 776,079
Int. Cl. E21b *43/01*
U.S. Cl. 166—.6 9 Claims



A wellhead valve assembly, which includes a plurality of hydraulically actuated valves and an appropriate hydraulic fluid supply system for actuation of the valves. A hydraulically actuated collet connector is provided for connecting production flow conduits and hydraulic fluid supply conduits to the wellhead valve assembly. The collet connector includes means for remotely detecting leakage of production fluid or hydraulic fluid in the event the joint between the wellhead valve body and the hydraulic collet connector should fail to properly seal or should subsequently develop leakage.

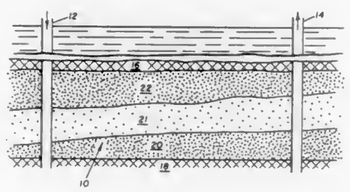
3,523,580
TUBING TESTER
Maurice P. Lebourg, Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas
Filed June 20, 1968, Ser. No. 738,600
Int. Cl. E21b *33/12*; G01m *3/08*
U.S. Cl. 166—224 3 Claims



The particular embodiment described herein as illustrative of the invention is directed to a system for testing tubing in a well bore. To test tubing, a landing nipple is provided in the tubing string and has a bore with an enlarged landing portion. A retrievable center section is

sealingly received in the enlarged portion. Spring loaded latches cooperate with the enlarged landing portion to prevent downward movement of the center section while permitting retrieval. The center section has a flow passage and a pressure responsive valve comprised of an upwardly biased piston with a longitudinal orifice and a lower valve seat. A valve member extending upward from the bottom of the center section cooperates with valve seat to seal the tubing string upon application of pressure.

3,523,581
OIL RECOVERY PROCESS USING VISCOSIFIER AND SHEAR-THICKENING LIQUID
Charles L. Murphy, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed June 21, 1968, Ser. No. 739,107
Int. Cl. E21b *43/22*
U.S. Cl. 166—273 **5 Claims**

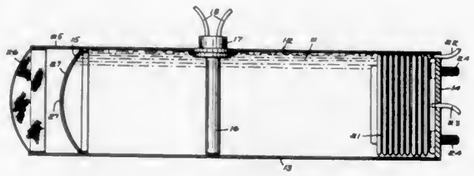


This specification discloses a secondary oil recovery process. In practicing the invention a first aqueous liquid which contains an adsorbing viscosifier is injected into the reservoir. The viscosifier may exhibit either Newtonian or shear-thinning properties. Subsequent to the injection of the first liquid, a second aqueous liquid which is shear-thickening and which contains a sacrificial agent which preferentially adsorbs on the reservoir rock surfaces with regard to the viscosifier is injected into the reservoir. A driving fluid then may be injected in order to move the liquids through the reservoir and displace oil therefrom.

3,523,582
INHIBITION OF SCALE DEPOSITION DURING SECONDARY RECOVERY
Richard S. Fulford, Tulsa, Okla., assignor to Cities Service Oil Company, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed Sept. 26, 1968, Ser. No. 762,969
Int. Cl. E21b *43/20*
U.S. Cl. 166—305 **11 Claims**

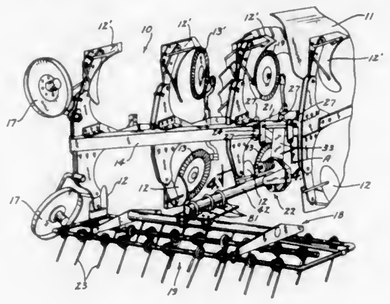
A dilution fluid is injected into a production wellbore through the annulus between the production tubing and the wellbore casing during the secondary recovery of oil by waterflooding. The dilution fluid is compatible with the water recovered at the production wellbore and is injected into the production wellbore in an amount sufficient to reduce the amount of supersaturation of calcium sulfate to less than about 400 mg./l. The rate of deposition of the calcium sulfate from the production waters is thereby reduced sufficiently so as to permit the waters to be pumped from the production wellbore before appreciable quantities of calcium sulfate scale are deposited in the production wellbore and in the vicinity thereof. The dilution fluid may be either fresh water or a solution in water salts tending to increase the solubility, i.e. decrease the amount of supersaturation, of the calcium sulfate in the production waters. Sodium chloride, potassium chloride, sodium nitrate and potassium nitrate are among the salts that may be employed in the dilution fluid in order to increase the solubility of calcium sulfate and thus to reduce the total amount of dilution fluid needed in order to achieve the desired reduction in this amount of supersaturation in the production waters.

3,523,583
FIRE AND EXPLOSION SUPPRESSOR
Edward J. Poitras, Holliston, and Milton J. Morrisette, Ashland, Mass., assignors to Fenwal, Inc., Ashland, Mass.
Filed Jan. 18, 1968, Ser. No. 698,850
Int. Cl. A65c *35/08*
U.S. Cl. 169—28 **22 Claims**



A frangible fire suppressor having an automatically variable internal volume which compensates for temperature induced changes in the volume of its liquid suppressant content thereby preventing the formation of undesirable vapor bubbles.

3,523,584
HARROW ATTACHMENT FOR ROLL-OVER PLOW
Byron L. Godbersen, Ida Grove, Iowa 51445
Filed Jan. 29, 1968, Ser. No. 701,206
Int. Cl. A01b *49/02*
U.S. Cl. 172—161 **4 Claims**

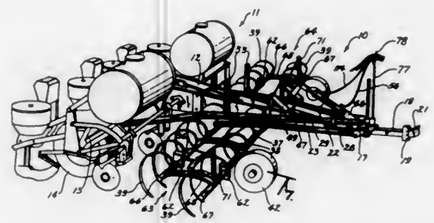


This invention relates to a ground engaging harrow attachment to an arcuately movable roll-over plow beam pivotally connected to a tractor or its frame, the attachment having a swivel unit mounted on a shaft connecting the harrow to the plow, the swivel unit automatically positioning the harrow in a horizontal ground working position in response to rotational movement of the plow frame.

3,523,585
HARROW STRUCTURE
Byron L. Godbersen, Ida Grove, Iowa 51445
Continuation of application Ser. No. 596,530, Nov. 23, 1966. This application June 20, 1969, Ser. No. 836,220
Int. Cl. A01b *63/102*
U.S. Cl. 172—456 **6 Claims**

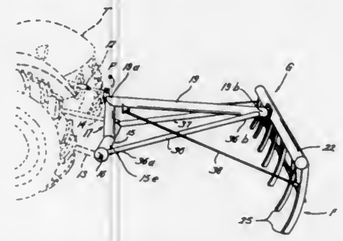
This invention relates to a harrow structure which is detachably mounted to a prime mover, and to which a planter or other such apparatus may be attached in tandem therewith, and with the harrow comprising a wheel

mounted frame to which a tool carrying subframe is pivotally connected at one end and vertically adjustably con-



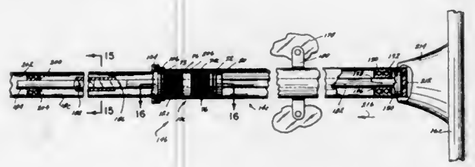
nected at the other end for vertical movement independent of the main frame.

3,523,586
GROUND CONDITIONER
Lee R. Kubecka, 1814 Parana, Houston, Tex. 77055
Filed Sept. 6, 1967, Ser. No. 667,050
Int. Cl. A01b *13/08*
U.S. Cl. 172—699 **7 Claims**



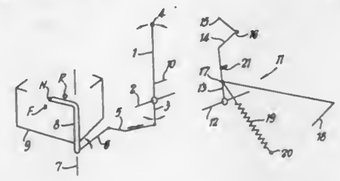
A device for conditioning ground by removing roots and the like from the ground as the device is pulled by a tractor. In two embodiments, a plurality of fingers and finger bars is permitted to pivot about a pull bar after an excessive load is placed on the fingers to thereby prevent breaking or damage to the fingers.

3,523,587
ENERGY ABSORBING STEERING MECHANISM FOR VEHICLES
Bernard Mazelsky, West Covina, Calif., assignor to ARA, Inc., a corporation of Delaware
Continuation-in-part of application Ser. No. 558,317, June 17, 1966. This application Oct. 2, 1967, Ser. No. 672,138
Int. Cl. F16f *7/12*
U.S. Cl. 180—82 **8 Claims**



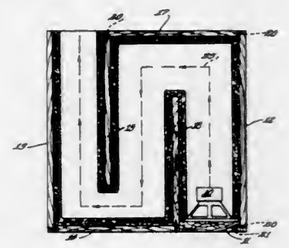
An upper steering column means is telescopically engaged by a lower steering column means having cycling and energy absorbing means operatively associated therewith for absorbing energy by deformation and reverse deformation in response to mechanical energy transmitted thereto by at least one of the steering column means.

3,523,588
TRANSMISSION CONTROL DEVICE
Norman Francis Bradshaw, Goldthorpe, near Rotherham, England, assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Sept. 19, 1968, Ser. No. 760,904
Claims priority, application Great Britain, Sept. 19, 1967, 42,519/67
Int. Cl. B60k *23/02*
U.S. Cl. 180—112 **4 Claims**



Advancingly and retractively movable transmission lock with leading surfaces thereon, and effective automatically with advancement to first neutralize a transmission lever, and only then and thereafter to mechanically lock it to insure that the lever positively holds an automatic transmission in neutral. Cams on the leading surfaces straddle a pin on the lever, forcibly returning the lever to a neutral locked position as a safety measure. This safety measure gives assurance that a vehicle engine and wheels are disconnected from unwantedly applying power to one another through the transmission.

3,523,589
HIGH-COMPLIANCE SPEAKER AND ENCLOSURE COMBINATION
John Virva, 4915 S. Seeley, Chicago, Ill. 60625
Continuation of application Ser. No. 710,246, Mar. 4, 1968. This application July 22, 1969, Ser. No. 847,791
Int. Cl. G10k *13/00*
U.S. Cl. 181—31 **5 Claims**

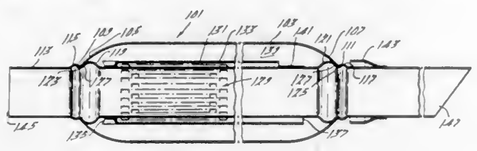


A small diameter, high-compliance speaker of very low resonant frequency is incorporated in a vented, folded column enclosure having a mean path length equal to one quarter wavelength at the speaker resonant frequency. The arrangement allows the high-compliance speaker to handle substantial power while further improving its low frequency response in accordance with tuned enclosure theory.

3,523,590
SIMPLIFIED MUFFLER SHELL CONSTRUCTION
Eldred G. Straw, Grass Lake, Mich., assignor, by mesne assignments, to Tenneco Inc., Houston, Tex., a corporation of Delaware
Continuation-in-part of application Ser. No. 439,416, Mar. 12, 1965. This application Dec. 18, 1968, Ser. No. 784,572
Int. Cl. F01n *7/18;* **F16l** *5/00*
U.S. Cl. 181—61 **9 Claims**

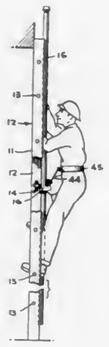
This application discloses several embodiments of mufflers for internal combustion engines and methods for

forming such mufflers. The mufflers are comprised of a thin wall tubular outer shell that has integrally deformed end sections that terminate at and define circular openings. A tubular member is inserted into each of the end



openings or is juxtaposed to the openings to form a connecton for an adjacent component of the exhaust system. Each tubular member is fixed around its periphery to the outer shell end section adjacent the opening.

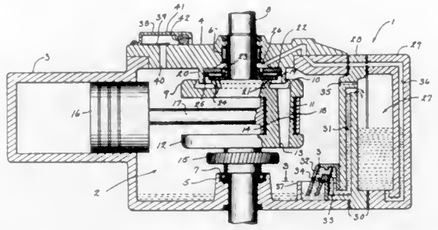
3,523,591
CLIMBING SAFETY DEVICE
Cecil D. Fountain, 1006 E. Hillsborough Ave., Tampa, Fla. 33604
Filed Jan. 6, 1969, Ser. No. 789,230
Int. Cl. E06c *7/18*
U.S. Cl. 182—8 **10 Claims**



A climbing safety device suitable for use with a vertically disposed climbing member, such as a ladder, for preventing the fall of the user thereof, as the user ascends or descends along the vertically disposed climbing member, including a locking member secured to the user and operatively connected for sliding movement along a vertically disposed guide means, which is operative to grip and thus lock onto the guide means under certain predetermined downward movements of the user to arrest his fall.

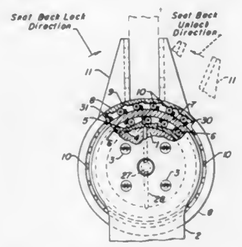
3,523,592
ENGINE LUBRICATION SYSTEM
Alvin P. Fenton, Kohler, Wis., assignor to Kohler Co., Kohler, Wis., a corporation of Wisconsin
Filed July 26, 1968, Ser. No. 747,859
Int. Cl. F16n *7/36;* **F01m** *1/00*
U.S. Cl. 184—6 **9 Claims**

A lubrication system for a reciprocating internal combustion engine. The reciprocating movement of an engine piston develops pulsating pressures within the engine crankcase. These pressures are utilized to force lubricating oil collecting in a sump at the bottom of the crankcase through an inlet passage having a check valve to a separate oil reservoir, and to also force the lubricating oil from the reservoir through an outlet passage to an area above a thrust bearing located at the top of the crankshaft. The thrust bearing acts as a centrifugal pump to convey lubricating oil to certain vital engine



parts that are to be lubricated and to prevent a reverse flow of oil back to the reservoir.

3,523,593
DUAL OVERRUNNING BRAKE SYSTEM ADAPTED FOR SEAT BACK RECLINE ADJUSTMENT
Norman M. Karasick, Falls Village, Conn., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Nov. 19, 1968, Ser. No. 776,933
Int. Cl. F16d *51/08;* **A47c** *3/00*
U.S. Cl. 188—82.3 **6 Claims**

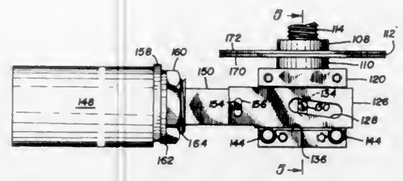


An inner overrunning roller clutch unit is positioned around a stationary hub section and on the inside of a cylindrical-form race member to brake the race member in one direction of rotation, while an outer overrunning roller clutch unit is positioned around the race member. Each of the clutch units have a ramped or cam surfaced ring portion to provide locking and unlocking of each of the clutch units when moved in the same rotational directions; however, mechanically movable roller release means connects with the inner cammed surface ring to permit movement of the assembly in a direction opposite to the locking direction. The dual clutch system functions as a brake for seat back recline adjustment and, in a preferred arrangement there is also frictional braking of movement in both directions to preclude a loose feel or too rapid a movement for a seat back or other member being attached to the locking system.

3,523,594
BRAKE MECHANISM PARTICULARLY FOR LOCKING SENSITIVE OPTICAL INSTRUMENTS IN POSITION
Charles H. Blood, Rochester, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Sept. 19, 1968, Ser. No. 760,940
Int. Cl. B60t *13/04*
U.S. Cl. 188—171 **11 Claims**

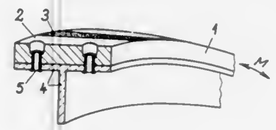
A brake mechanism is provided for accurately holding sensitive optical instruments, such as an electronic retinoscope, in position. A thin cantilevered spring plate, attached to one member of the instrument, is positioned between a pair of opposed brake shoes which are attached

to a second member which normally may move relative to the first member. A tension spring and a solenoid cooperate with a camming bar to force and withdraw, respectively, the shoes into and from contact with the



spring plate. Because the spring plate is soft in only one direction, normal to the relative movement of the two members, little energy is transmitted through the spring plate to the members upon application of the brake.

3,523,595
FRICTION MEMBER FOR BRAKES
Willi Massmann, Essen, Germany, assignor to PAG Presswerk AG, Essen, Germany
Filed Sept. 9, 1968, Ser. No. 758,376
Claims priority, application Germany, Sept. 9, 1967, 1,625,793
Int. Cl. F16d *69/00*
U.S. Cl. 188—251 **2 Claims**



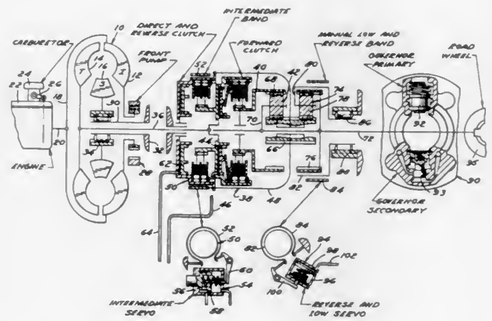
A brake-lining body having an outer friction surface at least partially covered with a coating comprising a polishing paste means including a polishing medium and including a binding-agent substance adapted to disintegrate and decompose as a result of operating at normal braking temperature.

3,523,596
EXPANSIBLE CARRYING CASE WITH OPPOSED INTERLOCKING STRIP FASTENERS
Herbert Gordon Dyke, Kent, Del. (206 E. 35th St., New York, N.Y. 10016)
Continuation-in-part of application Ser. No. 663,121, Aug. 24, 1967, which is a continuation-in-part of application Ser. No. 500,942, Oct. 22, 1965. This application Feb. 13, 1969, Ser. No. 799,039
Int. Cl. A45c *7/00*
U.S. Cl. 190—44 **19 Claims**



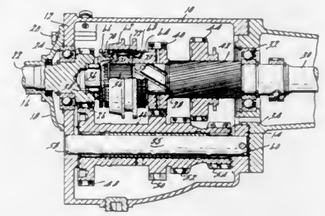
Carrying case expansible through an entire cross-section, utilizing bead-and-channel fastener tracks that run around the opposed edges at the expansion joint, one at least of the fastener tracks having either a partial gap, or a pull-tab, or both, to facilitate disengagement and re-engagement.

3,523,597
AUTOMATIC POWER TRANSMISSION CONTROL SYSTEM WHEREBY APPLICATION OF VEHICLE BRAKES DOWNSHIFTS THE TRANSMISSION
George E. Lemieux, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 704,424, Feb. 9, 1968. This application Mar. 13, 1969, Ser. No. 812,547
Int. Cl. F16d *67/02;* **F16h** *57/00*
U.S. Cl. 192—4 **12 Claims**



This specification describes an automotive vehicle driveline having a multiple ratio power transmission mechanism with an automatic control valve system for controlling ratio changes. During coasting operation, the vehicle engine, which serves as a power source during driving under torque, acts as a brake as the transmission driven member distributes coast torque through the gear system of the transmission mechanism to the engine. Additional engine braking is accomplished by downshifting the transmission mechanism to an underdrive ratio during coasting operation as the vehicle operator applies the vehicle wheel brakes. The automatic control valve system for the transmission mechanism responds to wheel brake pressure to initiate an automatic downshift thereby assisting the wheel brakes in decelerating the vehicle.

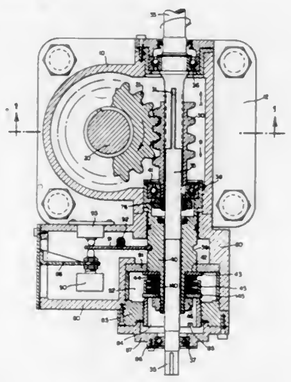
3,523,598
ANCHOR TOOTH SPLINE FOR ROTATABLE TORQUE DELIVERY ELEMENT
Robert G. Thom, Detroit, and Clevoe D. Jones, Franklin, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed July 22, 1968, Ser. No. 746,559
Int. Cl. F16d *11/04;* **F16h** *3/38, 55/18*
U.S. Cl. 192—53 **3 Claims**



A spline assembly comprising a torque delivery element with external spline teeth that register with a sleeve with internal spline teeth, the effective conjugate profiles of the internal teeth and the external teeth being modified by a shim insert that increases the effective thickness of a portion of the external teeth whereby substantially the entire torque distribution between the sleeve and the torque delivery element occurs through the modified

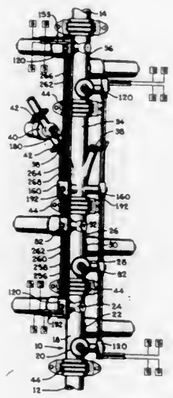
teeth, the remaining teeth acting as pilot members for the sleeve whereby skewing of the sleeve with respect to the axis of the torque delivery element is avoided.

3,523,599
LINEAR ACTUATOR WITH TORQUE CONTROL
Walter J. Denkowski, King of Prussia, Pa., assignor to King of Prussia Research and Development Corporation, King of Prussia, Pa., a corporation of Pennsylvania
Filed July 15, 1969, Ser. No. 841,868
Int. Cl. H01h *15/14*
U.S. Cl. 192—150 **5 Claims**



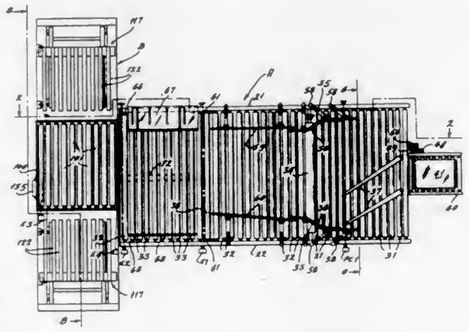
A linear actuator, such as a screw jack, is driven by a worm and worm gear nut. When the jack exerts a preselected amount of thrust or torque, the reaction on the worm causes it to move axially, thereby moving a lever arm to actuate a switch to shut off the driving motor. Adjustable compression spring means are provided for opposing the axial reaction movement of the worm, thereby to accommodate the jack for widely different loads and conditions.

3,523,600
MODULAR HYDRAULIC CONTROL SYSTEM
Norman A. Nelson, Houston Tex., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Feb. 13, 1968, Ser. No. 705,057
Int. Cl. F15b *13/08*
U.S. Cl. 137—271 **16 Claims**



A hydraulic fluid supply system for a plurality of closely-spaced hydraulically-actuated mechanical devices, which includes a fluid distribution module associated with each of the mechanical devices serving to supply the hydraulic actuator of the mechanical device with energizing hydraulic fluid. The modules also serve to aid in the transfer of hydraulic fluid to other hydraulic actuators and mechanical devices for actuation thereof as well as serving as protective braces for the fluid transferring structure.

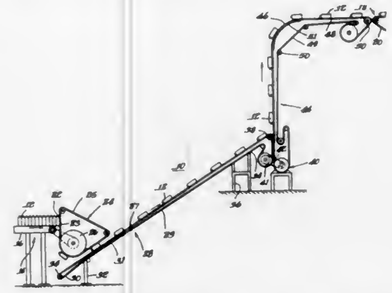
3,523,601
CARTON PALLETIZING APPARATUS
Ernest E. Roth, Arnold, and Henry E. Tanner, Affton, Mo., assignors to Alvey, Inc., St. Louis, Mo., a corporation of Missouri
Original application Mar. 2, 1967, Ser. No. 620,090, now Patent No. 3,442,400, dated May 6, 1969. Divided and this application Oct. 14, 1968, Ser. No. 786,522
Int. Cl. B65g *47/24, 57/00*
U.S. Cl. 198—33 **11 Claims**



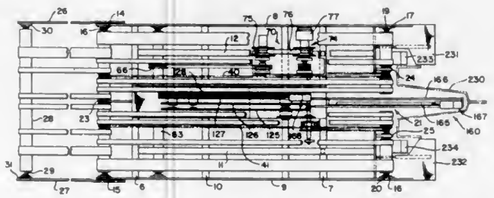
A carton palletizing apparatus of substantially floor level layout in which cartons are fed to make-up compact patterns of cartons on a continuously operating powered roller table and then transferred as patterns to a stacking device. The powered roller table includes means for turning selected cartons, means for arranging the cartons in side-by-side relation, means for stopping the advance of the cartons over the rollers so that succeeding cartons accumulate, and means for compacting the accumulated cartons transversely of the direction of advance so as to complete the pattern. The stacking device sequentially elevates each pattern of cartons formed on the table and retains the same in elevated position such that a stack of patterns is built up from the bottom until a desired number of layers is collected. The stacking device then receives a pallet and raises the pallet under the stack where the stack is transferred onto the pallet and the thus loaded pallet is lowered and conveyed away or removed by suitable means, as by a fork-lift truck. The apparatus is provided with a system of controls that can form predetermined patterns, arrange for interlocked layers in a stack, and generally operate substantially automatically so long as the cartons are continuously supplied.

3,523,602
CAN HANDLING APPARATUS
Wallace W. Mojden, Palos Heights, and Norman J. Chivas, Naperville, Ill., assignors to Fleetwood Systems, Inc., La Grange, Ill., a corporation of Illinois
Filed Mar. 14, 1968, Ser. No. 713,169
Int. Cl. B65g *17/46*
U.S. Cl. 198—41 **6 Claims**

A method and apparatus for transporting magnetizable cans or the like including an endless belt member, either of a flat or double-belt type, upon which the cans are carried on the sides thereof, and a permanent magnet adjacent the belt member on the opposite side thereof from the cans and extending along the path of the belt member, the poles of the permanent magnet being relatively close together and located at the center of the belt member so as to magnetically secure the cans to the belt member while preventing rotation of the cans thereon. In one embodiment of the apparatus, a magnetic transfer wheel is used as one of the pulleys upon which the belt member is mounted for changing the direction of movement of the cans thereon.



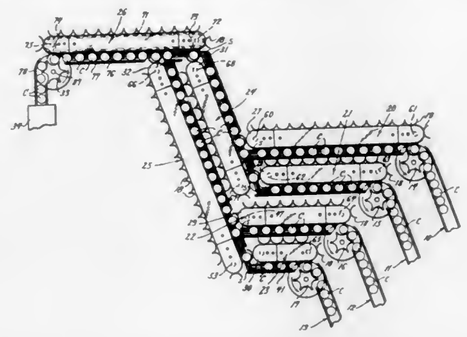
3,523,603
CONVEYOR TABLE
Albert R. Philips, Cleveland, Robert R. Hayes, Euclid, Thomas W. Jennens, Eastlake, and John L. Fuller, Shaker Heights, Ohio, assignors to Bangor Punta Operations, Inc., Bangor, Maine, a corporation of New York
Filed Aug. 11, 1967, Ser. No. 659,928
Int. Cl. B65g *37/00;* **B65h** *29/68*
U.S. Cl. 198—76 **31 Claims**



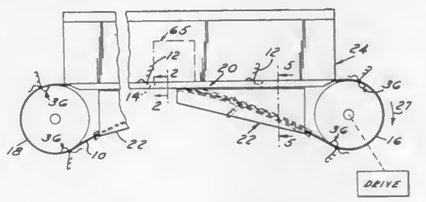
A sheet feed conveyor table for placing sheets in wicket conveyors and the like including a lug drive chain for spacing the sheet on such table and driving it therealong with a positive placement device for transferring the sheet from the end of the table into position to be picked up by the wicket conveyor, the device comprising vacuum sheet gripping shoes reciprocating to and from pick up and release position, drive means for the shoes moving the same initially at the speed of the sheet and then at an accelerated speed and finally decelerating the shoe to the release position at which the vacuum is vented; and a piston-cylinder assembly connected to each shoe for creating the vacuum.

3,523,604
HIGH-SPEED CONTAINER COMBINER APPARATUS
Momir Babunovic, Des Peres, and John C. Kay, St. Louis, Mo., and Jerome F. Shea, Alton, Ill., assignors to Barry-Wehmiller Company, St. Louis, Mo., a corporation of Missouri
Filed Nov. 27, 1967, Ser. No. 685,838
Int. Cl. B65g *37/00*
U.S. Cl. 198—79 **10 Claims**

A conveyor apparatus for handling containers, such as glass or frangible bottles, at high speeds and to minimize the breakage so that an increased rate of flow can be achieved by combining several sources of low volume capacity into a high-speed flow during transit of containers in a processing plant.



3,523,605
BELT CONVEYOR CONSTRUCTION
James F. McClelland, Jr., Grosse Pointe Farms, and Robert J. Ebbert, Rochester, Mich., assignors, by mesne assignments, to SI Handling Systems, Inc., Easton, Pa., a corporation of Pennsylvania
Filed Aug. 17, 1967, Ser. No. 661,447
Int. Cl. B65g *19/02, 19/18*
U.S. Cl. 198—171 **27 Claims**

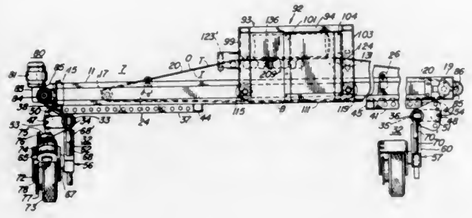


An endless, pulley driven conveyor in which the endless member is a flexible metal belt equipped with a series of driving lugs on the inner belt face engageable with driving sockets in the pulley periphery, and equipped with a series of pushers secured to the outer belt face. Each driving lug is constructed with driving socket engaging faces that are resiliently movable relative to and longitudinally of the metal belt, and preferably the driving sockets and driving lugs are formed as generally semicylindrical segments on axes which extend parallel to the axes of pulley rotation. Each driving socket is adjustably positionable on the pulley periphery. A beam, provided with oppositely facing channels, supports and guides both forwarding and return runs of the belt intermediate a pair of pulleys in directions both transverse to the belt length and perpendicular to the belt faces so that the belt can be operated in any position.

3,523,606
APPARATUS AND METHOD FOR DIVERTING MATERIAL FROM CONVEYORS AND THE LIKE
Robert F. Oury, Wayne, Ill., assignor, by mesne assignments, to Harsco Corporation, Wormleysburg, Pa., a corporation of Delaware
Filed Dec. 28, 1967, Ser. No. 699,007
Int. Cl. B65g *39/071, 41/00, 47/76*
U.S. Cl. 198—188 **18 Claims**

Concrete mix can be effectively diverted from a conveyor belt without leaving residue or concrete mix on the surface of the belt by employing a series of staggered

rollers adjacent and parallel to a diverting blade. The rollers are positioned so that a moving conveyor belt is urged into a configuration corresponding to the shape



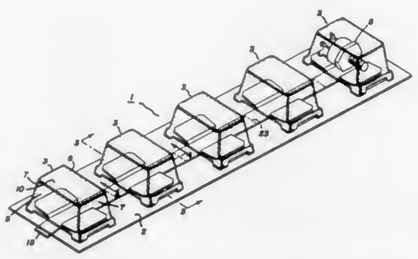
of the lower edge of the blade, whereby all points of contact between the belt and blade are maintained at equal pressure.

3,523,607
SERVICE WIRE ENCAPSULATING KIT
George W. Gillemot, Venice, Calif. (2331 20th St., Santa Monica, Calif. 90405), and John T. Thompson, Tarzana, Calif. (244 Loring St., Los Angeles, Calif. 90024)
Filed July 8, 1968, Ser. No. 743,160
Int. Cl. B65d *75/00, 33/16;* **H02g** *13/02*
U.S. Cl. 206—47 **2 Claims**

A kit for encapsulating splices in sheathed or unsheathed multi-filament cables including a single compartment container which is divided into a plurality of fluid-tight compartments by means of a spline and a ridged or flexible clip which fits over the container and the spline. The container may also be used as the encapsulating mold for the splice and the spline and clip or clip alone used to hold this mold gathered about the cabling. An open-cell flexible spacer member or boot serves to center a butt-end splice in the encapsulating material.

3,523,608
FORMED PLASTIC PACKAGE WITH SNAP-IN CLOSURE
David C. Miller, Camillus, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 29, 1969, Ser. No. 828,872
Int. Cl. B65d *21/02, 71/00*
U.S. Cl. 206—65 **9 Claims**

A multi-compartment see-through package for retaining, protecting, and displaying small devices such as semiconductor rectifiers and transistors. The package includes a strip of material formed to provide a row of receptacles. The package further includes a unitary removable closure, including an elongate central tang having spaced sets of transversely extending flaps, the flaps being positioned and dimensioned to register with and close the respective receptacles. Each set of flaps is retained in snap-in closing relation with a respective receptacle by beads integrally formed in the strip at the mouth of each receptacle. Each of the flaps is connected to the



tang by a depending flange or leg, the legs of each pair of flaps cooperating with the central tang between them to form a stiff spine of U-shaped section strengthening and firmly locking the closure into covering relation with each receptacle.

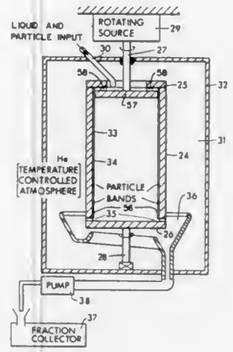
3,523,609
CARD SORTING DEVICE
Joseph D. Shaw, 508 Church St., Brownsville, Pa. 15417
Filed June 28, 1968, Ser. No. 741,179
Int. Cl. B07c *3/04*
U.S. Cl. 209—80.5 **4 Claims**

A card sorting device having a circular sorting chamber and a circular row of card receiving bins disposed beneath the chamber. A plurality of coded cards are indiscriminately mingled in a pack and the pack moved through the circular chamber supported on circular ways; the ways being restricted in certain combinations above particular bins, whereby coded cards, unsupported by the ways, fall by gravity from the sorting chamber into predetermined bins.

3,523,610
PARTICLE SEPARATOR
Edward M. Purcell, 5 Wright St., and Howard C. Berg, 182 Appleton St., both of Cambridge, Mass. 02138
Filed Dec. 1, 1966, Ser. No. 598,321
Int. Cl. B03b *3/00*
U.S. Cl. 209—155 **11 Claims**

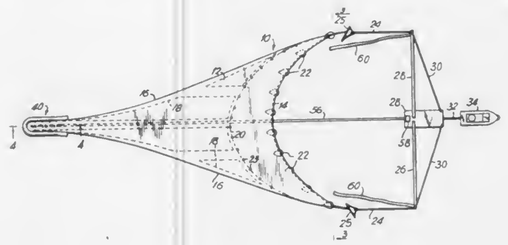
An apparatus and method for separating particles in accordance with their effective masses in which particles are allowed to diffuse within a layer of a viscous liquid medium which can be caused to flow and which is subject to an acceleration transverse to the direction of flow and to the surfaces of the layer. The particles are introduced into the liquid as a group near one end of the layer and are allowed to diffuse under conditions of zero flow until they form equilibrium Boltzmann distributions

within the liquid near one of its surfaces in accordance with their effective masses, the magnitude of the transverse acceleration, the temperature of the liquid, and the thickness (height) of the liquid medium. Then the liquid is caused to flow at a rate sufficiently small that a non-turbulent variable velocity profile is established across the layer in the direction of the transverse acceleration and also sufficiently small that the particles can diffuse many



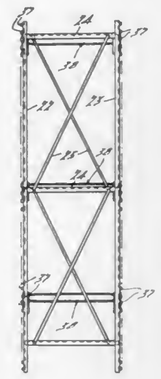
times across their Boltzmann distribution in the period of flow. Particles with the same effective mass then have substantially the same average velocity in the direction of flow. This velocity is different for particles of different effective masses, so that such particles tend to form separate groups within the liquid along the direction of flow. Suitable means can be used to collect different portions of the liquid which contain these separate groups.

3,523,611
OIL SKIMMING APPARATUS
Hugh J. Fitzgerald, Austin, Tex., assignor to Ocean Pollution Control, Inc., Dallas Tex., a corporation of Texas
Filed Apr. 1, 1969, Ser. No. 811,713
Int. Cl. B01d *23/00*
U.S. Cl. 210—242 **10 Claims**



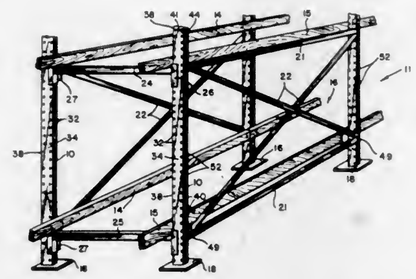
Apparatus for skimming an oil film from the surface of a large body of water including a towed funnel assembly with a flexible cover and side skirts of impermeable sheet material with floats to keep the leading edge of the cover spaced above the surface of the water so that the oil film will pass beneath it, with the remaining portions of the cover supported on the floating oil, a bottom panel of netting to hold the side skirts in downwardly projecting position to confine the oil laterally, while permitting the water beneath it to escape freely, and a sump at the apex of the funnel to receive the oil for transfer to storage vessel.

3,523,612
FRONT-TO-BACK MEMBER FOR BEAM TYPE STORAGE RACKS
Lee Z. Hall, Huntington Woods, Mich., assignor to Palmer-Shile Company, Detroit, Mich., a corporation of Michigan
Filed Jan. 2, 1969, Ser. No. 788,499
Int. Cl. A47b *9/00;* **A47f** *5/10*
U.S. Cl. 211—148 **4 Claims**



An adjustable beam type storage rack has front and rear posts and beams extending between adjacent front posts and adjacent rear posts. Members are provided extending from front to rear between beams on the same level. These members are channel-shaped with their heights tapering at both ends. Plates at the ends of the members engage the webs of the beams and are attached thereto by bolts. The beams have a connected series of non-circular apertures for receiving the bolts, whereby the members may be adjusted in height to provide for either pallet loading or for decks varying in thickness.

3,523,613
STORAGE RACK
Anthony N. Konstant, Mount Prospect, Ill., assignor to Speedrack Inc., Skokie, Ill., a corporation of Illinois
Filed Jan. 16, 1968, Ser. No. 698,218
Int. Cl. A47f *5/10*
U.S. Cl. 211—177 **2 Claims**

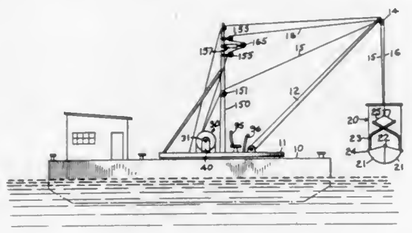


A structural member having pairs of opposing sidewalls is provided with rows of preformed openings in each pair of the opposing sidewalls to facilitate attachment of the member in a structure. The holes in opposing sidewalls are aligned to receive fasteners inserted through them. Beams, horizontal braces, cross braces or the like may be releasably fastened to both pairs of opposing sidewalls by releasable fasteners which will then be disposed at angles to each other as they span the respective pairs of sidewalls.

3,523,614
HYDRAULIC CRANE AND BUCKET CONTROL

Luther Walker, 5688 Allen Ave. W., West Sacramento, Calif. 95691

Filed Sept. 25, 1967, Ser. No. 670,345
Int. Cl. B66c *3/16, 3/12, 3/02*
U.S. Cl. 212—42 5 Claims

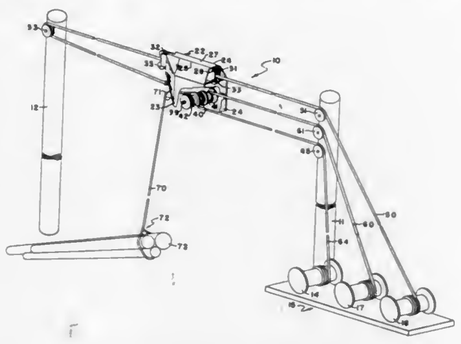


A unitary drum has two cables wound thereon, one connected by means of a crane to a dredging bucket to raise or lower it and the other being connected to means for opening and closing the bucket, a hydraulically operated device having engagement with the last named cable to lengthen it or shorten it to open and close the bucket. A single control lever is universally mounted and movable back and forth to control the operation of the drum and the main power source, the lever being transversely movable to control the swinging of the crane between loading and unloading positions.

3,523,615
CABLE HOISTING AND HAULING APPARATUS

Clay H. Anderson, Wellington, British Columbia, and James M. Ewart, Nanaimo, British Columbia, Canada, assignors to S. Madill Ltd., Nanaimo, British Columbia, Canada

Filed Jan. 17, 1968, Ser. No. 698,627
Int. Cl. B66c *21/00*
U.S. Cl. 212—96 4 Claims

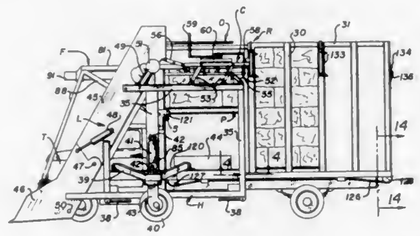


Cable hoisting and hauling apparatus having a travelling carriage provided with a winding spool and tong line wound thereon. A pair of haul-in cables each wound over a stationary winding drum the latter being powered through a torque converter and being operatively connected to the winding spool on the carriage in a manner which will result in the application of a differential torque on the winding spool carrying the tong line and at the same time, cause the carriage to move. The carriage speed and consequently the output speed of the torque converter and the differential torque applied to the winding spool over which the tong line is wound is controlled by applying drag to the carriage through a back-haul line connected thereto.

3,523,616
BALE STACKING MACHINE

Allan B. Neely, Jr., P.O. Box X, Limon, Colo. 80828

Filed Apr. 8, 1968, Ser. No. 719,411
Int. Cl. B65g *57/24*
U.S. Cl. 214—6 11 Claims

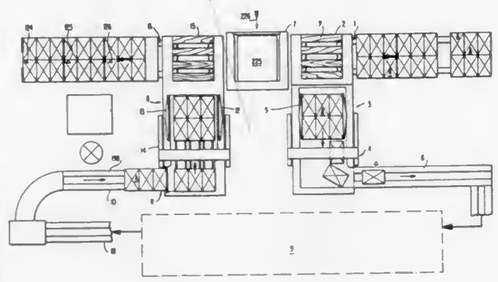


The apparatus disclosed herein is a bale collecting and stack forming apparatus adapted to be carried upon a truck or a similar vehicle. A conveyor at the side of the truck picks up bales and elevates the same to a dispensing chamber at the side of and above the bed of the truck. An assembly platform alongside the dispensing chamber overlies the bed of the truck and bales are moved from the chamber onto the platform. The movement of bales from the chamber onto the platform is by swing arms and by a paddle which arranges the bales in longitudinal transverse patterns to form a stack layer on the platform. By retraction, the platform is pulled from underneath the stack layer and the layer drops upon a support carrying pallets or upon other layers carried by the support. The support is lowered, step by step, as the layers are dropped upon it until the bale stack is completed. Thereafter, the bale stack is shifted from the support onto another portion of the bed of the truck to permit the formation of another bale stack.

3,523,617
MATERIAL HANDLING SYSTEM

Warren S. Raynor, Port Hope, Ontario, and Keith A. Burgess, Cobourg, Ontario, Canada, assignors to Rex Chainbelt Inc., a corporation of Wisconsin

Original application Dec. 11, 1964, Ser. No. 417,714, now Patent No. 3,448,867. Divided and this application Jan. 2, 1969, Ser. No. 804,725
Int. Cl. B65g *59/06*
U.S. Cl. 214—8.5 7 Claims

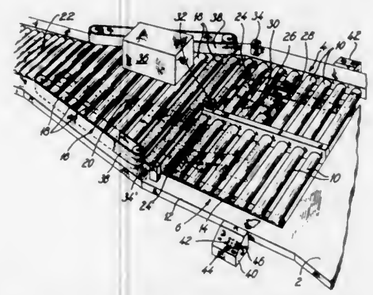


An apparatus for unstacking articles stacked in superimposed layers and discharging the articles one-at-a-time from the bottom of the stack by clamping and supporting the layer of articles next above the bottom layer, then sequentially lowering portions of the bottom layer onto a transfer conveyer to be conveyed from beneath the stack.

3,523,618
FEEDER DEVICES

Jacob August Nielsen, Viby, Denmark, assignor to Crisplant A/S, Risskov, Denmark, a Danish body corporate

Filed Aug. 23, 1968, Ser. No. 754,815
Claims priority, application Great Britain, Aug. 25, 1967, 39,175/67
Int. Cl. B65g *43/00*
U.S. Cl. 214—11 5 Claims

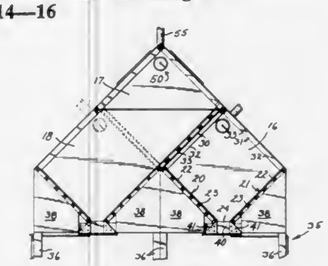


A feeding device for sequentially delivering single articles to a conveyor, comprising at least two feeding stations each adapted to sequentially receive one article in a position in front of a release station in which releasable holding means are provided for preventing said articles from leaving the release station, actuation means operable to release said holding means, conveying means operable in response to release of said holding means for moving said article away from said release station towards the delivery end of said feeding stations but one as long as an article is passing the release station of this feeding station in response to said holding means in this station being released so as to prevent overlapping of articles sequentially being released from different release stations, coding means located adjacent each of said feeding stations and associated with code signal memoring means so as to be operable to set in said memory means a code signal for each article to be delivered from the feeding stations, and code signal transferring means operable to transfer said code signal from said memory means in any of said feeding stations to code signal receiving means in response to an article belonging to said code signal being released from the feeding station.

3,523,619
BIN CONSTRUCTION

Rodney D. Jacobson, Ray, N. Dak., assignor to Jacobson and Sons Construction Co., Inc., Ray, N. Dak., a corporation of North Dakota

Filed Feb. 3, 1969, Ser. No. 795,985
Int. Cl. B65g *3/20*
U.S. Cl. 214—16 1 Claim

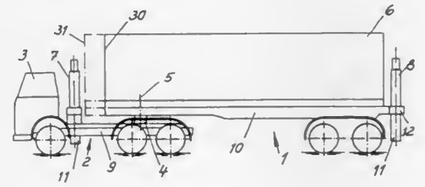


Lower side walls formed in a generally downwardly converging configuration and upper side walls joined in a generally upwardly converging configuration affixed thereto with generally rectangular end walls to form an enclosure having a framework affixed thereto for mounting said enclosure above the ground for the movement of transporting vehicles therebelow and an auger mounted adjacent the apex of said enclosure for introducing and distributing material therein to be stored and with an opening having closure means thereover adjacent the juncture of the lower walls so that the stored material can be removed therefrom through the force of gravity.

3,523,620
TRANSPORT VEHICLE

Kaspar Klaus, 46 Schlachthofstrasse, 894 Memmingen, Germany

Continuation of application Ser. No. 656,593, July 27, 1967. This application June 26, 1969, Ser. No. 842,777
Claims priority, application Germany, Aug. 29, 1966, 1,288,454, 1,580,097
Int. Cl. B60p *1/48*
U.S. Cl. 214—77 5 Claims

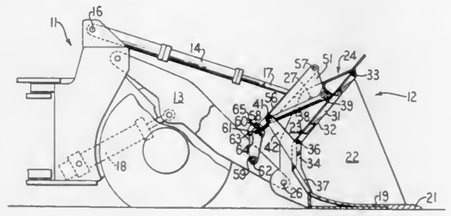


A road transport vehicle equipped with means for loading and unloading a load such as a container in which pivoting devices located in front of and behind the load on the vehicle are operated by piston-cylinder assemblies. Each device includes main and auxiliary rocker arms respectively connected for pivotal movement to the frame and main arm with the pivotal axes being parallel to the longitudinal axis of the vehicle. The load is adapted to be suspended at the free end of the auxiliary rocker arms, and a supporting foot operable via a piston-cylinder assembly is mounted on the frame in the range of each pivoting device so that the foot can be swung outwardly on the load side.

3,523,621
EJECTOR FOR LOADER BUCKET

Rodney H. Anderson, Peoria, and Fred J. Salzman, Metamora, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

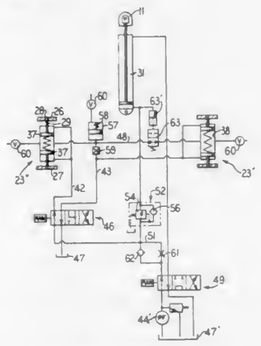
Filed Apr. 22, 1968, Ser. No. 722,902
Int. Cl. E02b *3/81*
U.S. Cl. 214—146 10 Claims



Three embodiments of an ejector bucket having its floor configured for optimum loading characteristics and an ejector mechanism comprising first and second plate elements pivotally connected to the top of the bucket

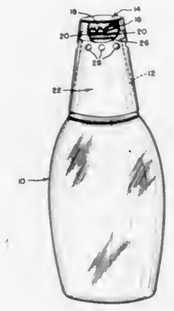
and the first element respectively. A third ejector element controls the position of the second element relating to the first. With the ejector retracted in the bucket, the second element is angled relative to the first for increased bucket capacity. During ejection, the third element positions the second element in straight angle face relation with the first element to facilitate removal of material from the ejector face.

3,523,622
SAFETY DEVICE FOR SIDE DUMPING MECHANISM FOR A LOADER BUCKET
Thomas L. Burcham, Peoria, Sterling R. Booth, Jr., Yates City, and Walter B. Miller, Pekin, Ill., and Donald J. McRae, Lafayette, Calif., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Apr. 25, 1968, Ser. No. 724,113
Int. Cl. E07f *3/83*
U.S. Cl. 214—768 **9 Claims**



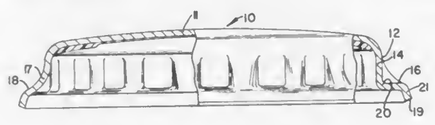
The bucket of a loader may be pivoted to either side to dump material by disengaging one of two hydraulically operated pivot latches which normally couple opposite sides of the bucket to the loader lift arms. A hydraulic interlock system is provided between the two latches to forestall disengagement of the bucket at one side thereof if the other side is not engaged at that time.

3,523,623
COVER FOR CUT EDGE PROJECTIONS OF TWIST-OFF CROWNS FOR PROTECTING THE FINGERS OF THE USER
Henry J. Dorn, Pottsville, Pa., assignor to Zapata Industries, Inc., Frackville, Pa., a corporation of Pennsylvania
Filed Sept. 20, 1968, Ser. No. 761,069
Int. Cl. B65d *41/12, 51/24, 51/16*
U.S. Cl. 215—38 **8 Claims**



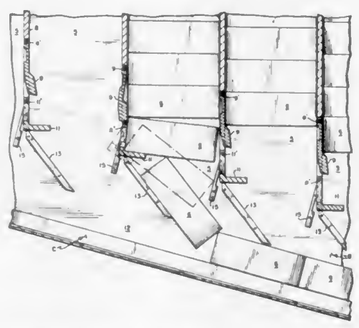
Containers, such as beverage bottles, are provided with twist-off crowns, the sharp cut projections of which are covered with a sheet material attached to the crown to protect the fingers of the user from injury when turning the crown. The sheet material may also cover the neck of the bottle, with its lower end adhered to the neck of the bottle, a line of tear perforations in the cover material extending around the neck of the bottle below the crown and a plurality of vent holes in the cover material for ventilating the under part of the crown to prevent rusting.

3,523,624
BOTTLE CROWN
Charles F. Curry, Wilmington, Del., assignor to Continental Can Company Inc., New York, N.Y., a corporation of New York
Filed Dec. 13, 1967, Ser. No. 690,287
Int. Cl. B65d *41/10*
U.S. Cl. 215—39 **11 Claims**



A crown for application to a bottle having a crown retention means formed about the pouring lip thereof. The crown includes a peripheral flange having a vertical web and a horizontal web of which the latter terminates in a downwardly and outwardly inclined lip. Radially projecting ridges are formed in the flange extending between the vertical and horizontal webs and terminating in the horizontal web at the bend line along which the lip is inclined so that the latter is free of the ridges. The lip assumes an inwardly and downwardly inclined attitude when the crown is applied on the bottle.

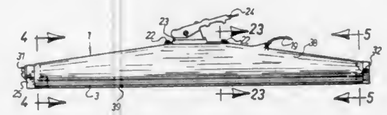
3,523,625
DISPLAY AND VENDING APPARATUS
Don E. Rainey, East Pompano Beach, Fla., assignor of forty-six percent to Don E. Rainey, fourteen and one-half percent to Melvin E. Hopstetter, twenty-three and one-half percent to Albert Florio, Americo Florio, and George Florio as cotenants, one percent to Rufus H. Nesmith, five percent to John Serlo, all of Fort Lauderdale, two percent to Alfred T. Hall, six percent to A. J. Musselman, Jr., both of Pompano Beach, and two percent to Henry Grannemann, Dearfield Beach, Fla.
Original application Jan. 18, 1967, Ser. No. 614,768. Divided and this application May 29, 1968, Ser. No. 740,409
Int. Cl. B65g *59/00*
U.S. Cl. 221—2 **14 Claims**



Display and vending apparatus having rearward vertical storage chutes for receiving articles in stacked horizontal position and a forward inclined display and dispensing

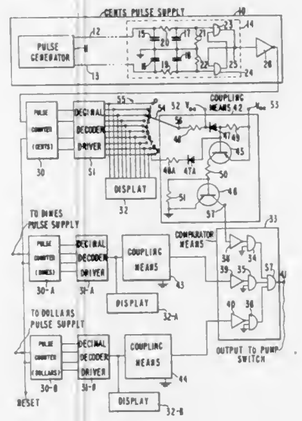
trackway for slidably receiving articles progressively from said chutes, a stop device at the outer end of the trackway to limit the sliding movement of the articles and transposer means pivotally supported at the lower end of each chute to shift the lowermost article in the chute to downwardly inclined position in the trackway.

3,523,626
HEATED WINDSHIELD WIPER
Roland Racine, 2709A Orleans St., and Elie Gauthier, 3551A Bordeaux St., both of Montreal, Quebec, Canada
Filed Dec. 11, 1968, Ser. No. 782,851
Int. Cl. B60s *1/04;* **A47l** *1/16*
U.S. Cl. 15—250.07 **10 Claims**



A heated windshield wiper assembly comprising the usual resilient wiping blade, the flexible support therefor and the pressure distributing device connected to the support. A flexible fluid-proof envelope surrounding the pressure distributing device and the support, and adhered to the sides of the wiping blade to form a fluid-tight chamber containing a liquid heated by an electric heating element disposed in the chamber.

3,523,627
ELECTRONIC FUEL DISPENSING METER
Robert F. Crozier, 624 Pennsylvania Ave., Denver, Colo. 80204
Filed May 9, 1968, Ser. No. 727,826
Int. Cl. B67d *5/30;* **G01f** *1/00*
U.S. Cl. 222—20 **7 Claims**



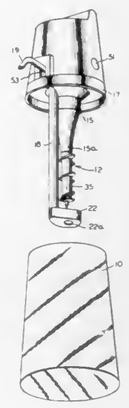
Automatic control for fluid dispensing apparatus, such as a gasoline pump, having a pulse generator coupled to the pump generating pulses indicative of the amount of fluid being dispensed. The apparatus has a pulse counter coupled to the pulse generator display for showing the number of pulses in the counter, an indicator indicating a predetermined number of pulses, and a comparator for comparing that predetermined number with the number of pulses coming from the pulse generator. A switch is connected to the comparator which turns off the pump valve when the proper number of pulses has been counted.

3,523,628
CONTAINER FOR CYANOACRYLATE ADHESIVE
Roger D. Colvin, deceased, late of Hartford, Conn., by Lee B. Colvin, administratrix, Hartford, Conn.; John B. Duffy, New Haven, Conn., and Ross G. Wittemann, Isla Verde, Puerto Rico, assignors to Loctite Corporation, Newington, Conn., a corporation of Connecticut
Filed Jan. 18, 1968, Ser. No. 698,869
Int. Cl. B65d *35/08*
U.S. Cl. 222—107 **14 Claims**



A container for cyanoacrylate ester adhesives designed to minimize deterioration of contents and afford long shelf stability, including a container body constructed of an air-impermeable material, preferably a metal such as aluminum, and a dispensing nozzle having at least the dispensing surfaces thereof formed of a thermoplastic resin having low surface free energy.

3,523,629
LIQUID MIXING AND DISPENSING DEVICE
Yiu Dak Chi, Kowloon, Hong Kong, assignor to Forda Manufacturing Company Limited, San Po Kong, Kowloon, Hong Kong
Continuation-in-part of application Ser. No. 687,725, Nov. 20, 1967. This application Mar. 11, 1968, Ser. No. 716,691
Int. Cl. B67d *5/50;* **F04b** *49/02*
U.S. Cl. 222—241 **12 Claims**



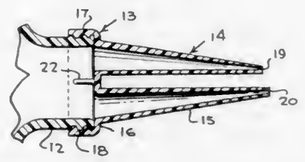
A mixing and pumping device for liquids. The device has a platform adapted to be positioned on a fluid containing receptacle. A shaft housing extends downwardly

from the platform for immersion in the fluid in the receptacle. An impeller is rotatably mounted on said shaft housing and a pump casing is fixed on the end of said shaft housing and has an inlet opening therein. A liquid conduit means extends from said pump casing upwardly through said platform and laterally beyond the edge of said platform. Pump means is housed in said pump housing, and a shaft in said shaft housing is coupled to shaft drive means on said platform for rotating said shaft. Clutch means is provided between said shaft and said impeller and between said shaft and said pump and is selectively operative to drive said impeller or said pump.

3,523,630
LIQUID DISPENSING DEVICE FOR HAIR TREATMENT

Thomas A. Catapano, 88 Clinton Place, Apt. C–2, Hackensack, N.J. 07601

Filed Feb. 15, 1968, Ser. No. 705,826
Int. Cl. B65d *5/74*
U.S. Cl. 222—568 **7 Claims**

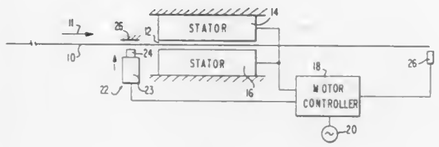


A liquid dispensing device comprising a liquid container, and an applicator including a cap section attached to the liquid container and a pair of elongated nozzle sections mounted on the cap section and projecting outwardly therefrom.

3,523,631
FOIL FEEDING SYSTEM

Kwangho Chung, Dallas, Tex., and George A. Goepfrich, New Britain, and Edward J. Milano, Bristol, Conn., assignors to Skinner Precision Industries, Inc., New Britain, Conn., a corporation of Connecticut

Continuation-in-part of application Ser. No. 623,098, Mar. 14, 1967. This application May 16, 1969, Ser. No. 830,571
Int. Cl. B65h *17/18*
U.S. Cl. 226—39 **17 Claims**

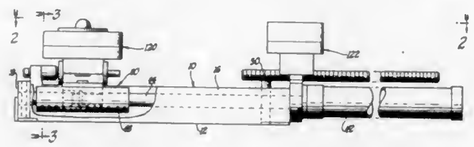


A metallic foil feeding system in which the foil is propelled by linear induction motor action. A portion of the foil is placed within the active air gap of a linear induction motor. The foil acts as the armature of the motor and is caused to move in a direction defined by the traveling magnetomotive waves within the air gap. A motor controller profiles the application of a three phase alternating current to the stator. An inductive speed sensor may be provided to supply a signal proportional to the foil speed to the motor controller in order to regulate the foil speed. The foil may be braked to a halt by reversing the three phase connections to the stators or by other foil braking means, such as a mechanical friction brake employing electrostatic, suction or high pressure fluid devices for forcing the foil into engagement with a stationary friction surface, or by an eddy current brake whose energization is coordinated with the linear induction motor. The motor controller may include photoelectric sensors responsive to punched holes in the foil to provide a signal to the motor controller for the pulsed feeding of fixed lengths of foil and a coordinated drive for the supply of foil strip included.

3,523,632
WORK FEED MECHANISM

Wayne M. Shields, Walled Lake, Mich., assignor to Jaybird Automation, Inc., Walled Lake, Mich., a corporation of Michigan

Filed Apr. 11, 1968, Ser. No. 720,593
Int. Cl. B65h *17/36*
U.S. Cl. 226—150 **3 Claims**

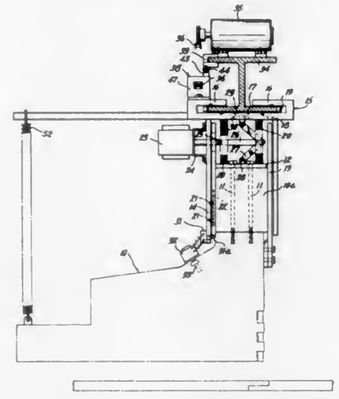


A device for intermittently feeding work stock material to a stamping or like machine and including a reciprocal carriage member having a gripper provided thereon, means for varying the feed stroke of the carriage and damping it, a gripper to hold the stock during retraction of the carriage member and an electro-pneumatic system for controlled operation thereof.

3,523,633
CONTROL MEANS FOR POWER OPERATED FASTENER

Pryce Wilson, Box 684, Galt, Calif. 95632

Filed Jan. 9, 1968, Ser. No. 696,605
Int. Cl. B27f *7/06*
U.S. Cl. 227—7 **5 Claims**

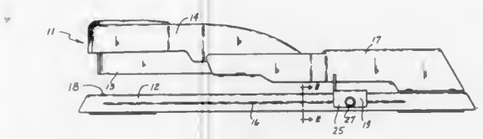


Control means for a power-operated fastener driver comprising a rail, means for slidably suspending the driver from the rail, a motor for advancing the suspension means along the rail, and electrically operated means such as a switch or photoelectric cell which travels with the suspension means and is actuated by indicia spaced along the track or workpiece to close a circuit actuating the fastener driver.

3,523,634
LONG-REACH STAPLING MACHINE

John J. Power, Westbury, and Nathaniel M. Olney, New York, N.Y., assignors to Swingline Inc., Long Island City, N.Y.

Filed Oct. 14, 1968, Ser. No. 767,152
Int. Cl. B25c *5/02*
U.S. Cl. 227—120 **3 Claims**

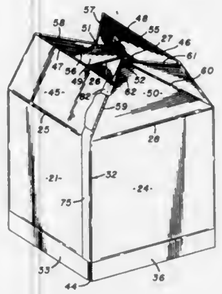


Improvements to a stapling machine having a base are shown which improvements include a pair of channels on opposite sides of the base, a guide member selectively fixedly disposed and slidably movable along the base, the guide member having an upstanding portion and a pair of downwardly depending sides which are normally outwardly spaced from the base. A hook is carried by one of the downwardly depending sides and normally abuts one of the channels. A screw is carried by the other of said depending sides and is selectively disposed and secured within the other channel.

3,523,635
FIBERBOARD BOX HAVING STRENGTHENED BOTTOM STRUCTURE AND CONNECTOR CORNER JOINT

Thomas E. Croley and Richard O. Morgan, Worthington, Ohio, assignors to The Corrugated Container Company, Columbus, Ohio, a corporation of Ohio

Filed May 2, 1968, Ser. No. 726,128
Int. Cl. B65d *5/02*
U.S. Cl. 229—37 **2 Claims**

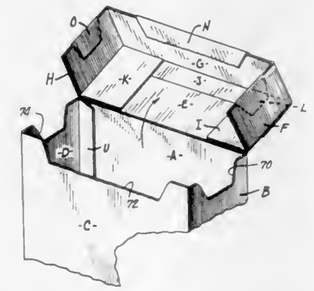


A box of fiberboard or similar material of square or rectangular horizontal cross section which has a special strengthened bottom structure and a strengthened corner structure which are structurally joined to improve the overall strength of the box. The bottom comprises four flaps integrally joined to the corresponding four side walls at horizontal hinge lines, two of the opposed flaps being rectangular flaps which fold inwardly toward each other and the other two flaps being provided with diagonal scored fold lines to permit infolding relative to the other two flaps to which they are integrally connected at straight corner scored fold lines. The strengthened connector corner joint, which is at the joint where the box blank is connected together, comprises a double thickness corner hinge or fold joint which is provided with an extension into the bottom structure to connect the strengthened corner joint and the bottom structure together for overall strength of the box. The diagonal score lines in the one pair of flaps extend completely to the respective corner fold lines of the other pair of flaps where they are hinged to the respective side walls by the horizontal scored hinge lines.

3,523,636
RECLOSABLE CARTON HAVING A HINGED END CLOSURE

Floyd L. Phillips, Jr., Winston-Salem, N.C., assignor to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey

Filed July 1, 1968, Ser. No. 741,406
Int. Cl. B65d, *5/54, 5/70*
U.S. Cl. 229—51 **31 Claims**

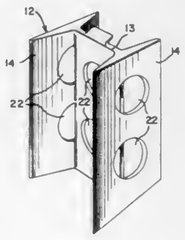


A carton and a blank for a carton. The carton involves a receptacle portion and a cover portion that telescopes over the receptacle portion. A cover panel in the cover portion and a receptacle panel in the receptacle portion are joined together along a first score line. The receptacle panel is cut and scored to provide a first panel part which is folded along a second score line to leave a cutout in the receptacle panel when the carton is formed. When the cover portion is first opened, the first panel part is torn. The tearing may be along the first or second score line or it may be along a third score line, intermediate the first and second score lines. The carton and the blank may be formed with a plurality of receptacle and cover panels so constructed.

3,523,637
CONTAINER

Frederick J. Stec, Oak Lawn, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

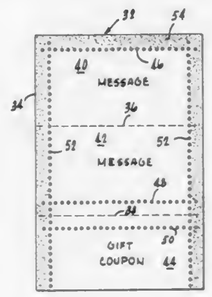
Filed Nov. 14, 1968, Ser. No. 775,747
Int. Cl. B65d *33/02*
U.S. Cl. 229—55 **4 Claims**



The disclosure relates to a container having a flexible outer casing and a removable one-piece internal supporting structure for imparting longitudinal and lateral

stability to the container. The internal supporting structure is formed with openings through which a fluid product flows so that upon subsequent freezing, the frozen product and support become integral so as to facilitate the removal of the frozen product with the removable internal support.

3,523,638
MAILER
Robert J. Moonan, 4 E. School Lane, Yardley, Pa. 19067
Filed July 9, 1968, Ser. No. 743,546
Int. Cl. B65d *27/00*
U.S. Cl. 229—92.1 **2 Claims**

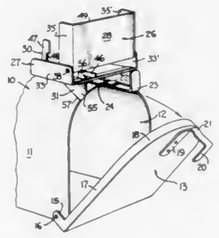


A single sheet of cardboard or heavy paper has a marginal strip defined by weakened lines and coated with adhesive. On folding of the sheet, confronting, coated areas of the strips adhere and effect a marginal seal. By tearing off the marginal strips along the weakened lines, the mailer is opened.

In one modification, an added panel, integral with the sheet, is freed when the marginal strips are removed.

In another modification, the sheet has an adhesively coated divider strip. This provides connected mailers separated and opened by removing the marginal and divider strips.

3,523,639
DOOR TRIGGERED SERVICE INDICATOR FOR RURAL TYPE MAILBOX
Walter Wiebe, 1231 San Felipe Road, Hollister, Calif. 95023
Filed Aug. 2, 1968, Ser. No. 749,856
Int. Cl. A47g *29/12*
U.S. Cl. 232—35 **2 Claims**



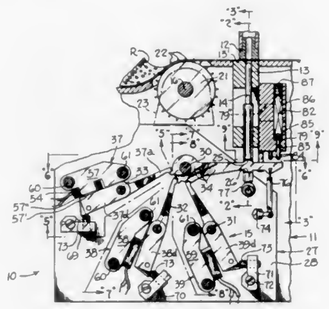
A service indicator including a channel-like housing mountable on the steel strap door latch of a rural type mailbox into which a spring loaded pivoted flag is nestingly housed in non-indicating condition by engagement with one notched leg of a dog-leg lever pivotally mounted within and on the housing and having a cam detent normally disposed in the path of swing of the door of such box toward opened position for automatically releasing the spring loaded flag for movement into raised-indicating condition.

3,523,640
CIGARETTE AND THE LIKE ASH RECEIVER
Hilde Roth, Ligustergang 9, Ludwigshafen (Rhine), Germany
Filed Apr. 10, 1968, Ser. No. 720,087
Claims priority, application Germany, Apr. 12, 1967, R 34,935
Int. Cl. B65d *91/00*
U.S. Cl. 232—43.2 **1 Claim**



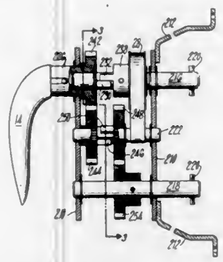
An elongated hollow body forms a pedestal. A bottom wall closes the bottom end of the pedestal and its top end defines an opening adapted removably to receive a funnel having a rim at the converging end to receive a bag slipped over the rim and hold the bag, to receive the ashes.

3,523,641
PERFORATOR
Paul O. Gotschewski, Glenview, and Joseph F. Chinlund, Northbrook, Ill., assignors to SCM Corporation, New York, N.Y., a corporation of New York
Filed Feb. 14, 1969, Ser. No. 799,237
Int. Cl. G06k *1/05, 1/10*
U.S. Cl. 234—108 **9 Claims**



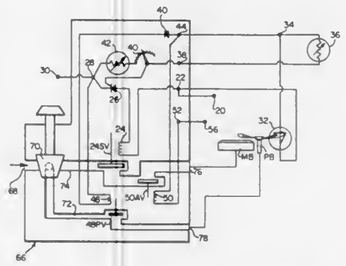
There is disclosed a perforator for selectively punching perforations in a record medium. The record medium is fed through a perforating or punching zone at which code and feed perforations are punched in the record medium in accordance with received code signals. In making the perforations, punch members cooperate with die openings in a die block. Each punch member is driven by a lever pivotally mounted on a fixed pivot which in turn is driven by an armature operator lever pivotally mounted on a fixed pivot. Each armature operator lever has an integral armature cooperable with an electromagnet and is directly paired with its respective driven lever by a rolling contact kinematic connection.

3,523,642
OPERATING CONTROL MECHANISM FOR RESETTABLE REGISTERS
Gustave L. Manke, Bloomfield, Conn., assignor to Veeder Industries Inc., Hartford, Conn., a corporation of Connecticut
Filed Feb. 15, 1968, Ser. No. 705,773
Int. Cl. B67d *5/26;* **G06c** *15/42*
U.S. Cl. 235—144 **16 Claims**



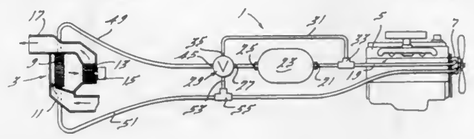
A resettable register mechanism for a fuel dispensing apparatus utilizes an operating control module suited for mounting on existing registers and adapted for single handle manual operation. The handle is suitably connected to the register through a first one-way drive to deactivate the fuel dispensing operation and preferably load both a reset spring and a control plate drive spring during one angular movement of the handle and is operatively connected through a second one-way drive to preferably condition the register for being reset, release the loaded reset spring to reset the register and release the drive spring to condition the register for registering during the opposite angular movement of the handle.

3,523,643
TEMPERATURE CONTROL SYSTEM WITH RECYCLING HIGH LIMIT
Michael J. Caparone, Arcadia, and William W. Chambers, Anaheim, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Jan. 12, 1968, Ser. No. 697,431
Int. Cl. F23n *3/06*
U.S. Cl. 236—9 **17 Claims**



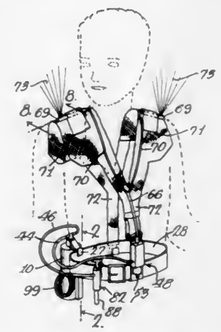
A temperature control system for burner apparatus having main and pilot burners with a control for the pilot burner, an automatic control responsive to thermostatic means for the main burner and a safety control for the main burner operating independently of the automatic control, wherein a high limit temperature responsive means is included in an electric circuit having a silicon controlled rectifier electrically connected to the safety control with its gate electrode controlled by the high limit temperature responsive means whereby the safety control is actuated in accordance with voltage at the gate electrode.

3,523,644
RAPID HEAT APPARATUS
Richard C. Kozinski, Warren, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed July 9, 1968, Ser. No. 743,381
Int. Cl. B60h *1/02;* **F01p** *11/02*
U.S. Cl. 237—12.3 **4 Claims**



Rapid heating apparatus for an automotive vehicle including an insulated container in the line through which engine coolant flows to the heater core. The container is adapted to hold and maintain hot a supply of coolant after the engine is stopped. Control means are provided to control the discharge of coolant from the container when the engine is restarted.

3,523,645
INSECT REPELLANT DEVICE
Earl N. Beauchamp, 7213 S. Sawyer Ave., Chicago, Ill. 60629
Filed Sept. 23, 1968, Ser. No. 761,571
Int. Cl. B05b *9/08*
U.S. Cl. 239—154 **10 Claims**

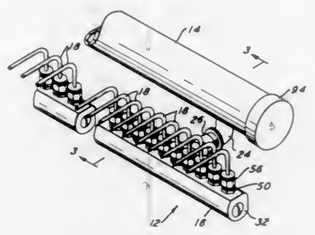


Means for dispensing an aerosol, such as an insect repellant, from an aerosol bomb at a point remote therefrom comprising a body harness including a belt adapted to be engaged about the body of a wearer, and a spring-loaded size-adjustable bomb holder clamp means anchored to said belt and to dispense therefrom said insect repellant through manually operable pump means anchored to said belt and leading to either a hand-held jet on an elongated conduit, or to jets mounted on shoulder pieces of said body harness, or both.

3,523,646
LIQUID SPRAYER AND METHOD OF SPRAYING
John E. Waldrum, Ambler, Pa., assignor to Amchem Products, Inc., Ambler, Pa., a corporation of Delaware
Continuation-in-part of application Ser. No. 558,539, May 31, 1968. This application Aug. 28, 1968, Ser. No. 756,040
Int. Cl. B05b *17/02*
U.S. Cl. 239—171 **15 Claims**

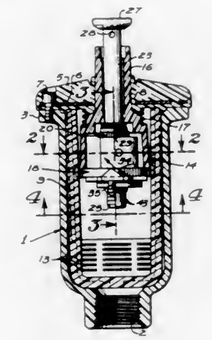
A uniform sprayer involving a movable nozzle to which a liquid supply is led and discharged therefrom in laminar flow, with the direction of discharge being substantially opposite to the direction of nozzle movement, such that the discharge stream breaks up into relatively large droplets of substantially uniform size. It is to be noted that

the discharge stream will be initiated at a point sufficiently away from any portion of the apparatus with which it is associated so that the discharge stream is



not impeded by air turbulence or low pressure air pockets. A similar consideration applies to the method of the present invention.

3,523,647
PART CIRCLE WATER MOTOR DRIVEN SPRINKLER
Tony Radecki, West Covina, Calif., assignor to Rain Bird Sprinkler Mfg. Corporation, Glendora, Calif., a corporation of California
Filed Sept. 11, 1968, Ser. No. 759,038
Int. Cl. B05b *3/02*
U.S. Cl. 239—206 **12 Claims**



A part circle sprinkler of the type utilizing a water motor drive such as shown in Patent No. 3,315,898, in which the motivating jet is alternately directed in opposite directions by a reversing mechanism on engagement with circumferentially adjustable stops.

3,523,648
BROADCAST SPREADER ATTACHMENT FOR GARDEN TRACTORS
Charles E. Garber, 127 Cope St., Woodbridge, Va. 22191
Filed Feb. 19, 1968, Ser. No. 706,419
Int. Cl. A01c *17/00*
U.S. Cl. 239—668 **7 Claims**

A broadcast spreader for attachment to a garden tractor of the type having a pair of driven wheels and rearwardly and upwardly extending handle bars for control thereof and a forwardly extending housing adapted to receive various implements. The attachment is attached to the housing and driven from a power shaft therein and includes forwardly disposed supporting wheels, a vertically oriented supply hopper for receiving material to be spread and a rotatable spreader plate underlying the hopper and receiving material therefrom. A control apparatus is provided for controlling the discharge of material from the hopper onto the spreader

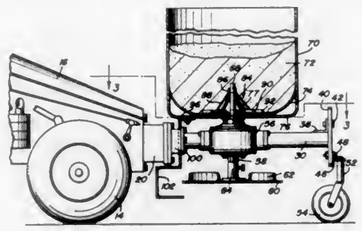
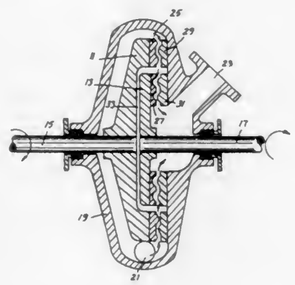


plate and a shield is provided for preventing the material being spread from traveling rearwardly toward the tractor and operator.

3,523,649
DISC GRINDING APPARATUS
Oliver A. Laakso, Glens Falls, N.Y., assignor to Aktiebolaget Kamyr, Karlstad, Sweden
Filed Oct. 25, 1967, Ser. No. 678,000
Claims priority, application Sweden, Oct. 27, 1966, 14,747/66
Int. Cl. B02c *7/12*
U.S. Cl. 241—85 **5 Claims**

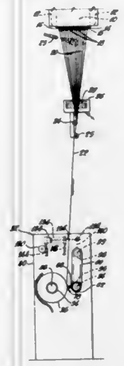


A grinding apparatus or refiner for cellulosic material is disclosed, which comprises two rotary discs having their working faces located concentrically and approximately in one and the same plane. One disc works at greater radii and the other at smaller radii. Said discs may cooperate with each other or with one or more stationary grinding discs. At the central grinding zone the decrease in radial distance is compensated by a higher relative speed of rotation of the grinding discs forming said zone.

3,523,650
ROVING AND METHOD AND APPARATUS FOR FORMING AND PACKAGING SAME
Jerome P. Klink, Newark, and James C. Belue, Sylvania, Ohio, and James H. Sears, Anderson, S.C., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Original application May 14, 1965, Ser. No. 455,753, now Patent No. 3,367,587, dated Feb. 6, 1968. Divided and this application Jan. 8, 1968, Ser. No. 696,167
Int. Cl. B65h *54/08*
U.S. Cl. 242—18 **13 Claims**

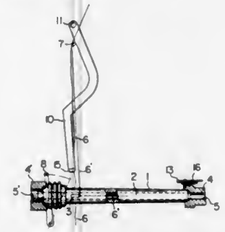
The invention relates to a roving and to a method of and apparatus for forming fibers or filaments of the roving by attenuating streams of mineral material into fibers or filaments and winding the roving in a package having ends in parallel planes, the method including the steps of

sensing enlargement of the package and positioning a thread guide under the influence of the sensor to maintain



the guide close to the package and compacting the roving at the ends of the package.

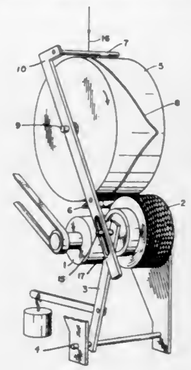
3,523,651
APPARATUS FOR CATCHING AN END OF A FEED YARN IN A PIRN WINDER AND THE LIKE
Eizaburo Negishi, 9–3 Oaza-Nakazato, Yono-shi, Saitama-ken, Japan
Continuation-in-part of application Ser. No. 431,250, Feb. 9, 1965. This application Oct. 16, 1967, Ser. No. 675,686
Claims priority, application Japan, Feb. 28, 1964, 39/11,052; Apr. 19, 1964, 39/21,908
Int. Cl. B65h *54/14, 75/28*
U.S. Cl. 242—27 **1 Claim**



An apparatus for catching an end of a feed yarn in a pirn winder and the like, which comprises a bobbin having a center hole and a yarn suction opening provided on the periphery of the bobbin at its end portion and communicating with said center hole, a bobbin supporting member provided with an air suction inlet which communicates with said center hole to form an air flowing duct therewith, and a yarn guide means for guiding an end of a feed yarn to a position near the said yarn suction opening at each starting of said bobbin to be wound with the feed yarn, whereby upon starting of the bobbin, the said end of the feed yarn is sucked into the said center hole of the bobbin through said yarn suction opening by the air flow toward the said air suction inlet.

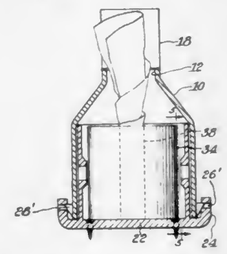
3,523,652
DRUM TRAVERSE WINDING MACHINE
Frits Slijkoord, Dieren, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Mar. 18, 1968, Ser. No. 713,684
Claims priority, application Netherlands, Mar. 21, 1967, 6704143
Int. Cl. B65h *54/50*
U.S. Cl. 242—43.2 **3 Claims**

Traverse apparatus provided with a system of yarn guides for yarn passing to and through a rotatable, slotted traverse drum, barrel, cylinder and the like; the guides are in the form of parallel rods or bars and spaced on opposite sides of the traverse drum and the like; the guides



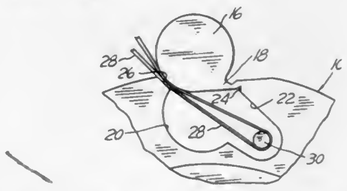
are attached to and turn about the drum's supporting shaft and means are also provided for causing displacement thereof about the drum's outer periphery as yarn take-up package increases in size during winding.

3,523,653
PAPER HOLDER
Harold Hansen, Madelia, Minn., assignor to The Raymond Lee Organization, Inc., New York, N.Y., a corporation of New York
Filed Nov. 29, 1967, Ser. No. 686,652
Int. Cl. B65h *19/02*
U.S. Cl. 242—55.53 **3 Claims**



A holder for paper rolls for example as used in bathrooms and the like which is adapted to be mounted vertically with paper from the roll being removed by upwardly unrolling same from the roll.

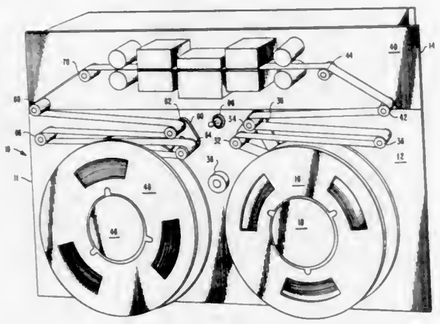
3,523,654
TAPE LOCKING DEVICE
Darrell W. Zielke, Madison Heights, Mich., assignor to Stereodyne, Inc., Troy, Mich., a corporation of Michigan
Filed Oct. 31, 1968, Ser. No. 772,314
Int. Cl. B65h *75/28*
U.S. Cl. 242—74.1 **1 Claim**



A tape anchoring plug is molded integrally with the body of the hub, and connected thereto by a narrow neck

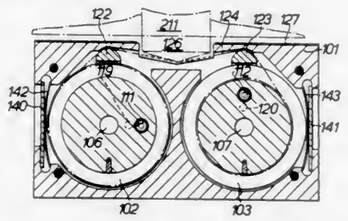
having a controlled line of fracture. Pressure on the plug at assembly first anchors the tape, then severs the plug and guides it into an indentation in the hub where it permanently clamps the tape to the hub.

3,523,655
TAPE TRANSPORT APPARATUS
Jeffrey M. Bevis, Long Beach, Calif., assignor to Chalco Engineering Corporation, Gardena, Calif.
Filed Sept. 15, 1967, Ser. No. 668,234
Int. Cl. B65h *59/38;* **G03b** *1/04;* **G11b** *15/32*
U.S. Cl. 242—190 **6 Claims**



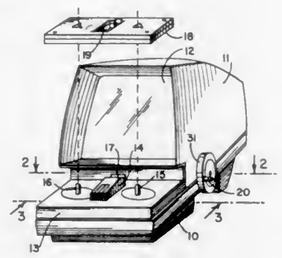
The tape handler constructed according to the principles of this invention comprise two large motor driven tape reels mounted on a support. A low inertia pivotally mounted take-up arm is associated with each reel and is also mounted on the support. The pivot shaft of each take-up arm drives a potentiometer which is a part of a circuit which controls the electric motor which drives each tape reel. Each take-up arm is provided with a plurality of tape idler spools both to provide a long tape path between the tape reader and the tape reels and to provide a mechanical connection between the take-up arms and the tape reels when the perforated tape extends between the tape reels and the take-up arms. The electric circuit associated with each potentiometer and motor provides a feedback which causes the tape reel to rotate in a direction which maintains a constant tension in the tape by restoring each take-up arm to a fixed angular or first neutral position whenever the take-up arm pivots in response to high speed tape accelerations and deceleration.

3,523,656
TAPE CASSETTES
Laurance Peter Kamm, London, England, assignor to English Numbering Machines Limited, Enfield, Middlesex, England, a British company
Filed May 6, 1968, Ser. No. 726,735
Claims priority, application Great Britain, May 9, 1967, 21,396/67
Int. Cl. G03b *1/04;* **G11b** *15/32, 23/04*
U.S. Cl. 242—198 **7 Claims**



The invention relates to cassettes for housing paper tape, magnetic tape, or film tape for use with recording and reading machines in which the cassette is provided with a locking device whereby spools of the cassette are retained in position when the cassette is not in use. The invention also relates to a mechanism for driving such cassettes and to the combination of such a cassette and the driving mechanism.

3,523,657
MICROFILM VIEWING APPARATUS
Guy H. Hearon, Jr., Malibu, and Hans K. Tannert, and Ronald W. Randle, Santa Monica, Calif., assignors, by mesne assignments, to Indian Head Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 15, 1967, Ser. No. 668,122
Int. Cl. B65h *17/02;* **G11b** *15/30, 23/10*
U.S. Cl. 242—200 **2 Claims**

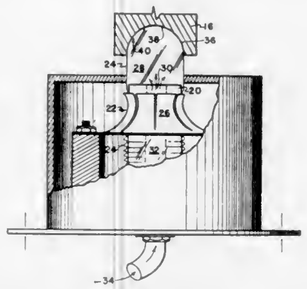


This disclosure relates to a table top microfilm viewer for viewing film incorporated in a cartridge by manually turning a handle which will position any selected film frame in the viewing apparatus. The manual drive incorporates a clutch which will cause one or the other of the spindles supporting the film reels in the cartridge to turn depending upon the direction of rotation of the manual drive, there being provided a suitable restraining force on the spindle not rotated so that the film in the magazine is maintained under tension. Each of the spindles is so designed as to receive the central opening in the film reel core regardless of the rotative position of the reel so that positioning of the cartridge on the spindles is facilitated. The cartridge itself is symmetrical about a mid-plane and incorporates film twice as wide as the aperture in the viewing apparatus such that only one-half of the film is viewed at a time. The cartridge is then turned over and the other half of the film may be viewed.

3,523,658
EXTENSIBLE, OBJECT-SUPPORTING MEMBRANE AND MEANS FOR CONTROLLING DEPLOYMENT THEREOF
John E. Marshall, Fort Worth, Tex., assignor to General Dynamics Corporation, Fort Worth, Tex., a corporation of Delaware
Filed Apr. 3, 1968, Ser. No. 718,616
Int. Cl. B64g *1/00;* **H01q** *1/28*
U.S. Cl. 244—1 **4 Claims**

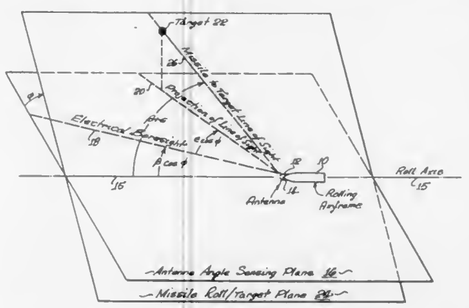
A device, the function of which is to project objects such as antennas, probes, meters, transducers and like instruments into a desired spatial relationship with a base vehicle or other basal body along a prescribed axis to thereby extend or enhance the instrument's plenary function, unimpeded by ambient substance or conditions. A collapsed and stowed inflatable membrane carrying the object is progressively inflated and controllably deployed from about a stowage mandrel having a fluid orifice conduit therethrough for passage of an inflating medium such as air or gas and a thin, circumjacent, slotted disc having a radially inwardly and axially directed portion which functions to bear upon the inflatable membrane; the slots

in the disc acting to form resilient fingers which bear upon the membrane as it moves from the mandrel's end to thereby control the deployment or extension thereof



along a predetermined axis and thus prevent uncontrolled gyrations, writhing and other random motions of the partially inflated membrane.

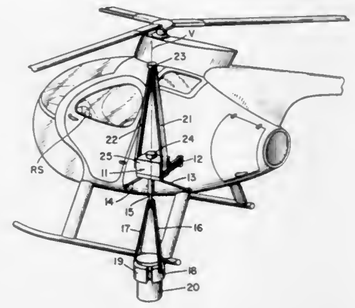
3,523,659
ROLLING MISSILE GUIDANCE SYSTEM HAVING BODY FIXED ANTENNAS
Edwin H. Epperson, Jr., Upland, Calif., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Mar. 4, 1968, Ser. No. 710,078
Int. Cl. F41g *9/00;* **F24b** *15/02;* **H01q** *1/28*
U.S. Cl. 244—3.17 **2 Claims**



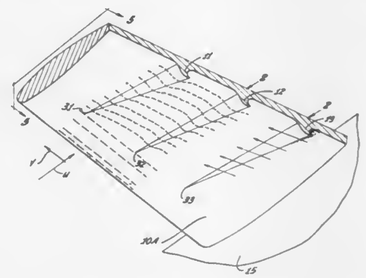
In a rolling missile, a guidance system which utilizes a pair of antennas in a single plane plus associated circuitry to direct the rolling missile towards a pre-selected target.

3,523,660
TELEVISION CAMERA MOUNTING STRUCTURE FOR HELICOPTERS USED IN AERIAL SURVEY WORK
Walter Noland Attebery, Ventura, and Thomas Andrew Patterson, Van Nuys, Calif., assignors to Condor Helicopters and Aviation, Inc., Oxnard, Calif., a corporation of California
Filed Feb. 5, 1968, Ser. No. 703,141
Int. Cl. B64c *27/00*
U.S. Cl. 244—17.11 **3 Claims**

A mounting means for a television camera and a signal light is provided for securement to the side of a helicopter. The mounting structure is such as to suspend the television camera in a pendulum-like manner so that the optical axis of the camera will always assume a vertical position. A monitoring television receiver in the helicopter thus enables a pilot to cause the helicopter to hover in a position directly vertically above a given point on the ground. The mounting structure itself includes a universal joint together with first and second damping devices cooperating together such that the suspended television camera will remain vertically aligned regardless of changes in the attitude of the helicopter.



3,523,661
VERTICALLY ASYMMETRIC DIFFUSER SYSTEM FOR REDUCING AIRCRAFT INDUCED DRAG
Scott C. Rethorst, 1661 Lombardy Road, Pasadena, Calif. 91106
Filed Feb. 19, 1968, Ser. No. 706,480
Int. Cl. B64c *23/06*
U.S. Cl. 244—41 **10 Claims**

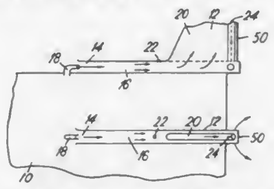


Structure for reducing aircraft induced drag and increasing lift is disclosed wherein ribs are provided on one or both surfaces of a wing, each rib being formed with a concave cavity on one side to face the spanwise flow over the respective wing surface. The cavity increases in cross section towards the aft end of the wing to form diffusers. Preferably the vertical cross section of the cavity is asymmetrical. The diffusers are aligned with respect to the flow so as to generate a vortex flow on the underside of the wing providing positive pressure or lift as well as thrust, and a turned flow on the upper side of the wing providing, in one region, reduced pressure or suction lift, and in another region, positive pressure or thrust.

3,523,662
FLUID CONTROL MEANS FOR AN AIRCRAFT
Antony G. Rawcliffe, Stevenage, England, assignor to British Aircraft Corporation Limited, London, England, a British company
Filed June 11, 1968, Ser. No. 736,135
Claims priority, application Great Britain, June 26, 1967 29,452/67
Int. Cl. B64c *15/14*
U.S. Cl. 244—52 **4 Claims**

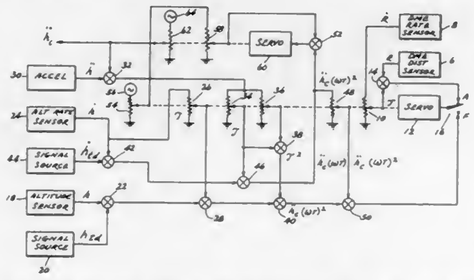
A fluid control system for a missile where ram air is mixed with the gaseous combination product in a jet

pump. The resultant flow is remotely controlled by a fluidic switch which is capable of directing the flow at an



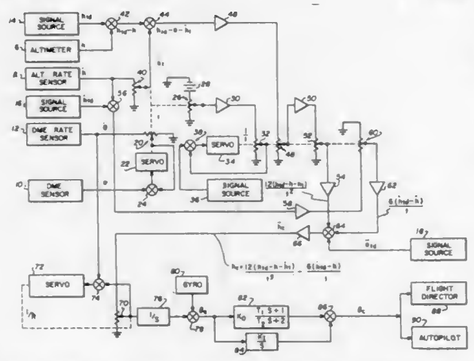
inclination to the fin from which it exits. This flow can produce a jet flap that can exert an aerodynamic lift on the fin.

3,523,663
TERMINAL FLARE CONTROLLER
Jerry Doniger, Montvale, N.J., and Fred J. Belsky, Beverly Hills, Calif., assignors to The Bendix Corporation, a corporation of Delaware
Filed Mar. 28, 1968, Ser. No. 716,904
Int. Cl. B64c *13/50*
U.S. Cl. 244—77 **8 Claims**



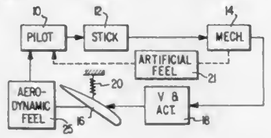
Apparatus for controlling an aircraft during landing. Signals corresponding to aircraft altitude, altitude rate, altitude acceleration, slant range, slant range rate and pitch attitude, and signals corresponding to desired terminal altitude and altitude rate are provided. The craft is controlled in response to all of said signals for following a flare path to touchdown.

3,523,664
TERMINAL FLARE CONTROLLER
Jerry Doniger, Montvale, and Walter A. Platt, Fairlawn, N.J., and Fred J. Belsky, Beverly Hills, Calif., assignors to The Bendix Corporation, a corporation of Delaware
Filed Mar. 28, 1968, Ser. No. 716,903
Int. Cl. B64c *13/50*
U.S. Cl. 244—77 **8 Claims**



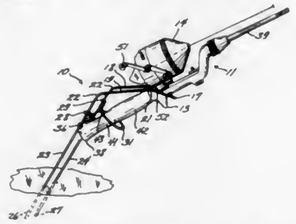
Apparatus for controlling an aircraft during landing. Signals corresponding to aircraft altitude, altitude rate, slant range, slant range rate and pitch attitude, and signals corresponding to desired terminal altitude, altitude rate and altitude acceleration are provided. The craft is controlled in response to all of said signals for following a flare path to touchdown.

3,523,665
SIDE STICK
William G. Laynor, Jr., Baltimore, and Dean S. Monitor, Cockeysville, Md., assignors to Martin Marietta Corporation, New York, N.Y., a corporation of Maryland
Filed Feb. 19, 1968, Ser. No. 706,275
Int. Cl. B64c *13/46*
U.S. Cl. 244—83 **10 Claims**



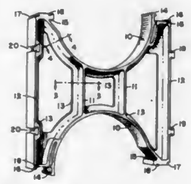
Three axis controller which provides electrical outputs proportional to controller displacement for an aircraft having a fly-by-wire control system. The unit further provides for simple, in-flight pilot adjustment of artificial feel, breakout force and controller damping.

3,523,666
FISHING ROD HOLDER
Thomas J. Bloodsworth, 512 Boyd, Des Moines, Iowa 50313
Filed Sept. 11, 1967, Ser. No. 666,715
Int. Cl. A01k *97/10*
U.S. Cl. 248—44 **2 Claims**



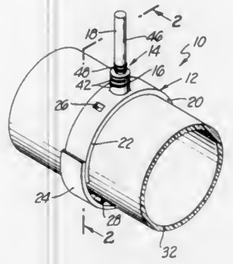
This invention relates generally to a device for holding a fishing rod, which device is portable and of metal rod or like material, with a yoke and sliding loop projection to support the fishing rod and vary the angle at which it extends over the water, and with a sliding cross member to secure the fishing rod to the holder, both the loop and cross member attached to parallel legs inserted in the ground to support the device and rod.

3,523,667
CONDUIT SPACER
Fernando V. Guerrero, Chagrin Falls, Ohio, assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Feb. 7, 1968, Ser. No. 703,636
Int. Cl. F16l *3/10*
U.S. Cl. 248—49 **6 Claims**



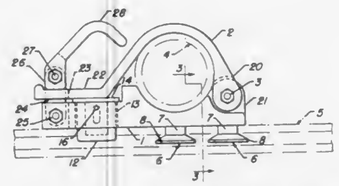
Spacer module for holding pipes or conduits in parallel spaced relationship wherein the sides and the pipe-receiving end surface are provided with interlocking means to join adjacent modules.

3,523,668
PIPE HANGER
Duane D. Logsdon, 31416 High View Drive, Redlands, Calif. 92372
Filed May 27, 1969, Ser. No. 828,231
Int. Cl. F16l *3/12, 3/14*
U.S. Cl. 248—59 **8 Claims**



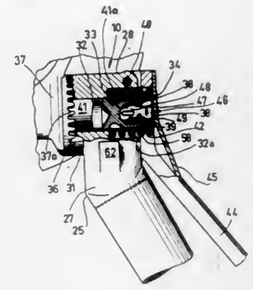
A pipe hanger structure is disclosed which is capable of being used with pipe of several different diameters. This structure includes a means for holding a pipe and an attached means for supporting the holding means. The supporting means comprises an elongated member and a socket. These latter parts are formed so as to include coactive ratchet means. They are manufactured so that the member may be inserted into the socket to a desired length so as to be held in position against movement in the opposite direction by the ratchet means. These ratchet means permit rotation of the member with respect to the socket. The holding means comprises an elongated, resilient strap extending in a generally circular configuration. The ends of this structure carry sets of attaching means capable of being used so as to secure the strap ends together when the strap is secured in place around pipes of different diameter.

3,523,669
HOLDING DEVICE FOR ATTACHMENT TO SLOTTED TRACK MEANS
Carl A. Avallone, Litchfield, Conn., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Nov. 8, 1968, Ser. No. 774,345
Int. Cl. F16l *3/10*
U.S. Cl. 248—73 **7 Claims**



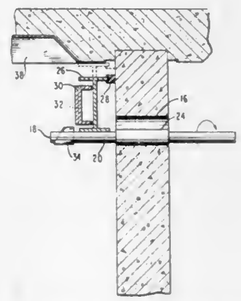
A device for holding a seat member, or the like, to a slotted track means. The device utilizes separable upper and lower body sections adapted to be clamped over a bar or other member to be held to the track and at least one holding stud means extends from the lower body section in a manner to engage with and hold to the track means. A movable locking pin means also extendable from the device is provided to work in combination with the holding stud means to preclude detachment of the lower body section from the track.

3,523,670
COUPLING DEVICE FOR A TRIPOD
Franz Pfister, Hochstadt, Elcke Maus, Ottobrunn, and Günther Karpa, Riemerling, Germany, assignors to Bolkow Gesellschaft mit beschrankter Haftung, Munich, Germany
Filed Apr. 17, 1968, Ser. No. 722,012
Claims priority, application Germany, Apr. 25, 1967, B 92,217
Int. Cl. F16m *11/38*
U.S. Cl. 248—168 **9 Claims**



A coupling device for pivotally attaching legs to a stand, such as a tripod for a guided missile launcher, is comprised of a number of first coupling sections attached to a support member and a similar number of legs each having a second coupling section at one end for interlocking engagement with the first coupling sections. Each of the first coupling sections has an outwardly extending pivot member onto which is fitted a bore in a second coupling section. Means for interlocking the coupling sections together are biased into position by a spring contained within the bore. A lever is attached to each second coupling section for compressing the spring within the coupling device whereby the second coupling section may be pivoted relative to the support member or the leg may be removed from the support member. The opposite ends of the legs from the coupling sections each has a pair of oppositely facing half-shell base supports. Each base support has a threaded opening for selectively receiving a removable spike member.

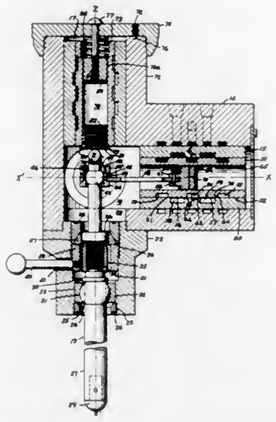
3,523,671
ECCENTRICALLY LOADED WALER ROD AND LOCKING DEVICE
Rafael E. Torrellas, San Juan, Puerto Rico (1002 Duke St., Rio Piedras, Puerto Rico 00927)
Filed Sept. 13, 1967, Ser. No. 667,559
Int. Cl. E04g *11/48*
U.S. Cl. 249—210 **8 Claims**



This disclosure involves building structures including vertical wall panels each having an aperture near the top edge. Eccentric waler rods are inserted loosely in each

of the openings to support forms used in the pouring of concrete roof or floor structures. These waler rods and the form supporting members are locked in place during the pouring and curing of the concrete walls or floor structure and when the locking means is released the eccentric shape of the waler rods permits the forms and supporting members to drop away from the cured concrete floor or roof structure for ready removal and reuse.

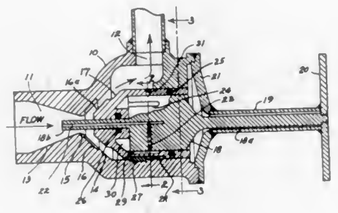
3,523,672
TRACING VALVE
James B. Barsby, Los Angeles, Calif. (6477 Atlantic Ave., Long Beach, Calif. 90805), and Charles E. Whittington, La Puente, Calif. (17321 Mapes Ave., Cerritos, Calif. 90701)
Filed Aug. 30, 1965, Ser. No. 483,501
Int. Cl. B23q *35/16*
U.S. Cl. 251—3 **5 Claims**



This invention relates to tracer valve mechanisms which are used to control and actuate hydraulically operated devices which, in turn, are used to control and actuate the movement of a table of a machine bearing a workpiece or the movement of a tool such as a milling cutter or other cutting tool, for reproducing the shape of a template or model onto a workpiece. This invention specifically concerns itself with the transmittal of motion from a tracing stylus to valve spools, and the construction of the valves and valve spools to ensure a controlled flow of hydraulic fluid as the valve spool is shifted by the tracing linkage. The tracing stylus utilizes spherical surfaces and ball-like members to transmit motion to links which move the spools of the control valves to control flow of hydraulic fluid to the machine actuating devices. This construction permits control of motion in three dimensions with no critical points or angles of operation to cause pauses or irregularity in spool motion, but still permits independent motion on any spool axis since motion of the stylus can be in any direction or combination of directional movement.

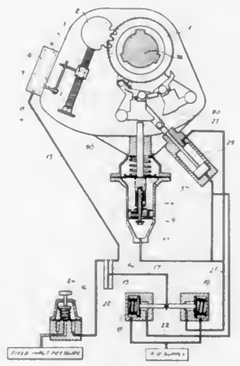
3,523,673
HERMETICALLY SEALED VALVE
William H. Mitchell, Randolph Township, Dover County, N.J., and William J. Regan, Los Angeles, Calif., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Feb. 24, 1969, Ser. No. 801,630
Int. Cl. F16k 31/12
U.S. Cl. 251—24 **4 Claims**

An on-off reusable flow control valve is provided in which the entire housing of the valve including the selective operating means is completely hermetically sealed so that fluids contained within or passing through the valve cannot leak out nor can outside fluids enter. The valve is particularly useful where the fluid in the valve



is of an explosive, corrosive or highly flammable nature such as gaseous or liquid hydrogen, rocket propellants and some acids.

3,523,674
DEVICE FOR UTILIZING FOR CONTROL PURPOSES THE MOVEMENT OF A VALVE STEM
Bror Sigurd Olsson, Johanneshov, Sweden
Continuation-in-part of application Ser. No. 410,969, Nov. 13, 1964. This application Aug. 23, 1967, Ser. No. 662,605
Int. Cl. F15b *13/16;* **F16h** *27/02*
U.S. Cl. 251—58 **3 Claims**

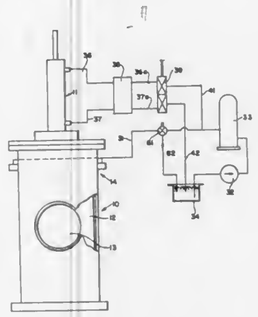


This invention refers to a method of sensing the movement of a valve stem in remote controlled valves provided with valve cones on valve stems and of utilizing said movement for control purposes. This is carried out by means of a so-called balance relay, which is connected in the remote control system and which consists of a pressure device that provides an outgoing pressure bearing a predetermined relationship to the difference between two pressures supplied thereto, wherein one of these two pressures is a signal pressure from a pneumatic position indicator that is actuated by the valve stem and that serves bearing a predetermined relationship to a mechanical movement that actuates said signal device, whereby the position indicator is adjusted in response to the movement of the valve stem.

In valves with screwing motions of the valve stem, the method of the invention may be carried out by means of a device in which a gear included in a feed mechanism for turning the valve stem and being fixed to the valve stem engages a gear that is adapted to convey to a screw provided with a displaceable element a rotational move-

ment, said displaceable element being linearly displaced at the rotation of said screw and being provided with a pin that slidably engages governing means that are fastened to the shaft of the above-mentioned position indicator. Thereby, said shaft will rotate around its center axis when said displaceable element is displaced on the dicator will correspond to predetermined lifting levels of means for actuating the valve. The position indicator itself is a signal device having an outgoing signal pressure the other pressure is a signal pressure from command movement of said valve stem. The pin that slidably engages the governing means may have such shape that predetermined rotational positions of said position indicator around its center axis will correspond to predetermined points on the valve characteristic of said valve or that predetermined rotational positions of the position inscrew and will supply said one signal pressure to said balance relay, with the magnitude of said pressure being dependent of the degree of said rotation and thus of the as a pressure regulator in the remote control system and the valve stem, respectively.

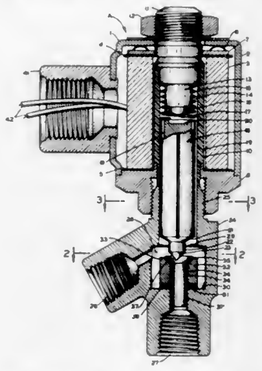
3,523,675
VALVE OPERATING APPARATUS WITH LOCKING MEANS
Marvin H. Groove and Lyle R. Van Arsdale, Houston, Tex., assignors to M & J Valve Company, Houston, Tex., a corporation of Delaware
Filed Dec. 18, 1967, Ser. No. 691,381
Int. Cl. F16k *31/143, 35/00*
U.S. Cl. 251—94 **7 Claims**



Valve apparatus including power means for moving the valve member of a valve between open and closed operating positions. Locking means is provided for locking the valve member to the body in an operating position. The power operator and locking means are coordinated (e.g. by a common hydraulic system) whereby the locking means is caused to release the valve member immediately before the valve member is moved by the power operator to another operating position.

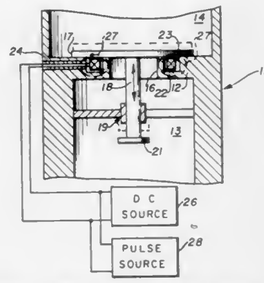
3,523,676
PULSED SOLENOID CONTROL VALVE
George E. Barker, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Continuation-in-part of application Ser. No. 457,969, May 24, 1965, which is a continuation-in-part of application Ser. No. 412,921, Nov. 23, 1964. This application Feb. 26, 1969, Ser. No. 802,623
Int. Cl. F16k *31/06*
U.S. Cl. 251—141 **31 Claims**

A unique seating and vibration control arrangement in a dithering valve designed to reduce axial rebound vibration of a valve plunger through side-to-side radial displacement of the plunger. In one embodiment, the valve plunger is tapered with a conically shaped end and engages a conically shaped seating face. In a second embodiment, the plunger has a flat lower end and engages



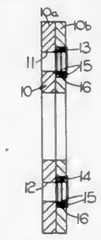
a seating ball which is disposed in the conically shaped seating surface of the seat.

3,523,677
FAST ACTING ELECTROMAGNETIC GAS VALVE
George G. North, Santa Ana, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 24, 1968, Ser. No. 786,558
Int. Cl. F16k *31/06*
U.S. Cl. 251—141 **3 Claims**



Eddy current repulsion in conjunction with gas pressure in a high pressure chamber are employed to rapidly open an electromagnetically latched valve and thereby deliver gas to a low pressure chamber in an extremely short response time.

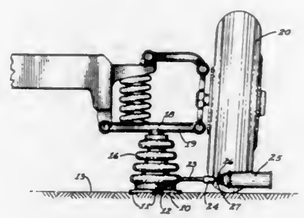
3,523,678
VALVE PLATE FOR A HYDRAULIC PUMP OR MOTOR
John Thomas Matthew Wright, Southport, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Mar. 13, 1968, Ser. No. 712,760
Int. Cl. F16k *1/34;* **F04b** *21/00*
U.S. Cl. 251—316 **3 Claims**



A valve plate for a hydraulic swash plate-type pump or motor is formed in two pieces having aligned aper-

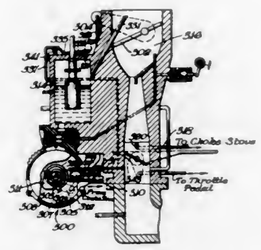
tures therein of differing sizes, to define recesses in the face of the valve plate which is disposed adjacent to the body to accommodate seals.

3,523,679
AEROSOL ACTUATED JACK
Robert A. Clay, 3616 E. Denton Lane, Scottsdale, Ariz. 85251
Filed Oct. 18, 1967, Ser. No. 676,254
Int. Cl. B66f *3/34*
U.S. Cl. 254—93 **5 Claims**



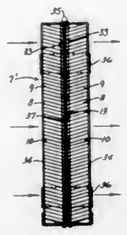
A pneumatically actuable plastic boot jack energized from an aerosol can for rapidly and easily lifting a motor vehicle for tire changing and the like. The boot is peripherally pleated and upwardly tapered so that successive pleated sections fold down into the next pleated section.

3,523,680
CARBURETOR
Earl Bartholomew, Birmingham, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
Original application July 21, 1966, Ser. No. 572,635, now Patent No. 3,447,516, dated June 3, 1969. Divided and this application Jan. 29, 1968, Ser. No. 725,243.
Int. Cl. F02m *1/08, 11/06*
U.S. Cl. 261—23 **3 Claims**



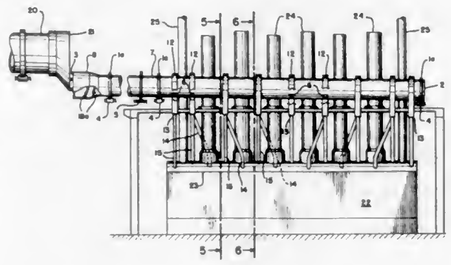
Gasoline engine induction system for automobile and the like provides less emission of undesirable exhaust products by having (1) fuel cut-off valve connected to cut off fuel flow from carburetor when vehicle is decelerating from speeds of at least about 30 mp.h. and to restore fuel flow when speed reaches about 22 m.p.h.; (2) carburetor without an idle jet so that engine idles on the main jet and fuel mixture is then more closely controlled over entire range of operation. Mixture enrichment is preferably arranged for idle as against off-idle operation, as by having the closing of the throttle open an external vent in the carburetor bowl or having a supplemental fuel jet opening in throttle barrel alongside idle position of downstream tip of throttle blade; (3) automatic choke operated by mixture taken downstream from carburetor venturi, heated, and delivered to thermally responsive choke actuator. Above features can be incorporated in a single small primary carburetor that is combined with one or two large secondary carburetors used for high power operation. Supplemental heating can be provided for mixture delivered by primary carburetor.

3,523,681
EVAPORATOR UNIT
Richard C. Jaye, 1025 Richards St., Watertown, Wis. 53094
Continuation-in-part of application Ser. No. 742,355, July 3, 1968. This application Sept. 12, 1968, Ser. No. 767,033
Int. Cl. B01d *1/02*
U.S. Cl. 261—142 **7 Claims**



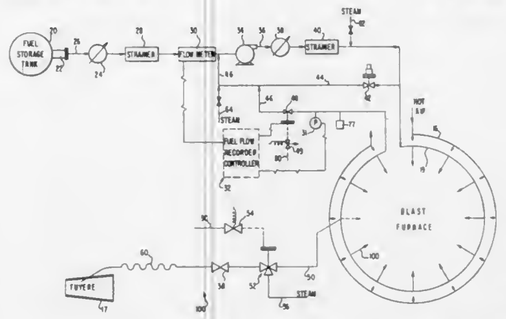
An evaporator unit having a honeycomb body comprised of a pair of flatwise adjacent but spaced apart body sections each consisting of superimposed strips of absorptive corrugated paper-like material. On the outer faces of the body to which the honeycomb cells open, a cured synthetic resin coating renders the body substantially rigid without interfering with air flow through the cells to pick up moisture from water introduced into the body through the space between the body sections. Optionally, heating means in the body can promote evaporation of water therefrom; and condensation of a gaseous medium circulated through a duct embedded in the body can also be efficiently accomplished due to the cooling effect produced by evaporation of water from the body while air is forced therethrough.

3,523,682
COMBINED CONVEYING AND DISTRIBUTING DEVICE
Flemming Edwin Jensen, Copenhagen-Valby, Denmark, assignor to F. L. Smidth & Co., New York, N.Y., a corporation of Delaware
Filed Aug. 12, 1968, Ser. No. 751,983
Claims priority, application Great Britain, Aug. 16, 1967, 37,797/67; Oct. 30, 1967, 49,208/67
Int. Cl. F27b *7/00*
U.S. Cl. 263—33 **11 Claims**



Combined conveying and distributing device for conveying particulate, i.e. granular or fine-grained material, and distributing the material over a given area in a controlled manner.

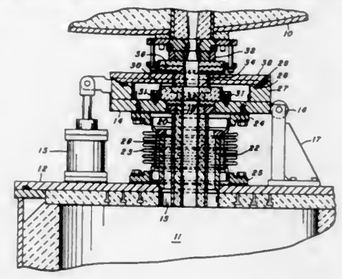
3,523,683
APPARATUS FOR INJECTING FLUID FUEL INTO A BLAST FURNACE
Roger B. Baird, Palos Park, Frank J. Bruns, Homewood, and Barney Vallino, Jr., Chicago Heights, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 415,373, Dec. 2, 1964. This application Mar. 18, 1968, Ser. No. 714,112
Int. Cl. C21b *7/16*
U.S. Cl. 266—30 **10 Claims**



System for injecting a fluid fuel into a blast furnace having at least one tuyere and means for supplying a blast of hot air to said tuyere comprising an injection lance means for injecting fluid fuel into said air blast through a part of the furnace at the tuyere having an opening and means for supplying fluid fuel to the lance means, comprising storage means for the fuel, means for conducting fuel under pressure from the storage means to the lance means including means for recycling fuel around the furnace, and regulating means in the conducting means for regulating the amount of fuel supplied to the furnace through the lance means including valve means in the recycle means and automatic control means for adjusting the valve means to vary the pressure in the recycle means and balance the amount of fuel drawn from said storage means and the pressure of fuel in said recycle means to maintain a predetermined flow of fuel through said lance means. The injection lance means includes conduit means connected to the conducting means, three-way valve means connected in the conduit means at two of the three ways, steam supply means connected to the said conduit means in the third-way of the three-way valve means, and means for automatically controlling the three-way valve means to prevent oil flow through and to pass stream through the injection lance means upon a fluid fuel pressure failure. The means for automatically controlling the three-way valve means also includes means to prevent oil flow through and to pass steam through the injection lance means upon failure of the means for supplying the blast of hot air. The injection means comprises an injection lance, guide means attached to the said part over the opening including means for supporting the lance and means for preventing flow from the furnace through said opening with the lance being removably inserted into the air blast through the guide means and said opening.

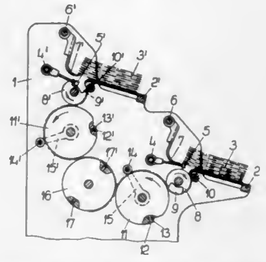
3,523,684
VACUUM VESSEL WITH INLET CLOSURE AND PROVISION FOR SEALING ENGAGEMENT WITH TEEMING LADLE
Thomas A. Cuscino, Baldwin Borough, and Herman O. Smith, Pittsburgh, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed May 31, 1968, Ser. No. 733,679
Int. Cl. C21c *7/06*
U.S. Cl. 266—34 **6 Claims**

A bottom-pour teeming ladle has a bearing plate surrounding the nozzle thereof and sealed thereto. A vacuum degassing vessel adapted to receive molten metal from the ladle has a cover with an inlet therein. A pressure plate on the cover has an opening therethrough alined with said inlet. Centering rollers on the cover guide up and down movement of the pressure plate. Fluid-pressure cylinders and pistons on the cover raise and lower the pressure plate. A panel slidable on the pressure plate is effective in one position to close said



opening. An expansible ring around the edge of the pressure plate is effective to make sealing engagement with the bearing plate of the ladle when the pressure plate is raised. A bellows extending between the bearing plate and pressure plate encloses said opening and a pouring tube extending downwardly therefrom. A neck on the cover extends upwardly around the tube within the bellows.

3,523,685
APPARATUS FOR FEEDING BLANKS OR SHEETS
Günther Ehlscheid, Niederbieber, Germany, assignor to Winkler & Dunnebier Maschinenfabrik und Eisengiesserei KG, Neuwied am Rhine, Germany, a corporation of Germany
Filed Jan. 16, 1968, Ser. No. 698,162
Claims priority, application Germany, Jan. 25, 1967, W 43,217
Int. Cl. B65h *3/44, 5/08*
U.S. Cl. 271—9 **8 Claims**

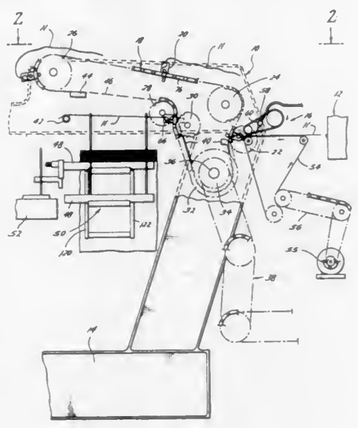


Blanks or sheets of paper and the like are fed from the underside of stacks by at least two feeding devices disposed at the input end of a machine processing the blanks or sheets. A sheet is withdrawn from each of the stacks at slow speed and then accelerated by subsequent conveyor means rotating at uniform speed to full speed, whereupon it is fed to the machine, the feeding of the sheets emanating from different stacks taking place at the same reciprocal intervals.

3,523,686
METHOD AND APPARATUS FOR STACKING SHEET MATERIAL
Wesley D. Cawley, 721 Ave. A, Port Neches, Tex. 77651
Filed Sept. 18, 1967, Ser. No. 668,412
Int. Cl. B65h *29/28, 29/68*
U.S. Cl. 271—68 **8 Claims**

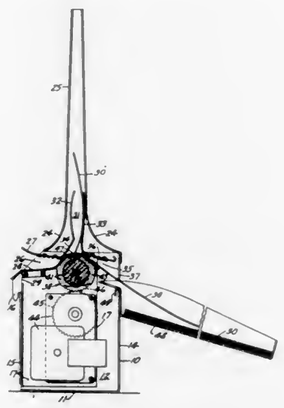
The present invention is directed to apparatus used to automatically stack sheet material on supports for ease

of handling. Endless conveyers are utilized to carry spring loaded, cam operated gripper jaws at a constant speed. At pick-up and release stations, the conveyers move about sprockets, whereby their speed is slowed to allow the proper pick up or release of the sheet material. A novel indexing means is used to position the supports at the receiving station and to remove loaded supports,



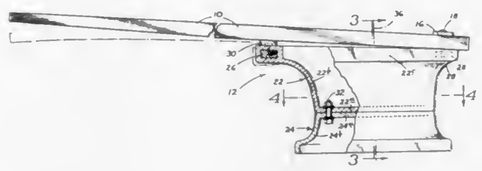
whereby the movement of the conveyers need not be stopped or slowed. Vacuum means are positioned adjacent the release station for stretching the sheet material to a horizontal position for stacking, and fingers are employed to urge the material onto the stacking supports. The indexing means includes the indexing turret, rotation means and tracks for loading and unloading the supports.

3,523,687
INVERTER FOR SHEETS AND CARDS
Kurt H. Petersen, White Bear Township, Ramsey County, and George L. Warner, Roseville Village, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed May 9, 1968, Ser. No. 727,786
Int. Cl. B65h *29/20, 29/34*
U.S. Cl. 271—71 **12 Claims**



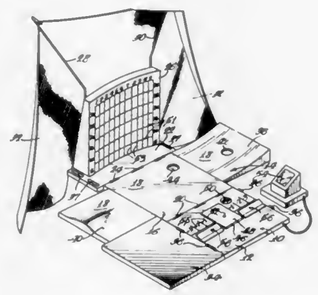
This invention is directed to a device for inverting each of a series of sheets or cards so that their printed or treated surfaces will be in proper orientation with each other after they have been printed or processed by photocopiers, key punch systems, card sorters, printing presses, processing machinery etc. Inversion is carried out by moving the sheets or cards through a series of angular races by means of a drive roller. After entering the device through an input race, the sheet or card is moved into an intermediate race which disposes it in a first position at an angle with respect to its plane of entry. In this position the direction of movement is reversed and the sheet or card is moved into a delivery race oriented at an angle from the intermediate race sufficient to invert the sheet approximately 180° from its position on entry.

3,523,688
SPRING-IMPARTING PEDESTAL FOR MOUNTING A DIVING BOARD
John W. Kinsman, 17014 Oatfield Road, Milwaukie, Oreg. 97222
Filed Feb. 7, 1968, Ser. No. 703,686
Int. Cl. A63b *5/08*
U.S. Cl. 272—66 **11 Claims**



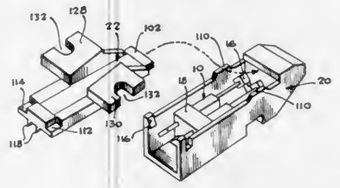
A pedestal for supporting the rear end of a diving board above the ground including a deformable and resilient wall curving continuously about a substantially upright axis, with the wall carrying substantially the full vertical load transmitted between the diving board supported thereon and the ground, and deforming resiliently with flexing of the board.

3,523,689
GOLF GAME
William D. Cornell, Grand Haven, Martin M. Schankler, Muskegon, and Charles R. Kenrick, Grand Haven, Mich., assignors to Brunswick Corporation, a corporation of Delaware
Filed Apr. 13, 1966, Ser. No. 542,414
Int. Cl. A63b *67/02, 69/36*
U.S. Cl. 273—176 **8 Claims**



A target is positioned a short distance in front of the golf ball tee area. Foldable floor members connecting the target and tee area include a putting hole and thus serve as a putting green. The target and tee area are divided into zones identified by numerical indicia. By combining the numbers on the target and tee area, ball spin is determined. The target is provided with a foam layer impregnated with a pressure sensitive adhesive to temporarily record the point of ball impact. A determination is made of the distance the ball would have traveled had it not struck the target by measuring the ball's velocity in its travel to the target. This is accomplished by providing sensors at the tee area and target which control the extent to which a capacitor is charged. The target also includes a butyl rubber layer which prevents golf balls from rebounding back towards the tee area at a velocity that would injure the golfer or preclude spin determination. The golfer's accomplishments are plotted on a map of a golf hole by using a plotting grid.

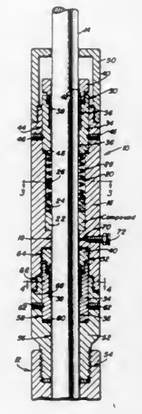
3,523,690
PHONOGRAPH PICKUP
Paul E. VandeKoppel, Niles, Mich., assignor, by mesne assignments, to Electro-Voice, Incorporated, Buchanan, Mich., a corporation of Delaware
Filed Oct. 11, 1965, Ser. No. 494,800
Int. Cl. G11b *3/02*
U.S. Cl. 274—37 **13 Claims**



A stereophonic phonograph pickup is disclosed in which two flat elongated piezoelectric generating elements are molded into an assembly with a rectangular backpad and a yoke of compliant material. A casing is provided for the pickup with a removable cover, and an opening on the side of the casing opposite the cover so that the generating element assembly may be placed within the casing with the yoke protruding from the opening and the cover secured to the casing to properly position the generating element assembly within the casing. A stylus drive arm assembly is secured to the exterior surface of the casing with the drive arm engaging the protruding portion of the yoke by means of a clip of resilient material which engages slots in the wall of the casing to hold it in position. The drive arm utilizes a flexible sleeve between a stub which engages the clip and the drive arm itself. The elongated ceramic elements of the generating element assembly protrude from both sides of the backpad, and the casing exposes at one end the backpad and the protruding generating elements. The protruding generating elements are each provided with electrodes on opposite surfaces, and a clip having a pair of resilient jaws of electrically conducting material is inserted in the open end of the casing so that the jaws engage the electrodes of the generating elements to make electrical contact therewith.

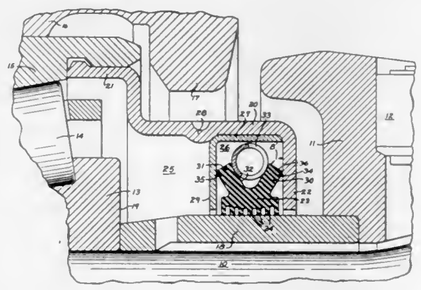
3,523,691
FLUID SEAL DEVICE
Wilford E. Holliman, P.O. Box 262, Big Lake, Tex. 76932
Filed Aug. 23, 1968, Ser. No. 754,870
Int. Cl. F16j *15/00, 15/40*
U.S. Cl. 277—4 **4 Claims**

A stuffing box for a reciprocating or rotating shaft wherein the sealing of the shaft is effected by a fluid seal means utilizing a liquid packing composition pressurized by a spring-urged applicator piston initially compressed by the pressurized injection of liquid packing into the device and wherein the stuffing box is further provided



with means for dissipating heat generated within the stuffing box.

3,523,692
PATTERNED SEALING FACE FOR SHAFT SEALS
Dennis L. Otto, Canton, Ohio, assignor to The Timken Roller Bearing Company, Canton, Ohio, a corporation of Ohio
Filed May 17, 1967, Ser. No. 639,168
Int. Cl. F16r *41/00;* **F16j** *15/54*
U.S. Cl. 277—25 **9 Claims**

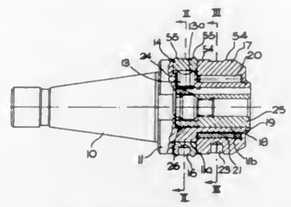


A shaft seal having a patterned sealing face to return lubricant leakage to the lubricant side of the sealing face by reintroducing the leakage in the lubricant film at the sealing face by a patterned sealing face configuration which impells the lubricant back into the film through centrifugal action of the pattern in the sealing face. The patterned configuration in the sealing face operates for reversible shaft rotation.

3,523,693
HOLDING DEVICE
Alfred Ernest Sykes, 329 Leicester Road, Markfield, Leicester, England
Filed June 21, 1967, Ser. No. 647,839
Int. Cl. B23b *31/12*
U.S. Cl. 279—9 **2 Claims**

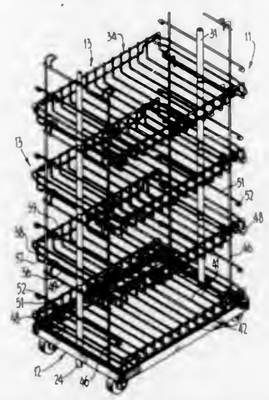
A holding device applicable as an internal or external arbor for withstanding torque wherein an outer hollow member or inner co-axial member contain regular spaced rollers between them uniformly spaced around the axes of the members and engaging with cam rises on one of the members so that turning movement between the outer and inner members causes local displacement of the outer

or a hollow inner member to cause it to grip a hollow part or stem of a tool or workpiece. The clamping de-



vice is combined with gripping dogs to provide positive engagement to withstand torque.

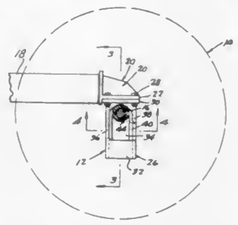
3,523,694
DISMANTLEABLE MERCHANDISING RACK
Earl J. Oliver, Fremont, Calif.
(555 Montague Ave., San Leandro, Calif. 94577)
Filed Dec. 14, 1967, Ser. No. 690,598
Int. Cl. B60r *27/00*
U.S. Cl. 280—33.99 **6 Claims**



A wheelable merchandising rack formed of a dolly and plurality of tiered trays which may be dismantled from each other. The trays are foldable such that a number thereof may be stacked in a compact pile upon the lower tray of a rack from which the upper trays have been dismantled. The dollies of a number of racks are stackable in nested relationship. Consequently, the trays and dollies of a number of dismantled racks may be stored in a limited storage area, for example, for return shipment to a factory or the like. The individual trays may be loaded with merchandise at the factory, and then a number of the trays and a dolly may be readily assembled to form a loaded rack for shipment to the distributor. When racks are emptied of merchandise, they may be dismantled and compactly shipped to the factory, whereupon the procedure is repeated. In thus using the dismantleable racks, there is considerably less handling of merchandise than is involved in the boxed or crated shipment thereof to a distributor for subsequent display upon racks permanently retained thereat.

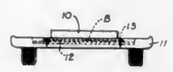
3,523,695
WHEEL SWIVEL MEANS
Charles Omar Schartz, RR 2, Box 76, Larned, Kans. 67550
Filed Apr. 19, 1968, Ser. No. 722,794
Int. Cl. B62d *61/00*
U.S. Cl. 280—80 **7 Claims**

An apparatus comprising means for rotating or swivelling the wheel and its axle about a vertical post that is fixedly connected to a frame without detachably releasing the wheel and axle from connection with the frame by providing a swivel body that is connected to a saddle assembly so that the swivel body and the saddle assembly



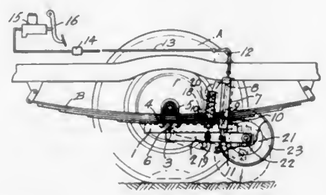
are slidable relative to each other so that the frame to which the saddle assembly is secured can be raised with respect to the swivel body in order to permit the swivel body and the wheel and axle attached thereto to be turned or rotated through approximately 90°.

3,523,696
SKID CONTROL DEVICE
James A. Holcombe, Rte. 3, Easley, S.C. 29640
Filed May 23, 1968, Ser. No. 731,528
Int. Cl. B60m *27/00*
U.S. Cl. 280—150 **5 Claims**



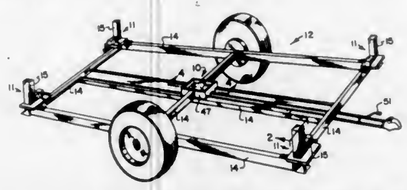
A skid control device having cam means for controlling the vertical displacement and horizontal movement of the stabilizing weight has a link pivotally connected to the support on one end with sliding engagement on the other end with respect to a fixed element carried by the weight so as to increase horizontal movement and vertical displacement of the weight. The link may be positioned in the medial portion of the weight with the cam means supporting each end of the weight. The cam followers are resiliently mounted, and a U-shaped brace has legs with respective free ends fixed to the support so as to encompass said weight and carry spring means for returning the lever arm to an equilibrium position.

3,523,697
ANTISKID DEVICE FOR AUTOMOBILES
Henry J. O'Sullivan, 3000 Gouin Blvd. W., Montreal 12, Quebec, Canada
Filed Sept. 6, 1968, Ser. No. 757,990
Claims priority, application Canada, July 11, 1968 24,910
Int. Cl. B60r *27/00*
U.S. Cl. 280—150 **3 Claims**



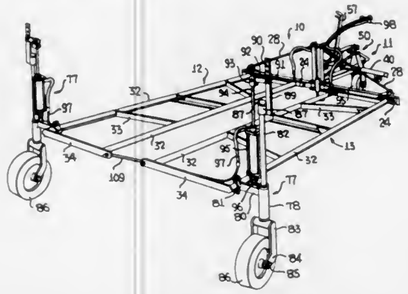
A device for raising the rear wheels of an automobile by means of a pair of auxiliary wheels which are lowered by hydraulic means, the auxiliary wheels acting to control against skidding of the automobile on ice, snow, mud and wet surfaces.

3,523,698
LEVELLING SYSTEM FOR TRAILERS AND THE LIKE
Ralph Bishop, 9521 South 3365 East Granite, Sandy, Utah 84070
Filed Oct. 3, 1968, Ser. No. 764,872
Int. Cl. B60s *9/08*
U.S. Cl. 280—150.5 **7 Claims**



A system wherein support legs of levelling jacks are lowered to be in ground contacts, are operated to automatically level the load on the legs, and are electrically retracted. The motors to the levelling jacks are automatically stopped when the legs are in ground contacts, when the load has been levelled and when the legs are retracted beneath the load.

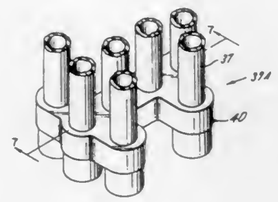
3,523,699
IMPLEMENT CARRIER
James Sinkule, William J. Sinkule, and Jim Sinkule, all of Rte. 2, West, Tex. 76691
Filed Oct. 23, 1967, Ser. No. 677,288
Int. Cl. B62d *53/00*
U.S. Cl. 280—412 **8 Claims**



An implement carrier which is drawn behind a tractor and in its normal operative position extends beyond the opposite sides of the tractor and carries a plurality of farm implements for simultaneously performing the desired operation on a plurality of crop rows. The carrier includes a central frame unit which is supported by the tractor and outer frame units which are supported by individual wheels. The outer frame units have pivotal connections with the central frame unit of a nature which permits the swinging of the outer frame units into side-by-side trailing relation for passage through a relatively narrow gateway and for individual movement when in their extended operative positions to compensate for variations in the contour of the ground.

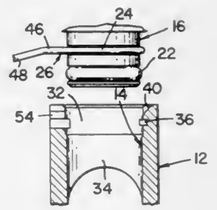
3,523,700
PNEUMATIC HARNESS PLUG ASSEMBLY OR THE LIKE
Reed A. Palmer, Greensburg, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Sept. 12, 1966, Ser. No. 578,687
Int. Cl. F16l *39/02*
U.S. Cl. 285—137 **6 Claims**

This disclosure relates to a plug connector for interconnecting a plurality of conduit means to output passages of a pneumatic programmer, the plug connector having a flexible plate-like body portion with flexible extension means extending from one side thereof to be interconnected to the pneumatic programmer and a plurality of flexible conduits extending from the other side thereof



to be interconnected to a plurality of pneumatically operated actuators. The flexible conduits are permanently secured to the flexible body portion of the plug connector so as to facilitate assembling with the pneumatic programmer.

3,523,701
COUPLING UNIT
Charles H. Graham, Mountain View, Calif., assignor to Gra-Tec, Inc., Los Altos, Calif., a corporation of California
Filed Nov. 24, 1967, Ser. No. 685,567
Int. Cl. F16l *37/08*
U.S. Cl. 285—150 **4 Claims**

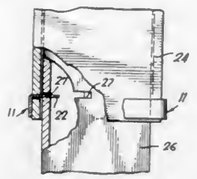


A coupling unit having a male member receivable within the bore of a female member, the latter being provided with a pair of spaced recesses for receiving portions of a spring clip carried by the male member. The spring clip has a bight receivable within one of the recesses and a pair of sides receivable within another recess in the female member. Shoulder structure holds the sides from being separated from the other recess whereby the male and female members are releasably coupled together by a 3-point contact of the spring clip with the female member.

3,523,702
FASTENER AND TELESCOPING LEG
Louis A, Unti, Chicago, Ill., and Ernst Joseph Utz, West Chicago, Ill., assignors to Wilson Jones Company, Niles, Ill., a corporation of Delaware
Filed June 5, 1968, Ser. No. 734,756
Int. Cl. A47b *9/14*; **F16m** *11/32*
U.S. Cl. 287—58 **8 Claims**

A fastener made of springable material and normally axially biased in combination with an adjustable leg. The fastener has a pair of arms joined together in end-to-end relationship and right angularly disposed with respect to one another. A triangular holding portion is carried by each of the arms at their joined end portions. The holding portions are spaced from one another. The opposite

end portions of the arms are spaced from one another and each carry a right-angularly disposed offset portion. The fastener is used to secure the adjustable leg in position. The adjustable leg includes an inner rectangular member provided with a plurality of spaced slots and

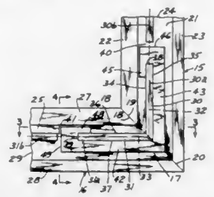


an outer member provided with a mating single slot. The members are telescopcially connected with one another. The arms are disposed upon the outer member with the holding portions lying within mating slots to retain the telescoping members in fixed position.

3,523,703
MITER CORNER CONSTRUCTION

Chester Handley, Morristown, N.J., assignor to Sternco Industries, Inc., Harrison, N.J., a corporation of New Jersey

Filed Mar. 19, 1969, Ser. No. 808,453
Int. Cl. F16b *3/00*
U.S. Cl. 287—189.36 **13 Claims**



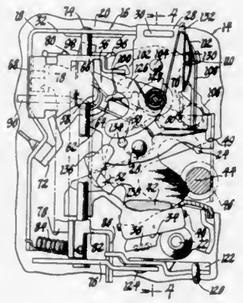
A miter corner construction for aquarium tanks or other multi-panelled enclosures comprising one or more connector clips positioned within two or more adjacent coacting frame members with mutually engaged miter surfaces and arranged to hold said surfaces together in matched and locked relation. The clip comprises two arms in angular relation the terminals of each having an offset aligning finger connected to the arm by a short transverse push bar. Said frame members are each longitudinally recessed to form a cavity within which is disposed a longitudinal rib. The clip is positioned with its two arms disposed within the respective cavities of two adjacent frame members, each of said transverse push bars being in pressing engagement with a transverse portion of the corresponding rib, thereby transmitting pressure longitudinally through said rib to the engaged miter surfaces of the frame members to keep them pressed together. The said aligning fingers and their corresponding arms flank the opposite faces of the adjacent rib, so that each rib, and consequently each frame, is tightly held against transverse movement, whereby the components of the engaged mitered joint are maintained in perfectly matched relation, so as to keep the panels of the tank or enclosure in proper mated relation.

3,523,704
CLOSURE LATCH

Bela Sandor, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 14, 1968, Ser. No. 713,156
Int. Cl. E05c *3/26*
U.S. Cl. 292—216 **4 Claims**

A combined intermittent and outside operating member is slidably mounted on a support for movement between first and second positions relative to the support and swinging movement relative to the support in each position. A detent for a pivoted fork bolt includes an arm engageable by the operating member upon swinging movement of the operating member in one position to release the detent from the bolt. A locking lever is engageable with a flange of the operating member to move the operating member to the second position wherein the operating member is not engageable with the arm of the

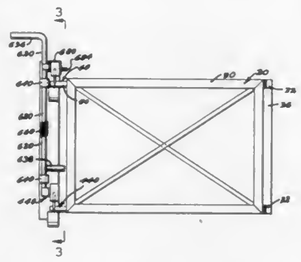


detent. A bellcrank lever is pivoted on the support and is spring biased into engagement with a stop. The bolt includes an abutment engageable with one arm of the bellcrank lever to swing the other arm of the bellcrank lever into engagement with the operating member flange when the operating member is in the first position and shift the operating member to the second position. The other arm of the lever swings past the operating member flange and is held against return by the bolt abutment when the bolt moves to latched position.

3,523,705
GATE LATCH

Marvin W. Gittins, Crescent, Iowa 51526, and Vern L. Gittins, Rte. 1, Council Bluffs, Iowa 51501

Filed Oct. 11, 1967, Ser. No. 678,771
Int. Cl. E05c *5/00*
U.S. Cl. 292—299 **6 Claims**



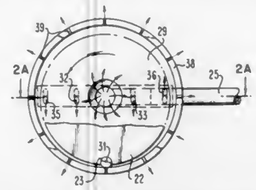
A deflecting ring-type gate latch having a ring-holding locking pin which is removable for the rapid unlocking of the latch.

3,523,706
APPARATUS FOR SUPPORTING ARTICLES WITHOUT STRUCTURAL CONTACT AND FOR POSITIONING THE SUPPORTED ARTICLES

Joseph C. Logue, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Oct. 27, 1967, Ser. No. 678,704
Int. Cl. B66c *1/02*
U.S. Cl. 294—64 **7 Claims**

Apparatus for supporting wafer-like articles without structurally contacting the articles. A plate is positioned in proximate spaced relationship with a surface of the article. A flow of air under positive pressure parallel to the plate is introduced into the space between the surface and the plate. The article is held suspended and spaced from the plate by the Bernoulli effect due to the reduced

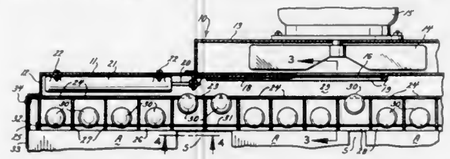


air pressure in the space resulting from the increased velocity of the air in said space. Projections from the plate limit lateral movement of the supported article.

3,523,707
SUCTION HEAD FOR ARTICLE HANDLING APPARATUS

Ernest E. Roth, Arnold, Mo., assignor to Alvey, Inc., St. Louis, Mo., a corporation of Missouri

Filed Mar. 18, 1968, Ser. No. 713,609
Int. Cl. B66c *1/02*
U.S. Cl. 294—65 **6 Claims**

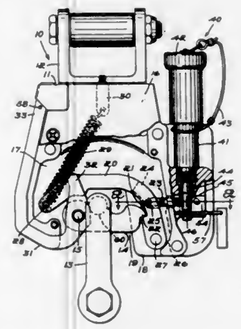


Article handling apparatus embodied in a suction head which incorporates a plurality of valved suction chambers connected on one side into a plenum chamber to which the suction of a blower is connected and open on the other side to engage one or more articles requiring transportation or movement. The valve for each chamber is a light weight ball element free to move within the chamber in rapid response to flow of air for closing the chamber to such flow for conserving the suction effect when an article is not opposite one or more chambers.

3,523,708
DELAY ACTION DEVICE

Joseph E. Femia, Framingham, Mass., assignor to the United States of America as represented by the Secretary of the Army

Filed Jan. 7, 1969, Ser. No. 789,525
Int. Cl. B64d *17/38*
U.S. Cl. 294—83 **5 Claims**

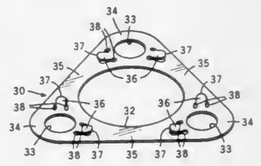


A delay action device for arming a parachute release that is being dropped lands and the force thereof extraction of an airdrop load from an aircraft which comprises a timing mechanism controlling the time during which a timer rod moves between a first position in which the timer rod opposes the unlatching of the parachute release and a second position which permits the unlatching of the parachute release when the load that is being dropped lands and the force trereof exerted on the parachute release mechanism during the airdrop relaxes.

3,523,709
LOCKING PLATE FOR AXLE END CAP

Robert F. Heggy, Canton, and James D. Morton, Louisville, Ohio, assignors to The Timken Roller Bearing Company, Canton, Ohio, a corporation of Ohio

Filed Nov. 20, 1967, Ser. No. 684,276
Int. Cl. F16b *39/10;* **B60b** *35/16;* **F16c** *35/04*
U.S. Cl. 295—36 **3 Claims**

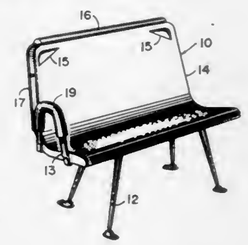


A locking plate for the axle end cap of railroad bearings in which the plate is provided with an enlarged central aperture, a plurality of cap screw apertures spaced about the central aperture, and one or more cap screw locking tabs lanced in the material of the plate so as to be integral therewith.

3,523,710
SAFETY VEHICLE SEAT

Chester J. Barecki, and Arthur J. Hogan, Jr., Grand Rapids, Mich., assignors to American Seating Company, Grand Rapids, Mich., a corporation of Delaware

Filed July 11, 1968, Ser. No. 743,995
Int. Cl. A47c *27/14, 27/22*
U.S. Cl. 297—456 **6 Claims**



A vehicle seat such as a bus seat, etc., is provided with energy-absorbing deformable metal panels anchored to the seat frame rails and enclosed in resilient cushioning material, and such panels extend over the back frame top rail and side rails. Cushioning material also is anchored to the back of the seat and the arm rest. The structure protects an occupant of a rear seat against metal frame members, seat back edges, and metal panel edges.

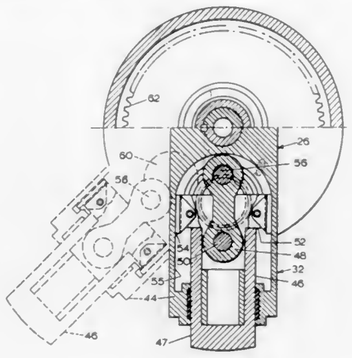
3,523,711
CONTINUOUS MINER WITH CONTOUR CUTTING BORING HEAD

Harold C. McCleery, R.D. 1, Franklin, Pa. 16323

Filed June 30, 1967, Ser. No. 650,281
Int. Cl. E21c *1/00*
U.S. Cl. 299—59 **4 Claims**

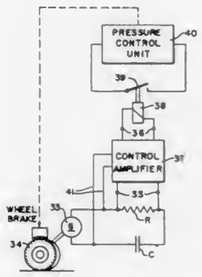
A mining machine of the boring arm type for producing elongated overlapping substantially square or other-

wise non-circular bores in a mineral vein with substantial elimination of the cusps normally remaining after the



producing of overlapping circular bores by machines of the prior art.

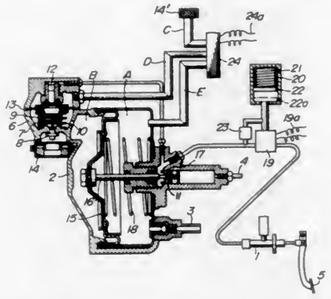
3,523,712
VEHICLE BRAKE CONTROL SYSTEM FOR PREVENTING WHEEL LOCKING
Heinz Leiber, Leimen, Germany, assignor to Teldix G.m.b.H., Heidelberg-Wieblingen, Germany
Filed Nov. 15, 1967, Ser. No. 683,236
Claims priority, application Germany, Nov. 16, 1966 T 32,527
Int. Cl B60t *8/16*
U.S. Cl. 303—21 **8 Claims**



A brake control system for wheeled vehicles that have means for applying a braking force to a wheel to prevent the wheel from locking when such force is applied. The control system, which includes means for reducing the instantaneous braking force when the wheel decelerates in excess of a certain threshold value, provides a functional relationship between the rotational speed of the wheel and this deceleration threshold value. In general, the higher the rotational speed, the greater the threshold value.

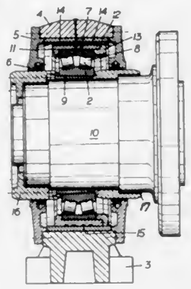
3,523,713
ANTISKID APPARATUS EQUIPPED WITH VACUUM-TYPE DOUBLE BRAKE DEVICE
Atutosi Okamoto, Toyohashi-shi, and Koichi Taniguchi, Kariya-shi, Japan, assignors to Nippon Denso Company Limited, Kariya-shi, Japan, a corporation of Japan
Filed Jan. 15, 1968, Ser. No. 697,781
Claims priority, application Japan, Jan. 18, 1967 42/3486/67, 42/3487/67
Int. Cl. B60t *8/08*
U.S. Cl. 303—21 **3 Claims**

An antiskid apparatus for an automotive vehicle, which is equipped with a vacuum-type hydraulic brake pressure booster and in which a solenoid-operated changeover valve is disposed in a hydraulic pressure supply conduit connecting a master cylinder with the vacuum-type hydraulic brake pressure booster, said solenoid-operated changeover valve being provided with a release cylinder in communication therewith for relieving the hydraudic pressure in said vacuum-type hydraulic brake pressure booster and wheel cylinders, and the air pressure in said



vacuum-type hydraulic brake pressure booster is controlled by the hydraulic pressure developed in said master cylinder or the electromagnetic force of an electromagnet, said solenoid-operated changeover valve and said electromagnet being actuated by an output voltage of a wheel deceleration detector.

3,523,714
BEARING ARRANGEMENT FOR TILTABLE CRUCIBLES OR CONVERTERS
Othmar Pühringer, Linz, Austria, assignor to Vereinigte Osterreichische Eisen- und Stahlwerke Aktiengesellschaft, Linz, Austria, a company of Austria
Filed Nov. 16, 1966, Ser. No. 594,719
Claims priority, application Austria, Oct. 11, 1966, A 9,498/66
Int. Cl. F16c *1/24*
U.S. Cl. 308—5 **5 Claims**

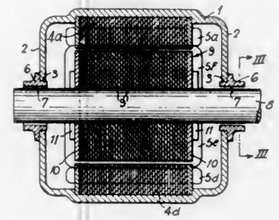


A bearing arrangement for tiltable crucibles or converters having diametrically opposed trunnions includes a first pendulum roller bearing assembly that is fixed against axial displacement relative to its support, and a second pendulum roller bearing fitted in a slidable cylindrical sleeve so as to be axially displaceable with respect to its support.

3,523,715
GAS BEARING
Herbert Sixsmith, Oxford, England, assignor to National Research Development Corporation, London, England, a British corporation
Filed Sept. 9, 1968, Ser. No. 758,227
Claims priority, application Great Britain, Sept. 18, 1967, 42,403/67
Int. Cl. F16c *39/06*
U.S. Cl. 308—10 **3 Claims**

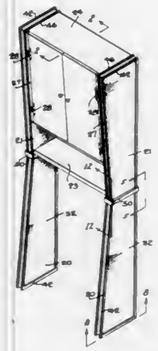
A shaft has a coaxial body of magnetically permeable material. Portions of the shaft at each end of the body

are disposed in bearing sleeves. Six electromagnetic poles are disposed about the body. The arrangement is such that when a 3-plug A.C. supply is connected to the poles



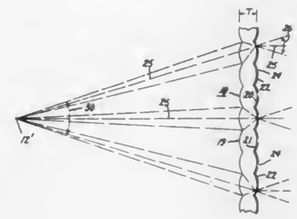
a rotating radial resultant force is imposed on the body which causes the axis of the shaft to rotate about a datum line whereby a gas bearing condition is created between the shaft at each of the bearing sleeves.

3,523,716
CABINET CONSTRUCTION
Salvatore Roggio, Jr., Philadelphia, Pa., and Robert S. Roggio, Delran, N.J., assignors to Lehman Specialty Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 13, 1968, Ser. No. 759,658
Int. Cl. A47b *43/00*
U.S. Cl. 312—257 **17 Claims**



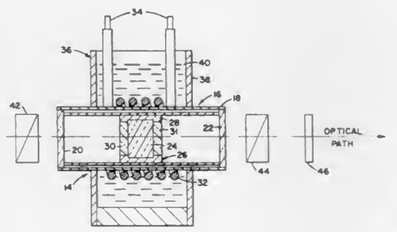
A free standing knock-down cabinet construction made of two modular hollow sidewall units held together by horizontal shelves and a back panel interlocked to each other and to the sidewall units. Each sidewall unit is formed from a pair of hollow modular sections end alined and rigidly secured together by battens which are concealed by a decorative channel molding. Each hollow modular section is pre-constructed from an annular spacer frame made of channel stock oriented with the channel flanges facing outward and with sheet metal opposite side panels riveted to the channel flanges. The perimetral joints between end edges of the side panels and channel flanges, and the rivets, are concealed within decorative snap-on moldings which lock behind the rivet heads. The upper section of the cabinet structure is closed by a pair of door modules each consisting of a door and a pair of hinges secured to a mullion strip which latter secures the door modules to the sidewall units. The hollow modular sections permit the safe use of sheet metal screws as shelf, panel, door and batten fasteners without danger of injury to the user by termination of the screw points within the closed interior of the hollow sections.

3,523,717
COMPOSITE BACK PROJECTION SCREEN
William E. Glenn, Jr., Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Feb. 1, 1967, Ser. No. 613,323
Int. Cl. G03b *21/56, 21/60*
U.S. Cl. 350—123 **13 Claims**



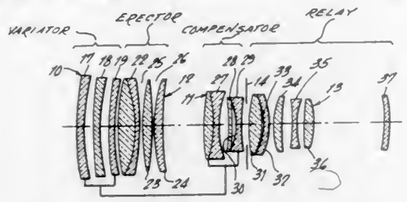
Composite back projection screens are described characterized by a cylindrically lenticulated back face and a selectively darkened front face having refracting lens components positioned at the undarkened foci of the back lenticules. The refracting lens components are formed either by selectively notching a Fresnel lens into the flat front face of the projection screen or by lenticulating the front face of the screen and utilizing an appropriate portion of the lenticules' arcual surface as the refracting lens components. Control of both the horizontal and the vertical viewing angles is accomplished by the formation of refracting lens components in both faces of a unitary screen in optical registration with spherical lens components situated along the back face of the unitary screen.

3,523,718
LOW TEMPERATURE OPTICAL ISOLATOR FOR LASER SYSTEMS
Thomas G. Crow, Orlando, Fla., assignor to the United States of America, as represented by the Secretary of the Army
Filed Apr. 17, 1968, Ser. No. 722,044
Int. Cl. G02f *1/22*
U.S. Cl. 350—151 **5 Claims**



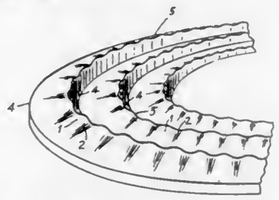
An optical isolator for use in laser systems and particularly in a neodymium glass laser system having a plurality of amplifier elements arranged successively therein. The device is comprised of a paramagnetic Faraday rotator immersed in cryogenic fluid such as liquid helium and surrounded by a superconducting magnet. The device is placed between successive amplifier elements of the laser system to permit forward direction of the laser beam through the system while preventing backward movement of amplified spontaneous emission. The isolator provides for linear polarization of the laser beam, followed by a Faraday rotation through 45°, followed by a polarizer (set at 45°) and then an optically active plate to return the plane of polarization to 0°.

3,523,719
MACRO OBJECTIVE FOR SINGLE LENS REFLEX CAMERA WITH FOCAL PLANE SHUTTER
Frank G. Back, 55 Sea Cliff Ave., Glen Cove, N.Y. 11542
Filed Mar. 29, 1968, Ser. No. 717,111
Int. Cl. G02b *15/14*
U.S. Cl. 350—184 1 Claim



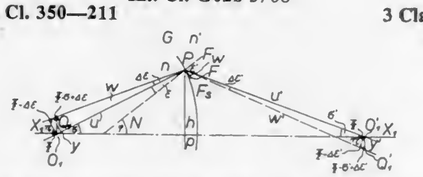
A macro objective for a single lens reflex camera using a focal plane shutter which combines an optically compensated varifocal lens system of a movable first lens or variator and a last lens element at least 25% larger than the diameter of the iris diaphragm.

3,523,720
FRESNEL FIELD LENS FOR REFLEX CAMERAS
Karl Schiele, Gifhorn, Germany, assignor to Rollei-Werke Franke & Heidecke, Braunschweig, Germany, a firm of Germany
Filed July 9, 1968, Ser. No. 743,422
Int. Cl. G02b, *3/08*
U.S. Cl. 350—211 4 Claims



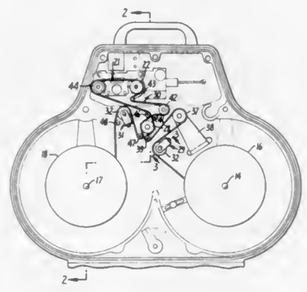
A Fresnel field lens for the finder of a reflex camera has each annular step of the lens formed with a wavy or undulating shape in a circumferential direction to provide, on each step, a range of focal lengths so as to give a sharp and brilliant finder image notwithstanding use of this field lens with finder lenses of different focal lengths and notwithstanding differences in the distance from the eye of the observer to the field lens. In addition to the circumferential undulations in each step of the Fresnel lens, one embodiment of the invention also divides each step into two concentric annular zones.

3,523,721
SPHERICALLY CORRECTED FRESNEL LENSES AND MIRRORS WITH PARTIAL FIELD CORRECTION
Christian Hofmann, Jena, Germany, assignor to VEB Carl Zeiss Jena, Jena, Germany
Continuation-in-part of application Ser. No. 473,872, July 21, 1965. This application Dec. 9, 1968, Ser. No. 791,530
Int. Cl. G02b *3/08*
U.S. Cl. 350—211 3 Claims



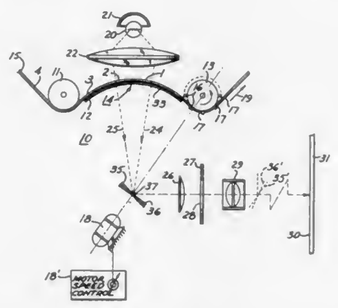
Defining equations are proposed for the echelon structure of Fresnel lenses and mirrors and the echelon-carrying face. Lenses and mirrors defined by these equations are without spherical aberration in their meridional plane when imaging object points in or near their optical axis, and are corrected spherically and for coma when imaging off-axis points.

3,523,722
FILM SPEED CONTROL APPARATUS
Don L. Beaman, Sunnyvale, Calif., assignor to Red Lake Laboratories, Santa Clara, Calif., a corporation of California
Filed Mar. 15, 1967, Ser. No. 623,377
Int. Cl. G03b *39/00, 41/08, 31/02*
U.S. Cl. 352—84 13 Claims



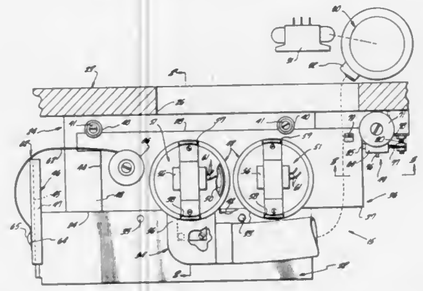
A high speed motion picture camera of the continuous motion type having an electronic speed control having a feedback circuit responding to the camera speed to control the supply of current to the camera motor, and having also manual control of the current supply to the camera motor, independent of the speed of the camera. A sprocket engages the film twice, once before and once after the film passes through the gate of the camera, and spring loaded idlers press on the film between the supply spool and the sprocket and between the sprocket and the takeup spool to absorb transient unwanted modulations in the film speed.

3,523,723
NONINTERMITTENT MOTION PICTURE FILM CAMERAS AND PROJECTORS
Joseph H. Lancor, Jr., Arcadia, Calif., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 22, 1967, Ser. No. 662,343
Int. Cl. G03b *41/10*
U.S. Cl. 352—112 25 Claims



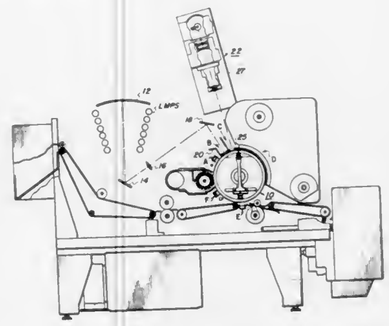
An apparatus for controlling the relative position of images which has a mechanism for individually advancing, individually returning and translatorily shuttling at least two image-deflecting devices. This mechanism decreases the rate of return of each image-deflecting device in a controlled manner and correlates the travel of the translatory shuttling motion to the decreased rate of return.

3,523,724
MOTION PICTURE PROJECTOR
Joseph H. Lancor, Jr., Arcadia, and Holland H. Freeman, Sierra Madre, Calif., assignors, by mesne assignments, to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed May 18, 1967, Ser. No. 639,462
Int. Cl. G03b *21/20*
U.S. Cl. 352—202 10 Claims



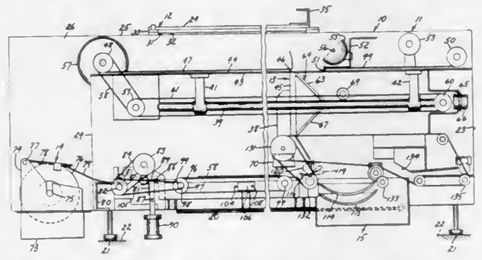
Spare projection lamp provision in a motion picture projector, the spare lamp being mounted to be disposed in alignment with the projector optical axis by a spring device upon operation of a push button latch mechanism which also functions to signal that the principal lamp requires replacement. Also, a forced draft system for cooling the operative projection lamp and the film to low temperature levels is described. These innovations are described in the illustrative context of a multi-projection station, single film strip entertainment system for commercial passenger aircraft.

3,523,725
XEROGRAPHIC REPRODUCING APPARATUS
Robert A. Schaeffer, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed May 1, 1968, Ser. No. 725,712
Int. Cl. G03g *15/00*
U.S. Cl. 355—8 7 Claims



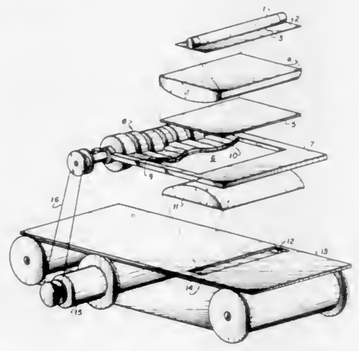
Xerographic reproducing apparatus for creating composite copies of material from two distinct imaging stations. The first imaging station is adapted to project light images of opaque documents onto a rotating xerographic drum. The second imaging station is adapted to project information from documents in the form of microfilm. The imaging stations are positioned to selectively discharge the drum surface in a sequential manner. The second imaging station is correlated to begin its scanning of the microfilm at an appropriate time after the start of scan of the first station. When appropriate portions of the first and second documents are blackened a unitary composite latent electrostatic image is created.

3,523,726
XEROGRAPHIC COPYING DEVICE
David L. Herman, 63 Catherine Road, Scarsdale, N.Y. 10583
Filed Mar. 20, 1968, Ser. No. 719,291
Int. Cl. G03g *13/10*
U.S. Cl. 355—10 3 Claims



A xerographic type copying device which supports planar material to be copied, a slidable carriage beneath the surface of the material to be copied for incrementally exposing portions of the surface to reflect the same upon a sheet of sensitized material located, beneath the carriage. Sensitized material is fed from a roll in accordance with preselected increments, the increments being severed when the carriage commences movement in a first direction to expose the increment, and transported to activating unit during the period in which the carriage is returning to its initial position. The activating unit has several chambers formed by septums placed within a tank containing an activating fluid. A mechanism is provided for directing successive segments of exposed sensitized material to different chambers in order that several exposed segments or sheets may be simultaneously activated while the device is in operation.

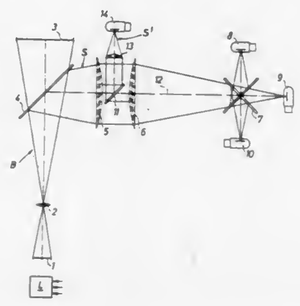
3,523,727
MEANS FOR PRODUCING FOG FILMS
Arthur Simon, Fair Lawn, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Aug. 22, 1968, Ser. No. 754,635
Int. Cl. G03b *27/50*
U.S. Cl. 355—18 7 Claims



The device produces films simulating fog with an apparatus having a light source and a pair of plano-cylin-

drical lenses located adjacent to a variable-opening aperture. The planar side of one of the lenses lies in juxtaposition to the light source, while the cylindrical sides of both lenses lie in juxtaposition to opposite sides of the variable-opening aperture, and the planar side of the other lens lies in juxtaposition to the elongated opening in a mask. Motor-driven cam followers vary the aperture opening irregularly to produce variations in the light intensity. After passing through the variable-opening aperture and plano-cylindrical lenses the light rays from the source are focused through the elongated opening in the mask onto a film, which is adjustably positioned adjacent the mask so as to form an exposure line image on the film. A motor in synchronism with the variations in the aperture adjustably positions the film so as to effect an accurate transformation of the cam follower positions into intensity of exposure along the exposure line image.

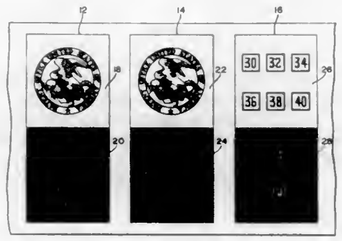
3,523,728
COLOR PRINTING APPARATUS
Richard Wick, Grunwald, near Munich, and Walter Knapp, Munich, Germany, assignors to AGFA-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed Apr. 13, 1967, Ser. No. 630,587
Claims priority, application Germany, Apr. 20, 1966, A 52,208
Int. Cl. G03b *27/76*
U.S. Cl. 355—32 **20 Claims**



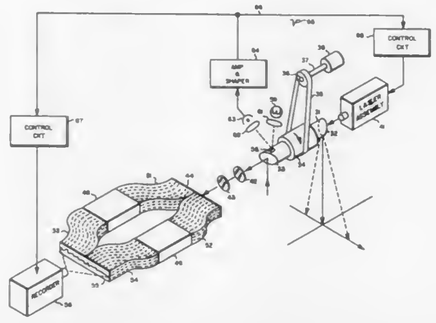
The density of color prints on multiple sensitized photographic material is controlled as a function of the reading of a relatively small central portion of the negative, and the color balance of the print is controlled as a function of the tonal distribution in a relatively large portion of the negative. Both readings are carried out by resorting to photoelectric means, and the means which reads the central portion (containing the most important part of the image) regulates the sensitivity of photoelectric means which measure the tonal distribution of the larger portion of the negative. Such larger portion can include the entire negative or all but the small central portion of the negative.

3,523,729
APPARATUS FOR VIEWING AND REPRODUCING FILM MEDIUM CONTAINING TWO OR MORE RELATED IMAGES
Philip E. Hixon, Huntington, and Marvin B. Fleisher, Jericho, N.Y., assignors to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed May 20, 1968, Ser. No. 730,464
Int. Cl. G03b *27/32, 21/26*
U.S. Cl. 355—46 **5 Claims**

A combined viewing and reproducing apparatus using film with two different photographic images. One is positive and is used for viewing. The reproducing image is a negative. The apparatus can selectively reproduce the negative image while the positive image is continuously projected for viewing.



3,523,730
OPTICAL OBJECT LOCATING SYSTEM
Arthur F. Hayek, Pleasantville, Gus Stavis, Briarcliff Manor, and Thomas W. Odell, Pearl River, N.Y., assignors to Singer-General Precision, Inc., a corporation of Delaware
Filed Feb. 5, 1964, Ser. No. 342,617
Int. Cl. G01c *3/20*
U.S. Cl. 356—4 **10 Claims**



4. Apparatus for displaying the range of objects in a field of view comprising;

first and second mirrors each having no more than a single plane surface each and mounted in fixed angular relationship to each other on a common axis,

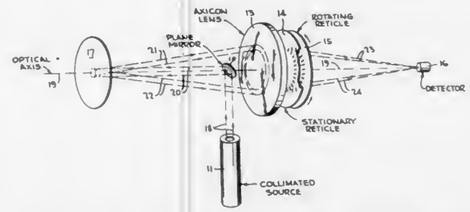
a source for transmitting a narrow beam of radiant energy toward said first mirror for illuminating a portion of said field of view, the position of the portion so illuminated being dependent upon the rotational position of said first mirror on said axis,

an optical system, including said second mirror for receiving radiant energy re-reflected by objects in said portion of said field so illuminated, said second mirror positioned and oriented for forming an image of objects within the illuminated portion whereby the axis of said image is coincident with said common axis when said mirrors are stationary,

means for rotating said mirrors in synchronism with each other at a known speed whereby said beam of radiant energy reflected by said first mirror scans said field of view and the energy re-reflected by objects within said field of view so scanned is received by said second mirror after rotational movement of said mirrors, the amount of which is dependent upon the range of the objects within that portion of the field of view so illuminated during said scan and whereby the rotational movement of said mirrors

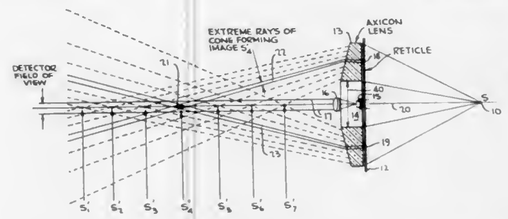
between the time of transmission and the time of reception of the same energy displaces the image so formed from said common axis in accordance with the range of the object and said displacement is a measure of range.

3,523,731
OPTICAL RANGING DEVICE (U)
Donald J. Mary, Hyattsville, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 4, 1967, Ser. No. 607,612
Int. Cl. G01c *3/08*
U.S. Cl. 356—4 **4 Claims**



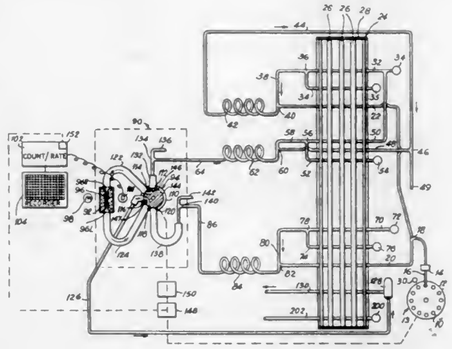
A collimated light source is reflected off an object through an axicon lens past a fixed and rotating recticle to a detector. The fixed and rotating reticles direct a series of light pulses to the detector, the frequency of the light pulses being indicative of the distance of the object to the axicon lens.

3,523,732
ACTIVE OPTICAL RANGING DEVICE PRODUCING MULTIPLE SOURCE IMAGES
Donald J. Mary, Hyattsville, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Mar. 7, 1967, Ser. No. 621,743
Int. Cl. G01c *3/08*
U.S. Cl. 356—4 **9 Claims**



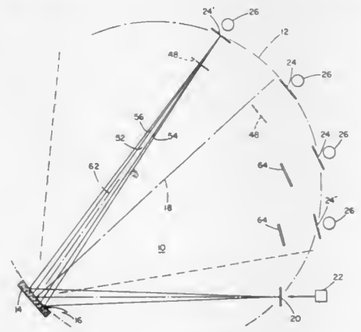
An axicon lens having a perforated center has a light source located on one side thereof. Within the center of the axicon lens a detector with an appropriate lens is located. A reticle is located immediately adjacent the axicon lens on the same side of the lens as the light source and consists of a pattern of concentrically alternating opaque and transparent rings or zones. Light from the source passing through the transparent zones of the reticle is imaged by the axicon lens into a series of spots along the optical axis on the side of the axicon lens away from the light. As an object approaches the device an electric impulse is generated by the detector each time the object passes through one of the spots of light. Thus, a train of pulses is observed as the object moves through the interval occupied by the source spots. When the appropriate predetermined number of pulses is counted by the detector circuitry a single output pulse is generated indicating the object is a desired distance in front of the axicon lens.

3,523,733
METHOD AND APPARATUS FOR PARTICLE COUNTING
Nelson G. Kling, Ringwood, N.J., and Kent M. Negersmith, Mahopac, N.Y., assignors to Technicon Corporation, a corporation of New York
Filed Jan. 5, 1966, Ser. No. 518,908
Int Cl. G01n *15/02, 21/06, 33/16*
U.S. Cl. 356—39 **9 Claims**



Apparatus and method are described for counting particles suspended in a liquid sample, e.g. red and white cells in a blood sample. The liquid samples are supplied as a flowing stream and divided into two quotient streams which are independently treated for the analysis of a different constituent. The treated increments in each quotient stream are directed successively through a flowcell whereby each successive increment washes the flowcell of contaminants from a previous increment. In the preferred embodiment, treated increments from the quotient streams are directed atlernately and cyclically through the flowcell in opposite directions whereby the flowcell is reversed-flushed by each successive increment.

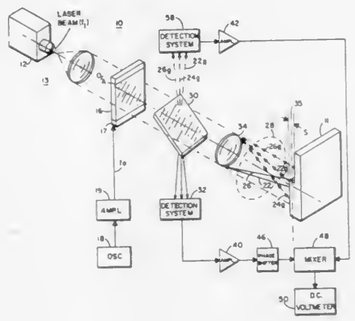
3,523,734
DIFFRACTION GRATING SPECTROMETER WHEREIN THE GRATING HAS FIRST AND SECOND GROUPS OF GROOVES
Richard Keith Brehm, Lexington, Joseph Stanislaw Ilowski, Hyde Park, and Richard Fiske Jarrell, Waban, Mass., assignors, by mesne assignments, to Fisher Scientific Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 18, 1967, Ser. No. 691,336
Int. Cl. G01j *3/40*
U.S. Cl. 356—79 **12 Claims**



A direct reading spectrometer has an entrance slit and a series of exit slits disposed along the focal curve of the

Rowland circle (75 cm. in diameter). A rectangular grating is formed on a concave spherical surface that lies on the Rowland circle. The grating has a center section thirty mm. high and twenty mm. wide that is ruled with 2400 grooves/mm. and two identical side sections, each thirty mm. high and ten mm. wide that are ruled with 1600 grooves/mm. Two superimposed spectra are produced by this grating and these spectra are separated either by filters or masks disposed between the grating and the radiation sensors disposed behind the exit slits.

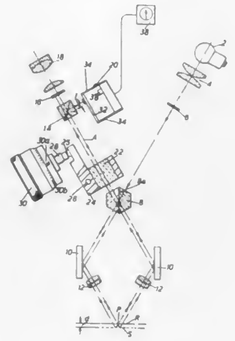
3,523,735
INTERFEROMETER SYSTEM FOR DISTANCE MEASUREMENT
Jack Eldon Taylor, Monroe, N.Y., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Oct. 7, 1966, Ser. No. 585,116
Int. Cl. G01b *9/02*
U.S. Cl. 356—106 **8 Claims**



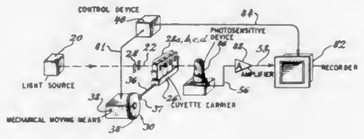
A laser interferometer is described for measuring very small distances, such as exist between the layers of a thin film microcircuit. The laser beam is modulated so as to provide a reference beam and a signal beam which are of different frequency and are offset spacially with respect to each other. The signal beam and the reference beam are projected upon the microcircuit and are reflected therefrom along substantially the same path. Because the beams are optically shifted during modulation, the reference beam and the signal beam will be reflected from layers on the microcircuit which are separated by the distance to be measured. A detection system which operates by heterodyning the beams provides an electrical output which indicates the distance to be measured.

3,523,736
METHOD OF AND MEANS FOR SURFACE MEASUREMENT
Stafford Cyril Bottomley, Wallington, England, assignor to Hilger & Watts Limited, London, England, a company of Great Britain and Northern Ireland
Filed June 8, 1967, Ser. No. 644,720
Int. Cl. G01b *11/00*
U.S. Cl. 356—156 **10 Claims**

The specification describes a non-contacting measurement probe of optical form. An incident beam is split into two to follow paths oblique to a reflecting surface under test and the split beams are deflected through a cross-over point representing a datum adjacent to the surface under test. After reflection from the surface the split beams are directed along a common exit path and measurement of the surface distance from the datum is determined by the combined lateral displacement imposed on the split beams, while measurement of the surface obliquity is determined by the relative lateral displacement between the two split beams.



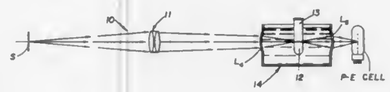
3,523,737
CUVETTE POSITIONING DEVICE FOR OPTICAL DENSITY ANALYTICAL APPARATUS
Willis Avery Wood, Okemos, Mich., and Saul R. Gilford, Oberlin, Ohio, assignors to Gilford Instrument Laboratories Inc., Oberlin, Ohio, a corporation of Ohio
Original application Sept. 7, 1960, Ser. No. 54,421. Divided and this application Dec. 16, 1964, Ser. No. 427,999
Int. Cl. G01n *1/10, 21/24*
U.S. Cl. 356—180 **10 Claims**



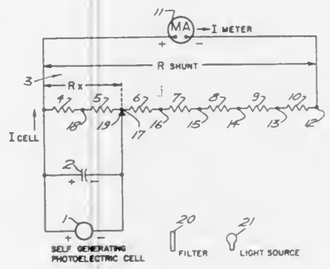
A cuvette positioning device for discretely and precisely positioning and holding each of a plurality of cuvettes in a narrow beam of light. The cuvettes are mounted on a carriage which is incrementally driven through a cam and follower. The cam surface has a plurality of radial dwell portions, each of a different radius, to effect precise positioning of the carriage without use of detents or the like. Preferably, the cam is rotated by a motor operable through a presettable electrical programmer, whereby one or more of the cuvettes are periodically selected, positioned, and held in the beam of light. The programmer also controls the operation of absorbance responsive and recording means such that, during the time intervals the cuvette carriage is in motion, the responsive and recording means are rendered incapable of operation.

3,523,738
LENS SYSTEM FOR THE SAMPLE COMPARTMENT OF SPECTROPHOTOMETERS, COLORIMETERS AND THE LIKE
James J. Chisholm, Rochester, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Apr. 23, 1968, Ser. No. 723,385
Int. Cl. G01b *9/34;* **G01n** *21/22*
U.S. Cl. 356—201 **6 Claims**

A special lens system designed for individual or multiple sampling for a spectrophotometer of the type wherein according to one form of the invention a plurality of test tube samples are placed in a sampling accessory for successive sampling by the spectrophotometer, colorimeter or the like. The system comprises a relay lens which receives an illuminating beam and is optically aligned with an entering and an exiting lens fixed in the opposite walls of the sampling accessory, and designed such that the sampling accessory may be used both with and without liquid in the sample compartment but in either case not requiring a change in the optical system.



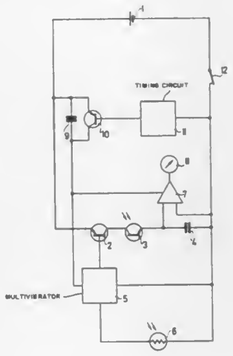
3,523,739
LIGHT METER FOR HIGH POWERED REPETITIVE LIGHT FLASHES
Louis L. Weisglass, New York, N.Y., assignor to Berkey Photo, Inc., New York, N.Y.
Filed Dec. 22, 1965, Ser. No. 515,652
Int. Cl. G01j *1/42, 1/46*
U.S. Cl. 356—215 **4 Claims**



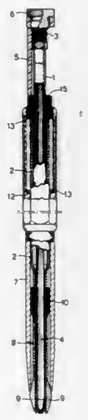
A light integrating meter for measurement of repetitive high powered light flashes of short duration incorporating a photocell having a characteristic such that the cell produces a current output proportionate to impinging light levels only with a low impedance load in which the light integrating meter includes a storage capacitor periodically charged by the photocell, the capacitor serving as a very low impedance loading device for the photocell, a metering circuit being provided discharging said capacitor and providing a metered indication proportionate to the average intensity of the light flashes.

3,523,740
CIRCUIT FOR MEASURING LIGHT FLUX OF FLASHES OF LIGHT
Helmut Peter, Erlangen, and Gerhard Schmidt and Karl-Heinz Wirth, Frauenaurach, Germany, assignors to P. Gossen & Co., G.m.b.H., Erlangen, Bavaria, Germany
Filed July 24, 1968, Ser. No. 747,364
Int. Cl. G01j *1/42, 1/44, 1/46*
U.S. Cl. 356—215 **11 Claims**

A battery feeds through a timing device, a light measuring and a trigger circuit. The light measuring circuit has a phototransistor connected in series with a control transistor and a measuring condenser. The trigger circuit comprises a photoelectric cell which triggers a monostable multivibrator which in turn abruptly opens said control transistor when a flashlight occurs. The charge on the measuring condenser is indicated through an impedance transducer by a moving-coil indicator.



3,523,741
LEAD PENCIL HAVING MEANS ADAPTED TO CONTROL THE DROP OF THE REFILL LEAD
Giulio Gigli, Baranzate, Milan, Italy, assignor to Ardis S.p.A., Baranzate, Milan, Italy
Filed Sept. 20, 1966, Ser. No. 580,665
Claims priority, application Italy, Sept. 30, 1965, 21,782/65
Int. Cl. B43k *21/22*
U.S. Cl. 401—94 **1 Claim**

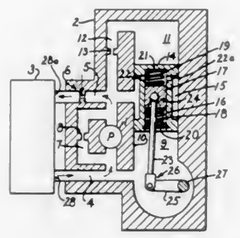


A pencil having means adapted to control the amount of lead projecting from the sheath and preventing accidental removal of the lead. A chuck holds one end of the lead, selectively, in both projecting and retracted positions. The other end of the lead fits into and is held by a small tube mounted in the sheath for restricted axial movement.

3,523,742
HYDRAULIC SPEED GOVERNOR
Harold Gold, 3645 Tolland Road, Shaker Heights, Ohio 44122
Filed Feb. 7, 1966, Ser. No. 525,687
Int. Cl. F01c *21/12*
U.S. Cl. 415—17 **8 Claims**

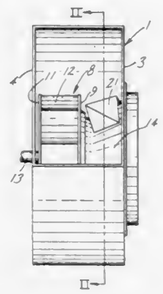
Flow from a pressure source is conducted to a prime-mover driven, positive displacement pump and in-series

flow restrictions; the pressure source and flow restrictions functioning to provide the reference flow rate; the pressure gradient across said pump signaling the error in the prime-



mover speed. Means responsive to said pressure gradient provide proportional plus integral control of the prime-mover speed.

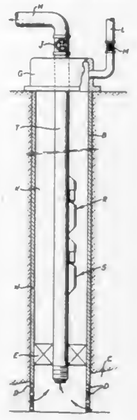
3,523,743
DEFLECTOR FOR A CENTRIFUGAL BLOWER
Gerald P. Jolette, Kalamazoo, Mich., assignor to The Brundage Company, Kalamazoo, Mich., a corporation of Michigan
Filed Jan. 16, 1969, Ser. No. 791,703
Int. Cl. F04d *17/08, 29/40*
U.S. Cl. 415—204 **6 Claims**



In a centrifugal blower wherein the housing is of substantially greater axial dimension than the impeller, this invention provides a deflector structure for placement on an inlet member. This minimizes the otherwise existing tendency for air to circulate around the inlet member in the zone offset from the impeller, whereby the use of such deflector improves the efficiency of the blower unit. The deflector of the invention is a simple rectangular member bent in a characteristic manner and fastened solely to the inlet member.

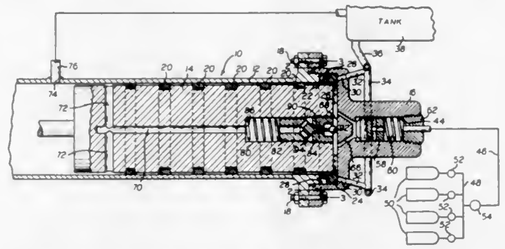
3,523,744
DIFFERENTIAL GAS LIFT SYSTEM
Collis H. Holladay, Jr., Olney, Ill., assignor to Baker Oil Tools, Inc., City of Commerce, Calif., a corporation of California
Filed Dec. 2, 1968, Ser. No. 780,475
Int. Cl. F04f *1/12, 1/00, 1/08*
U.S. Cl. 417—115 **18 Claims**

A well bore gas lift system for lifting well bore liquid through a tubing string to the well bore top. Two differential valves feed gas from the tubing-casing annulus into the tubing string, one valve being arranged to operate at a normal high pressure differential setting and the other valve at a very low pressure differential setting. The high-set valve first opens and assists the low-set valve



to then open, the low-set valve first closes and assist the high-set valve to then close.

3,523,745
VENT VALVE
Harold T. Rich, Fullerton, Calif., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 20, 1968, Ser. No. 730,463
Int. Cl. F04b *49/00, 15/00, 13/02*
U.S. Cl. 417—284 **5 Claims**

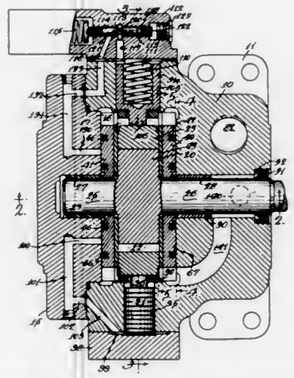


This specification discloses a valve system for a positive displacement pump, specifically a cylinder-and-piston pump. There is a vent or relief valve for venting the clearance between the piston and the cylinder head at the end of each pumping stroke of the pump. This relief valve is opened mechanically by the final movement of the piston as the piston completes a pump stroke. The pressure in the clearance drops quickly so that the suction valve of the pump inlet can open sooner as the piston starts its return stroke; and the escaping of compressed and heated fluid from the pump clearance space reduces the quantity of warm fluid remaining in the pump chamber.

3,523,746
FLUID TRANSLATING DEVICE
Lazarus H. Dadian, and Horst O. Gehrung, Racine, Wis., and Roger O. Griffiths, Minneapolis, Minn., assignors to Racine Hydraulics, Inc., a corporation of Wisconsin
Filed Oct. 31, 1968, Ser. No. 772,173
Int. Cl. F04c *1/00, 5/00, 15/02*
U.S. Cl. 418—26 **19 Claims**

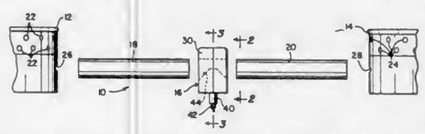
A fluid translating device, such as a pump, having a pumping chamber with pumping elements including a slotted rotor with movable vanes, a movable ring surrounding the rotor for controlling the movement of the vanes outwardly of the rotor, and pressure plates on opposite sides of the rotor and ring having ports therein for

conducting fluid to and from the vanes. A peripherally-sealed pressure area surrounds the pressure ports to urge the pressure plates toward the rotor and movable ring to oppose the pressure generated by the pump and maintain an effective seal to reduce pump leakage. A spacer member is positioned between the pressure plates against



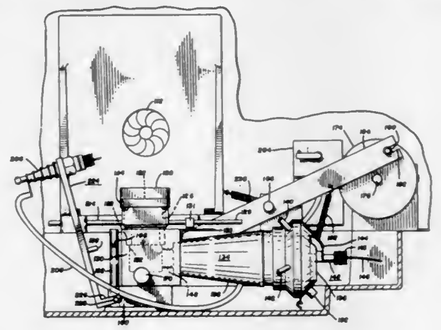
which the pressure plates abut to limit inward movement of the pressure plates to avoid binding the movable ring. Pressure compensation control of the movable ring is provided by opposed fluid pistons. Provision is made for intermittent lubrication of the bearings mounting the rotor shaft during operation of the pump by passages placed in communication during revolution of the pump rotor. Hertz stress on the movable ring of the pump is reduced by curved ends on the movable vanes.

3,523,747
GAS BURNER IGNITION
Gilbert W. Gross, Elmhurst, Leonard H. Michaels, La Grange, and William H. Patrick, Downers Grove, Ill., assignors to Harper-Wyman Company, Hinsdale, Ill., a corporation of Illinois
Filed June 18, 1968, Ser. No. 737,898
Int. Cl. F24c *3/10*
U.S. Cl. 431—192 **7 Claims**



A spark ignition device is located between flash tubes extending to space gas burners. A spark gap is disposed in a small diameter neck of a passageway extending through the body of the device between the flash tubes. Outwardly flared, funnel-shaped portions extend from the neck to the mouths of the passageway. Ramp surfaces guide flow from the flash tubes upwardly to the spark gap. Direct, straight line flow between the flash tubes is substantially obstructed.

3,523,748
IGNITION ASSEMBLY FOR BURNER FOR PHOTOMETRIC APPARATUS
James J. Chisholm, Rochester, and Henry J. Emmel, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Feb. 20, 1967, Ser. No. 617,103
Int. Cl. F23q *3/00*
U.S. Cl. 431—264 **4 Claims**



A lamp housing and burner assembly is disclosed for use with photometric apparatus for determining and/or measuring the concentration of atoms by an atomic absorption phenomenon. A plurality of adjustable light sources emitting radiation that is characteristic of particular atoms are mounted in radial relation about an optical means. The optical means is adapted to select radiation from a particular source and to direct a beam of radiation through a flame zone of a burner into which a test solution is aspirated. The burner is a slot type burner that is rotatably, horizontally, and vertically adjustable to control the position of the flame through which the beam passes. An adjustable aspirator assembly is provided for the burner to control the aspiration efficiency. A piezoelectric ignition system is provided for the burner that automatically moves a spark device into and out of the flame zone while simultaneously generating a high voltage for creating the spark.

CHEMICAL

3,523,749
PROCESS FOR DYEING VISCOSE RAYON AND NYLON WITH SUBSEQUENT FIXATION IN A HALOGENATED HYDROCARBON BATH
John Kenneth MacLeod and Kenneth Gordon Reed, Runcorn, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Sept. 26, 1966, Ser. No. 581,696
Claims priority, application Great Britain, Sept. 30, 1965, 41,614/65
Int. Cl. D06p *3/66*
U.S. Cl. 8—54.2 **20 Claims**

Textile materials are dyed by treating the textile material with a dyestuff composition and fixing the dye thereof by passing the textile material through liquid halogenated hydrocarbons at 70° C. up to the boiling point thereof.

3,523,750
PROCESS FOR TREATMENT OF PROTEINACEOUS MATERIALS
Giuliana C. Tesoro, Dobbs Ferry, N.Y., assignor to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 569,016, Aug. 1, 1966, which is a continuation-in-part of application Ser. No. 481,094, Aug. 19, 1965. This application Nov. 8, 1968, Ser. No. 774,508
Int. Cl. D06n *13/48*
U.S. Cl. 8—127.6 **26 Claims**

This invention concerns a novel process for modifying proteinaceous substrates comprising treating said substrates with polyfunctional aziridine reagent, and heating the treated substrate until the desired modification takes place.

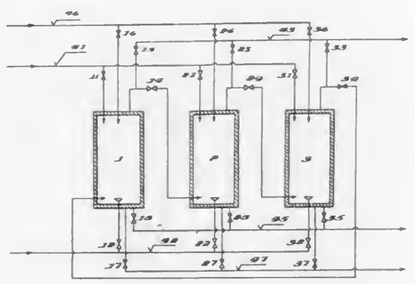
3,523,751
PRECIPITATION OF LITHIUM CARBONATE FROM LITHIUM CHLORIDE SOLUTION
George M. Burkert, Shelby, and Reuben B. Ellestad, Gastonia, N.C., assignors to Lithium Corporation of America, Bessemer City, N.C., a corporation of Delaware
Filed Oct. 20, 1967, Ser. No. 676,928
Int. Cl. C01d *11/02*
U.S. Cl. 23—63 9 Claims

The exploitation of natural chloride brines as a commercial source of lithium requires the preparation of lithium carbonate from lithium chloride, since the former compound is one of the most important commercial lithium products. The reaction of lithium chloride solution with sodium carbonate results in the precipitation of lithium carbonate. The following novel and desirable conditions have been established for this precipitation: (1) simultaneous addition of the LiCl and Na_2CO_3 reactants, preferably to a heel from a previous like reaction, to produce a precipitate of Li_2CO_3 with good settling, filtering and washing properties; and (2) reactant concentrations which will yield the optimum high concentration of NaCl in the mother liquor, to decrease the solubility of lithium carbonate, and thereby increase the recovery.

3,523,752
PREPARATION OF CYANOGEN CHLORINE AND HYDROGEN CHLORIDE
William S. Durrell and Robert J. Eckert, Jr., Mobile, Ala., assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Filed Oct. 5, 1967, Ser. No. 672,966
Int. Cl. C01b *7/08*
U.S. Cl. 23—154 7 Claims

Cyanogen chloride is prepared from hydrogen cyanide and chlorine in certain nonaqueous liquid organic media, the hydrogen chloride formed as a byproduct thus being isolated in a substantially anhydrous condition.

3,523,753
METHOD OF OBTAINING HYDROGEN CHLORIDE GAS, AQUEOUS HYDROGEN BROMIDE SOLUTIONS AND POSSIBLY BROMINE
Herbert Jenkner, Cologne-Deutz, Germany, assignor to Chemische Fabrik Kalk G.m.b.H., Cologne-Kalk, Germany
Filed Oct. 6, 1967, Ser. No. 673,348
Claims priority, application Germany, Oct. 12, 1966, C 40,366, C 40,367
Int. Cl. C01b *7/08, 7/10, 7/12*
U.S. Cl. 23—154 7 Claims

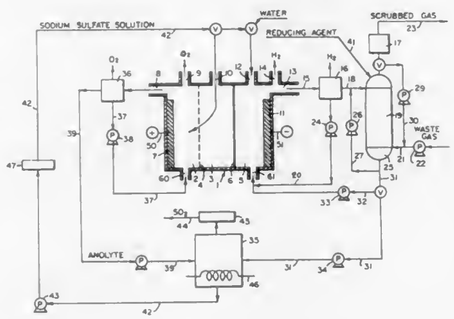


Method for the production of HCl gas from aqueous HCl solutions and for the production of aqueous HBr solutions comprising introducing a quantity of HBr gas into the aqueous HCl solution which is at least equimolar with respect to the HCl and collecting the HCl gas which is driven out from the resulting aqueous HBr solution. If desired, bromide is obtained from the latter by reaction with chlorine.

3,523,754
PROCESS FOR PREPARING PHOSPHORIC ACIL
Yoshito Yasutake and Yosisige Fujita, Yamaguchi-ken, Japan, assignors to Central Glass Co., Ltd., Yamaguchi-ken, Japan, a corporation of Japan
No Drawing. Filed Mar. 30, 1967, Ser. No. 626,921
Claims priority, application Japan, Apr. 2, 1966, 41/20,595
Int. Cl. C01b *25/22*; C01f *1/46*
U.S. Cl. 23—165 6 Claims

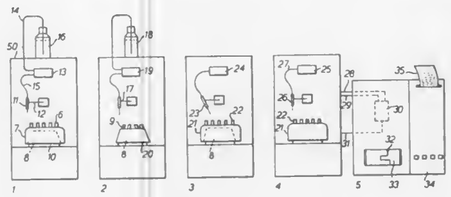
Highly concentrated phosphoric acid (with P_2O_5 content being 35% by weight or more) from phosphate rock can be obtained by first preparing a slurry of gypsum by adding phosphoric acid and sulphuric acid to phosphate rock; adding seed crystals of calcium sulfate hemihydrate to said slurry; holding the resulting mixture for a period of time and at a temperature long and high enough for the gypsum contained in said mixture to completely transform to calcium sulfate hemihydrate; and filtering this calcium sulfate hemihydrate crystals to obtain phosphoric acid and concurrently produce highly pure calcium sulfate as a by-product.

3,523,755
PROCESSES FOR CONTROLLING THE pH OF SULFUR DIOXIDE SCRUBBING SYSTEM
Wayne A. McRae, Lexington, Mass., assignor to Ionics, Incorporated, Watertown, Mass.
Filed Apr. 1, 1968, Ser. No. 717,766
Int. Cl. C01b *17/56*; B01d *13/02*; B01k *3/00*
U.S. Cl. 23—178 10 Claims



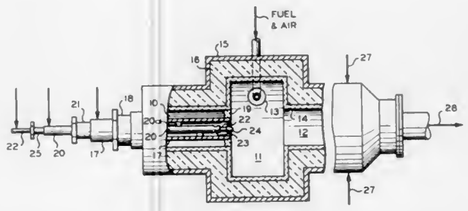
This invention is directed to a continuous cyclic process for the absorption of sulfur dioxide as bisulfite into an alkailne solution from a gas containing minor amounts of sulfur dioxide and oxygen and/or other oxidants with subsequent recovery of a concentrated sulfur dioxide gas stream. Reducing agents such as sodium dithionite are added to the sulfur dioxide absorbing alkaline solution to control the pH of the system and also to prevent loss of recoverable sulfur dioxide from the undesired oxidation of said sulfur dioxide which oxidation otherwise generally occurs within the absorber. Suitable reducing agents are those which will preferentially react with and remove dissolved oxygen present in the alkaline solution to form bisulfite. The reducing agent consumed may be reformed by electrolytically reducing bisulfite in the cathode compartment of an electrolytic cell with the resulting reformed reducing agent recycled for additional oxygen removal. Alternatively the pH of the system is controlled by adding lime and soda ash equivalent to the amount of sulfur dioxide oxidized or by crystallizing sulfate salts out of part of the electrolytic cells' anolyte bisulfate solution thereby removing and recovering sulfuric acid from the system.

3,523,756
PROCESS FOR EVALUATING A PROPERTY OF A DISCRETE PLURALITY OF CHEMICAL SUBSTANCES
Herbert Loebl, Newcastle-upon-Tyne, England, assignor to Joyce, Loebl and Co. Limited, Gateshead, England, a British company
Filed May 3, 1966, Ser. No. 550,876
Claims priority, application Great Britain, May 7, 1965, 19,305/65
Int. Cl. G01n *21/00, 33/16*
U.S. Cl. 23—230 2 Claims



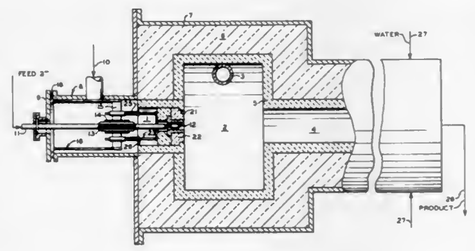
Method of processing a plurality of samples wherein the samples are placed in a plurality of discrete containers, transferred by means of a pipette or the like to a second plurality of discrete containers located in a holder together with the addition of a predetermined quantity of at least one reagent which is mixed with the samples. The samples are then transferred in discrete containers to a treatment station, such as a centrifuging station, and then transferred in the discrete containers to a photometric measuring instrument, in which a recording pen is held stationary between sample tests, and for a period of time after the sample is transferred to the instrument, for evaluating a property of each sample.

3,523,757
APPARATUS FOR PRODUCING CARBON BLACK
Jack P. Knight, Borger, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 16, 1967, Ser. No. 675,518
Int. Cl. C09c *1/48*; C10b *47/04*
U.S. Cl. 23—259.5 7 Claims



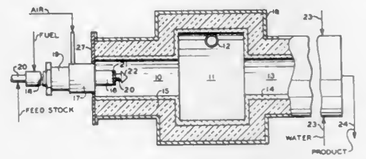
An adjustable carbon black producing apparatus which is convertible from 2 to 3 axially aligned combustion zones for producing low, regular and high structure carbon blacks. The length of the upstream combustion zone can also be varied when producing the higher structure carbon blacks.

3,523,758
APPARATUS FOR PRODUCING CARBON BLACK
Oliver K. Austin and Charles R. Venable, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 16, 1967, Ser. No. 675,517
Int. Cl. C09c *1/48, 1/50*; C10b *47/04*
U.S. Cl. 23—259.5 5 Claims



A carbon black producing apparatus readily convertible from 2 to 3 axially aligned combustion zones for producing low, regular, and high structure carbon blacks.

3,523,759
APPARATUS FOR PRODUCING CARBON BLACK
Jesse R. Kidd, Orange, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 16, 1967, Ser. No. 675,392
Int. Cl. C09c *1/48, 1/50*; C10b *47/04*
U.S. Cl. 23—259.5 6 Claims

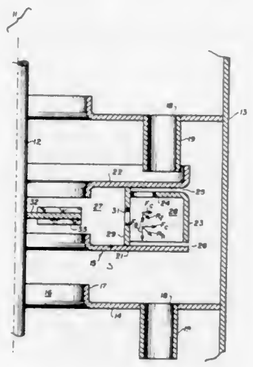


A carbon black producing apparatus having three axially aligned combustion chambers suitable for producing high structure carbon black is equipped with a removable annular plug in the upstream chamber to yield two axially aligned combustion chambers suitable for producing regular and low structure carbon blacks.

3,523,760
MULTISTAGE LIQUID-EXTRACTOR HAVING IMPROVED SEPARATING MEANS
Willi Wirz, Reinach, Switzerland, assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
Filed Mar. 28, 1969, Ser. No. 811,535
Claims priority, application Switzerland, Apr. 11, 1968, 5,499/68
Int. Cl. B01d *11/04*
U.S. Cl. 23—270.5 4 Claims

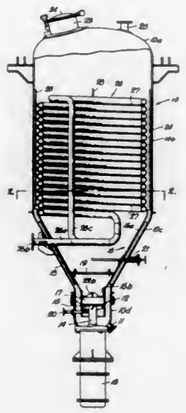
A multistage liquid-liquid extraction process and apparatus in extraction columns, where the separately incoming phases are stirred to generate a turbulent circular flow to provide a mixed emulsion at each of the stages, a separating chamber arrangement is provided for divorcing the emulsion from the turbulent formation but maintaining the laminary circular flow causing the emulsion to

be separated into a lighter and heavier phase at different zones within the separating chamber, and separate exits



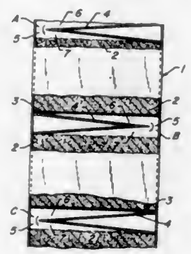
are employed for conducting and discharging the separated phases to a settling area.

3,523,761
REACTION VESSEL WITH COIL CONTACT HEAT EXCHANGE
Ward A. Graham, Kansas City, Mo., assignor to Stratford Engineering Corporation, Kansas City, Mo., a corporation of Delaware
Filed Oct. 4, 1966, Ser. No. 584,264
Int. Cl. F28f *13/06*
U.S. Cl. 23—285 **6 Claims**



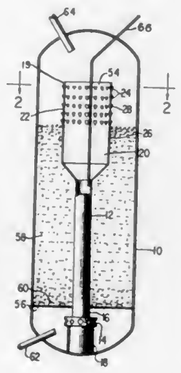
A circulating reaction vessel utilizing a circulation tube and including heat exchanging means wherein: (1) the heat exchanging means is itself a portion of the circulation tube, (2) the portion of the heat exchanging means which is part of the circulation tube comprises a wrapped coil with adjacent coils spaced, one from the other, to permit passage of limited quantities of fluid therebetween and (3) variations of structure of the circulating tube coil are provided in order to achieve flow managing and controlling effects.

3,523,762
BAFFLED CHAMBER FOR A PLURALITY OF CONTACT BEDS TO PRECLUDE DIFFUSED FLUID FLOW
Donald B. Broughton, Evanston, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed May 19, 1967, Ser. No. 640,463
Int. Cl. B01j *1/06, 1/22, 9/02*
U.S. Cl. 23—285 **4 Claims**



A fluid-solids contacting chamber for a plurality of spaced packed beds where baffle means between beds are specially constructed with sloping upper and lower faces and, in addition, are specially designed and positioned with respect to each other to provide lateral fluid collecting and distributing passageway means where fluid flow velocities in such passageway are always the same at points on the same vertical line through the chamber. The particular baffling design and arrangement also maintains a desired square front or "plug-flow" for the fluid stream through the chamber without diffusion but will permit remixing and counteract the effects of any channeling in each bed.

3,523,763
CATALYTIC REACTOR
Roger P. Van Driesen, Hopewell, N.J., Norman C. Stewart, Lake Charles, La., and Edmund W. White, Silver Spring Md., assignors to Cities Service Research and Development Company, New York, N.Y., a corporation of Delaware
Filed Sept. 28, 1967, Ser. No. 671,367
Int. Cl. B01j *9/06, 9/20;* **B01d** *45/08*
U.S. Cl. 23—288 **7 Claims**

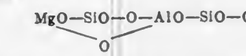


Catalytic hydrocarbon reactor apparatus comprising a reaction vessel, means for introducing feedstock reactant fluids such as liquids and gas and particulate catalyst

solids into the vessel together with means for removing the products, and an internally mounted vertical open ended recycle conduit with a centifugal pump at the bottom of the conduit and having a funnel shaped head portion extending into the top portion of the reaction vessel, the extended outside wall of the funnel shaped head portion having a multiplicity of vertical scalloped shaped protrusions with small openings in the tops thereof to effectuate improved gas liquid disengagement.

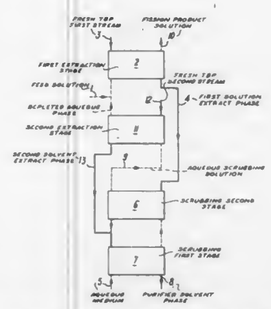
3,523,764
PROCESS FOR THE MANUFACTURE OF MAGNESIUM ALUMINOSILICATE FOR MEDICAL USES
Hidetaka Uoda, Shinminato-shi, Matajiro Ohsaka, Imizugun, Toyama-ken, and Minoru Okuda, Toyama-shi, Japan, assignors to Fuji Kagaku Kogyo Kabushiki Kaisha, Toyama-ken, Japan, a company of Japan
No Drawing. Filed Dec. 27, 1966, Ser. No. 604,612
Claims priority, application Japan, Dec. 27, 1965, 40/81,133
Int. Cl. C01f *5/00, 7/00;* **C01b** *33/28*
U.S. Cl. 23—315 **5 Claims**

A novel magnesium aluminosilicate of the following structure:



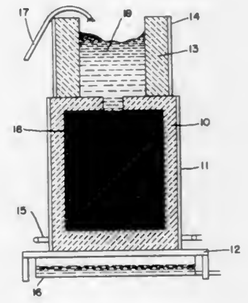
to be used as an antacid for medical application, and a process for preparing the compound by reacting slurries containing equivalent amounts of freshly produced basic sodium magnesium silicate and dibasic aluminum silicate, under vigorous stirring, at temperatures ranging from normal to about 70° C., for several hours, allowing the precipitate formed to settle, withdrawing the supernatant liquid, and drying.

3,523,765
MULTISTAGE PROCESS FOR EXTRACTING U AND Pu WITH SOLVENT COMPRISING TRIBUTYLPHOSPHATE
André Grieneisen, Paris, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed Feb. 27, 1967, Ser. No. 618,621
Claims priority, application France, Mar. 8, 1966, 52,601
Int. Cl. B01d *11/04*
U.S. Cl. 23—341 **4 Claims**



The invention relates to a process for the extraction of uranium and plutonium ions from an aqueous solution, derived from the reprocessing of irradiated nuclear fuels, and comprises successively a primary stage wherein said ions are extracted into a first organic solvent containing tributylphosphate, followed by washing the loaded solvent thus obtained with an aqueous washing solution. In a secondary stage said ions, which are carried over with said aqueous washing solution, are extracted into a second organic solvent stream prior to recycling.

3,523,766
PRODUCTION OF CELLULAR METALS
Harold Markus, 1150 Sydney St., and Samuel Lipson, 8010 Rodney St., both of Philadelphia, Pa. 19150
Continuation of application Ser. No. 10,006, Feb. 19, 1960. This application Jan. 16, 1969, Ser. No. 800,325
Int. Cl. B22d *29/00, 25/02;* **B32b** *15/00*
U.S. Cl. 29—180 **42 Claims**



A porous, cast metal structure containing many randomly interconnected empty chambers occupying substantially the entire volume thereof and connected at points of contact with each other thus forming random, tortuous passageways throughout its structure. The structure is produced by preparing a mass of preformed solid objects composed of soluble granules which have a higher melting point than the metal and which are soluble in a solvent, heating said mass to a temperature approximating the melting point of the metal, infiltrating the interstices between said solid objects in said mass with the metal in molten form, cooling the composite metal and granules to solidify said metal and removing the granules by leaching with said solvent to form a metallic article having interconnected voids corresponding to the said solid objects distributed therethrough.

3,523,767
FUEL OIL ADDITIVE AND METHOD OF MAKING THE SAME
Andrew T. McCord, Snyder, N.Y., assignor, by mesne assignments, to Marmanac Inc., Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Mar. 29, 1965, Ser. No. 443,660
Int. Cl. C10l *1/32*
U.S. Cl. 44—51 **10 Claims**

A fuel oil additive and method of making the same which comprises reacting aqueous magnesium hydrate with a fatty acid soap which is dissolved in a hydrocarbon solvent to produce magnesium hydrate in situ in a hydrocarbon solvent. In one form, the additive includes an oil-insoluble metal hydroxide. In another form, the additive includes at least one non-abrasive compound selected from the group consisting of the hydrates of chromium, copper, manganese, zinc and the like.

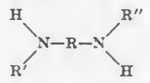
3,523,768
ESTER MODIFIED POLYMERS AS FUEL DISPERSANTS
Enver Mehmedbasich, El Cerrito, and Eddie G. Lindstrom, Martinez, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Apr. 28, 1965, Ser. No. 451,663
Int. Cl. C10l *1/18*
U.S. Cl. 44—62 **8 Claims**

Succinic substituted polymers of alphaolefins are employed as dispersants in fuels. The polymers are of at

least 100,000 molecular weight, the carbon atoms of the olefins have an average number in the range of 6 to 18 and the esters have hydrocarbon groups of from 1 to 30 carbon atoms.

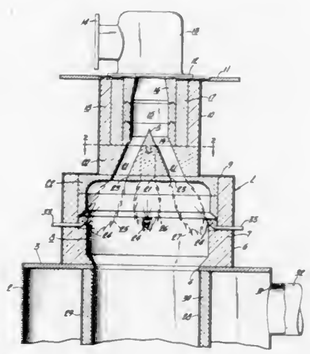
3,523,769
MONO-SUBSTITUTED HYDROCARBON FUEL ADDITIVES
James W. Tooke, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed July 25, 1966, Ser. No. 567,401
Int. Cl. C10l *1/22*
U.S. Cl. 44—72 **4 Claims**

The combustion characteristics of hydrocarbon fuels are improved by adding a small amount of a compound having the general formula



wherein R' and R'' are alkyl, cycloalkyl, aryl, aralkyl or alkaryl radicals and wherein R is an alkylene radical.

3,523,770
FLAME SPLITTING ARRANGEMENT
Edward Rahm, Philadelphia, Pa., assignor, by direct and mesne assignments, of fifty percent each to Howe-Baker Engineers, Inc., Tyler, Tex., a corporation, and Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Nov. 9, 1967, Ser. No. 681,836
Int. Cl. C10g *9/04*
U.S. Cl. 48—102 **5 Claims**



In a flame-cracking reactor employing an elongated tube of large diameter, wherein a burner flame is directed toward one end of the tube, the flame is split into four (or more) laterally spaced flames, for application to the tube. This splitting is effected by means of a body of refractory material having four or more inclined holes therethrough, which is located between the burner and the adjacent end of the tube.

3,523,771
VISUAL DETECTION OF GAS LEAKS
Amos R. Anderson, Adrian, Mich., assignor, by mesne assignments, to American Dynamics International, Incorporated, a corporation of Florida
No Drawing. Filed Sept. 21, 1967, Ser. No. 669,393
Int. Cl. F17d *3/04;* **G01n** *33/22*
U.S. Cl. 48—193 **7 Claims**

The invention relates to admixing with fuel gases an indicant agent so that when the gas mixture escapes or leaks into the atmosphere it will produce a visible signal or smoke at the locus where leakage is occurring. The smoke is produced by reaction of the indicant with oxygen or moisture in the atmosphere. The reaction being exothermic produces a heat build-up which is also detectable by infra-red photography. The indicants are selected from the group of normally gaseous or volatile metal alkyls, metal alkyl hydrides, and metal alkyl halides.

Agents suitable for admixing with fuel gases are compounds having the general formula:

$$MR_nX_{3-n}$$

wherein M is aluminum or boron; R is an aliphatic or olefinic straight chain, branched chain or cyclic organic group having 1 to 10 carbon atoms; X is hydrogen or a halogen selected from the group of chlorine, bromine, iodine and fluorine; and *n* is an integer of at least 1.

Other suitable agents may be compounds having the formula:

$$ZR_nX_{2-n}$$

wherein Z is zinc or cadmium; R is an aliphatic straight chain, branched chain or cyclic organic group having 1 to 10 carbon atoms; X is hydrogen or a halogen from the group of chlorine, bromine, iodine and fluorine; and *n* is an integer of at least 1.

Specific illustrative agents are triethyl aluminum, ethyl aluminum sesquichloride, diisobutyl aluminum chloride, diisobutyl aluminum hydride, triisobutyl aluminum, aluminum diethyl hydride, diethyl zinc, diethyl cadmium, triethyl borane, etc. which may be added directly to the fuel gases or diluted with compatible hydrocarbon solvents such as butane, hexane, heptane, etc. The agents, singly, or mixtures thereof, may be added to fuel gases in amounts ranging from 0.01 to 10% by weight so that when the admixed fuel gases escape into the atmosphere they produce a visible smoke.

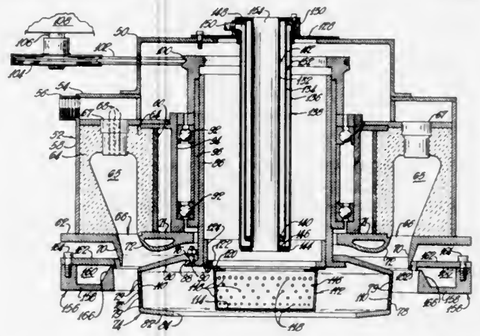
3,523,772
STEAM REFORMING OF HYDROCARBONS
Wilbur K. Leaman, Medford Lakes, Charles J. Plank, Woodbury, and Edward J. Rosinski, Deptford, N.J., assignors to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Dec. 20, 1966, Ser. No. 603,177
Int. Cl. C01b *2/14;* **B01j** *11/00*
U.S. Cl. 48—214 **8 Claims**

Steam reforming of either normally gaseous or liquid hydrocarbons is effected in the presence of a crystalline aluminosilicate promoted with one or more hydrogenating-dehydrogenating metal components, the crystalline aluminosilicate being preferably of a particle size of less than 1 micron.

3,523,773
ABRASIVE ARTICLES CONTAINING A POLYIMIDE RESIN AND LEAD-GLASS BOND
Leo A. Sears, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 26, 1967, Ser. No. 611,833
Int. Cl. C08g *20/32;* **C08h** *17/04*
U.S. Cl. 51—298 **10 Claims**

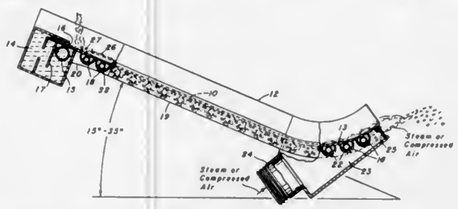
A grinding wheel formed of an abrasive such as diamonds and a binder of a high temperature synthetic resin such as an aromatic polyimide and other additives wherein a low melting glass is incorporated in the composition and melted during fabrication of the grinding wheel, to produce a glass/diamond bond in addition to the resin/diamond bond.

3,523,774
ROTARY APPARATUS FOR FORMING GLASS FIBERS
Dale Kleist, St. Louisville, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Continuation of application Ser. No. 554,756, June 2, 1966. This application July 11, 1969, Ser. No. 845,674
Int. Cl. C03c *19/04, 37/04*
U.S. Cl. 65—14 **5 Claims**



The disclosure embraces a method of and apparatus for processing glass to form glass fibers involving the use of a rotating hollow spinner of large diameter having ten thousand or more orifices through which streams of glass are centrifuged through a high temperature environment at the periphery of the spinner and engaging the glass streams with a low temperature high velocity blast directed by a surface toward the spinner for attenuating the streams to fibers and progressively constricting the expansion of the gases between the spinner and the surface in the direction of movement of the gases.

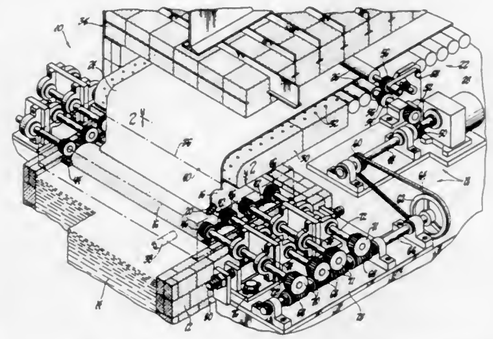
3,523,775
METHOD AND APPARATUS FOR TREATING SLAG
Roger L. Rueckl, Franklin Township, Westmoreland County, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed July 10, 1967, Ser. No. 652,044
Int. Cl. G03b *37/06*
U.S. Cl. 65—19 **10 Claims**



Method and apparatus for treating blast furnace slag to produce aggregates for use in concrete. Molten slag is poured over a sheet of water cascading down a sloping trough. Gas jets strike the slag as it discharges from the bottom of the trough. Slag forms lightweight aggregates of proper strength.

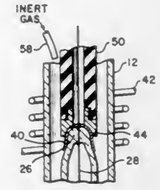
3,523,776
METHOD AND APPARATUS FOR MANUFACTURING SHEET GLASS
Harold A. McMaster, Woodville, Ohio, assignor to Permaglass, Inc., Millbury, Ohio, a corporation of Ohio
Filed Mar. 15, 1967, Ser. No. 623,367
Int. Cl. G03b *15/04, 13/04*
U.S. Cl. 65—25 **19 Claims**

Method and apparatus for forming glass sheet by rotating spaced rolls which are partially immersed in a molten glass bath to move molten glass into a rounded elongated body, of bulbous cross section, above the rolls where the surface is fire polished, the sheet being drawn from this elongated body. The rolls are of a material which the molten glass will not wet. The drawn sheet is



of high optical quality in that it has uniform thickness and smooth surfaces. The drawn sheet is preferably floated on a gaseous support bed and cooled as it approaches rollers which draw the sheet from the elongated body.

3,523,777
METHOD OF MAKING ELECTROCHEMICAL GLASS ELECTRODE ASSEMBLY
Arne J. Petersen, Balboa, John T. Taylor, Orange, and David Albert Rohrer, Whittier, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed June 29, 1967, Ser. No. 649,962
Int. Cl. C03c *27/02*
U.S. Cl. 65—40 **7 Claims**

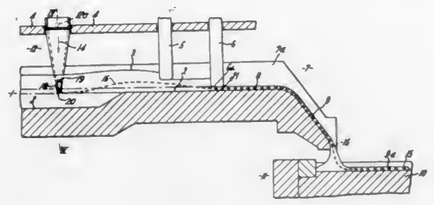


A method of making an electrochemical electrode, in which the internal half-cell is sealed into a constricted portion of an inner glass tube, by means of electromagnetic energy. The energy is conveyed to the constricted portion by a tool, inserted within the assembly, which contacts a separate thermally and electrically conductive layer which is provided between the tool and the constricted portion. Heat formed in the tool transfers from the tool through the conductive layer to the constricted portion. Thus, the layer is sealed to the constricted portion and the constricted portion is sealed to the wire which carries the half-cell.

3,523,778
METHOD AND APPARATUS FOR INJECTING A LAYER OF A DIFFERENT GLASS INTO A STREAM OF MOLTEN GLASS
Albert Sidney Robinson, Birkdale, Southport, England, assignor to Pilkington Brothers Limited, Liverpool, England, a corporation of Great Britain
Filed Oct. 19, 1967, Ser. No. 676,507
Claims priority, application Great Britain, Nov. 24, 1966, 52,716/66
Int. Cl. C03b *17/00*
U.S. Cl. 65—65 **9 Claims**

A stratified ribbon of glass is developed on a bath of molten metal by pouring molten glass on to the bath, and

a thin stratum of a different glass is injected into the molten glass prior to pouring so that the stratified molten

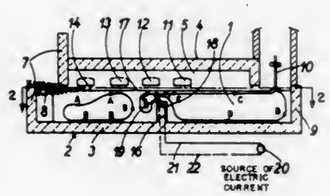


glass is directed to the spout over which the stratified glass is poured on to the bath.

3,523,779
GLASS COMPOSITION AND METHOD
Hossein R. Keshari and William F. Mahoney, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio
Filed Nov. 15, 1965, Ser. No. 507,952
Int. Cl. C03c *3/24*
U.S. Cl. 65—134 **8 Claims**

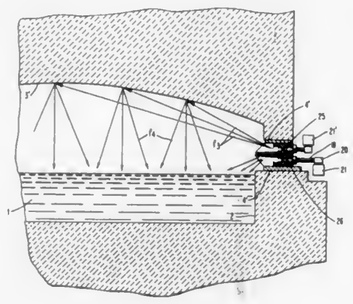
A soda-lime frit glass composition containing chromium and cobalt in proportioned amounts on an oxide basis ranging between about a maximum of 1.5–2.2 weight percent total chrome oxide calculated as Cr_2O_3, about 0.3–0.6 weight percent hexavalent chrome oxide calculated as CrO_3, the amount of trivalent chrome oxide being adjusted to accommodate the amount of hexavalent chrome oxide, and from about 2.2–3.0 weight percent of oxides of cobalt, and a method of producing soda-lime possessing enhanced properties of absorbency to light in the short-wave visible and ultraviolet regions of the spectrum including dissolving in a molten mass of slightly oxidized soda-lime glass chromium and cobalt constituents in amounts producing a resultant soda-lime glass possessing an oxide composition, including 0.003–0.01 CrO_3 and 0.03–0.06 total chromium as Cr_2O_3, and 0.03–0.1 percent by weight of oxides of cobalt.

3,523,780
METHOD OF HEATING A GLASS MELTING FURNACE
Emile Plumat, Gilly, Belgium, assignor to Glaverbel S.A., Brussels, Belgium
Filed Nov. 10, 1966, Ser. No. 593,513
Claims priority, application Luxembourg, Nov. 11, 1965, 49,817
Int. Cl. C03b *5/04*
U.S. Cl. 65—135 **3 Claims**



This invention relates to the manufacture of glass and to glass melting tank furnaces as well as to a process which takes place therein. These furnaces have a withdrawal end from which the molten glass is withdrawn. Upstream of the withdrawal end is the hottest point in the furnace known as the "hot spot." The hot spot acts as a thermal barrier and prevents unmelted batch from passing into the refined and working zones. In order to reduce the amount of cooler molten glass which flows back to the hot spot from the withdrawal end, a transverse wall or sill is provided. In accordance with the invention the heat for the main heating means can be lessened if an additional heating means is provided in the vicinity of the sill. This additional heating means can then directly heat the cooler molten glass returning to the hot spot from the withdrawal end.

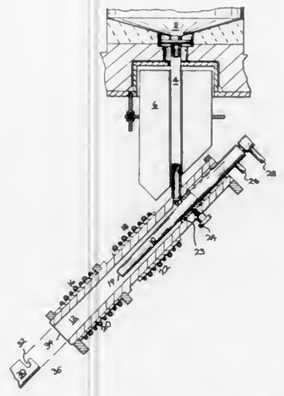
3,523,781
METHOD AND APPARATUS FOR HEATING GLASS MELTING FOREHEARTHS
Maurice J. Leveque, Issy-les-Moulineaux, France, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France
Filed Mar. 17, 1967, Ser. No. 624,098
Claims priority, application France, Mar. 22, 1966, 54,563
Int. Cl. C03b *5/16*
U.S. Cl. 65—134 **7 Claims**



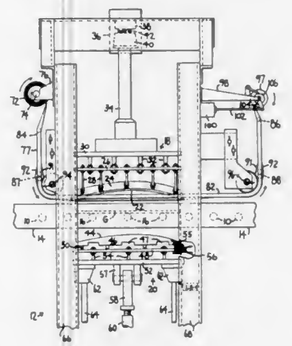
Widthwise temperature uniformity of the glass within the canal of a vaulted forehearth results from directing radiant energy generated by combustion simultaneously from an upper row of burners and from a lower row of burners, each upper burner having a lower wall part longer than its upper wall part and each lower burner having an upper wall part longer than its lower wall part. The upper row of burners direct radiant energy upon the vault by which it is radiated onto the entire width of the glass in the canal, while the lower row of burners simultaneously direct radiant energy onto areas of the glass adjacent to the canal walls only.

3,523,782
GLASS TUBE FORMING APPARATUS
George C. Chapman, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Oct. 3, 1966, Ser. No. 583,831
Int. Cl. C03b *5/32*
U.S. Cl. 65—184 **4 Claims**

Glass tubing is continuously cast into a shape which has structural rigidity by flowing molten glass into an annular molding space, the central axis of which is angularly oriented, which molding space is defined by an inner, internally cooled elongate mandrel and an outer, elongate annular mold which is disposed concentrically with respect to the mandrel and which extends beyond the end of the mandrel for a substantial distance. The molten glass may be flowed into the annular molding space either in an open stream or through a closed delivery tube. One or the other of the mandrel and the annular mold may be advantageously rotated.



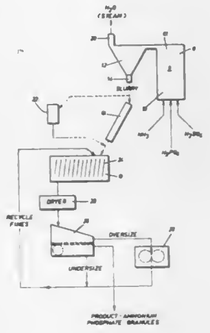
3,523,783
GLASS PRESS SHAPING MEANS WITH MOVABLE FABRIC COVER
Harold W. Clark, Pittsburgh, and George W. Stilley, Freeport, Pa., assignors to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Delaware
Filed Aug. 21, 1967, Ser. No. 661,912
Int. Cl. C03b *23/02*
U.S. Cl. 65—287 **7 Claims**



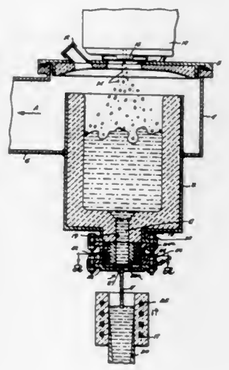
Apparatus for holding movable fiber glass fabric covers for press bending molds in unwrinkled condition.

3,523,784
MANUFACTURE OF AMMONIUM PHOSPHATE FERTILIZER
Benjamin T. Coon, Rossland, British Columbia, Canada, assignor to Cominco Ltd., Montreal, Quebec, Canada, a corporation of Canada
Filed Aug. 24, 1966, Ser. No. 574,679
Claims priority, application Canada, July 12, 1966, 965,197
Int. Cl. C05b *7/00, 11/00*
U.S. Cl. 71—34 **3 Claims**

A process for the production of ammonium phosphate fertilizer of low citrate insoluble P_2O_5 content from phosphate rock having a high magnesium content by the reaction of ammonia with magnesium-containing phosphoric acid produced from said phosphate rock, in which slurry produced by the said reaction is passed to a granulating step under non-quiescent conditions and mixed with ammonium phosphate fines for substantially immediate absorption of moisture from said slurry by said fines and the time of reaction and granulation is limited to less than thirty minutes, to restrict crystal growth of citrate insoluble crystals in the slurry mixture. The amount of water in the slurry during ammoniation is adapted to control the exothermic heat of reaction within the temperature range of about 100° C. to about 150° C., and the amount of ammonium phosphate product fines recycled is sufficient to quickly reduce the water content in the slurry to about 2% to 4%.



3,523,785
METHOD FOR VACUUM DEGASSING AND CASTING MOLTEN METAL WITH ELECTROMAGNETIC CONTROL
John Bernard Gero, Manchester by the Sea, Mass., assignor to Gero Metallurgical Corporation, Gloucester, Mass., a corporation of Delaware
Continuation-in-part of application Ser. No. 498,363, Oct. 20, 1965. This application May 20, 1968, Ser. No. 730,383
Int. Cl. C21c *7/06;* **B22d** *37/00*
U.S. Cl. 75—12 **9 Claims**



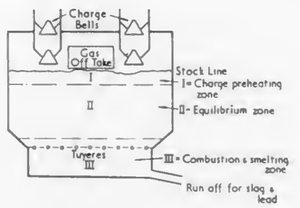
Molten metal degassed in a vacuum chamber is released through a discharge conduit communicating with the atmosphere. The atmospheric pressure outside the chamber

is much greater than the pressure therein and the pressure difference tends to prevent metal from flowing out of the vacuum chamber. To provide continuous flow, without requiring maintenance of a large head of metal within the chamber, electromagnetically induced forces act on the metal within the conduit, forcing it out of the chamber.

3,523,786
METHOD OF OPERATING AND CONTROLLING A ZINC BLAST FURNACE

Michael John Loosemore, New York, N.Y., and Jeremy William Bray, London, England, assignors to Metallurgical Processes Limited, Nassau, Bahamas, a corporation of the Bahamas and Imperial Smelting Corporation (N.S.C.) Limited, London, England, carrying on business together in the Bahamas under the name and style of Metallurgical Development Company

Filed July 5, 1967, Ser. No. 651,169
Claims priority, application Great Britain, July 5, 1966, 30,091/66
Int. Cl. C22b *19/20*
U.S. Cl. 75—87 **2 Claims**



A method of improving the operating efficiency of a zinc/lead blast furnace, by controlling the ratio of zinc to carbon in the charge, and the preheat temperature of the air blast according to the continually monitored values of

(i) the said zinc/carbon ratio,
(ii) the said blast preheat temperature,
(iii) the ratio of slag-forming materials to carbon in the charge,
(iv) the composition of the furnace gas,
(v) the zinc content of slag, and
(vi) the temperature of the molten slag leaving the furnace.

3,523,787
HYDROMETALLURGICAL PROCESS FOR THE RECOVERY OF HIGH PURE COPPER VALUES FROM COPPER AND ZINC BEARING MATERIALS AND FOR THE INCIDENTAL PRODUCTION OF POTASSIUM SULFATE

Hans J. Ullrich, Salt Lake City, Utah, and Robert D. MacDonald, Newtown, Conn., assignors to United States Smelting, Refining and Mining Company, a corporation of Maine

Filed Jan. 25, 1967, Ser. No. 611,615
Int. Cl. C22b *3/00;* **C01d** *5/00*
U.S. Cl. 75—103 **9 Claims**

This invention is a hydrometallurgical process for separating copper and zinc values from other materials and from each other, for recovering the copper values (in highly pure form, if desired), and for incidentally producing potassium sulfate. These objectives are accomplished by subjecting a non-sulfide copper and zinc bearing material to an ammonia, ammonium sulfate leach; by acidifying the resulting solution within a controlled pH range to produce a copper-zinc ammonium sulfate precipitate; and by eliminating ammonia from such precipitate to yield a copper-zinc sulfate brine, from which cuprous chloride of high purity can be precipitated by addition of potassium chloride and sulphur dioxide, the liquid phase being treated in known manner for the separate recovery of potassium sulfate and the zinc values.

3,523,788
AUSTENITIC STAINLESS STEEL OF IMPROVED STRESS CORROSION RESISTANCE

John F. Bates, Franklin Township, Westmoreland County, and Alexel W. Loginow, Monroeville Borough, Pa., assignors to United States Steel Corporation, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 619,552, Mar. 1, 1967. This application June 2, 1967, Ser. No. 643,068
Int. Cl. C22c *39/14*
U.S. Cl. 75—128 **2 Claims**

The invention involves an austenitic stainless steel having outstanding stress-corrosion resistance and superior resistance to acid and pitting corrosion as well as high-temperature oxidation. The steel consists essentially of 0.05 to 0.15% carbon, 1.0 to 2.5% manganese, 0.02% max. phosphorus, 0.03% max. sulfur, 1.65 to 3.0% silicon, 8.0 to 19.0% nickel, 15.0 to 19.0% chromium, 0.05% max. nitrogen and 0.05% max. molybdenum with the aforementioned elements present according to a relationship expressed by a regression equation.

3,523,789
TERNARY ALUMINUM-COPPER-CADMIUM ALLOY

Shiro Kudo, Seiichi Yada, and Takayoshi Yamauchi, Sakai-shi, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Original application June 23, 1965, Ser. No. 466,435, now Patent No. 3,412,042, dated Nov. 19, 1968. Divided and this application Oct. 28, 1966, Ser. No. 605,112
Claims priority, application Japan, Sept. 22, 1964, 39/53,896
Int. Cl. C22c *9/00, 21/00*
U.S. Cl. 75—134 **3 Claims**

A tertiary alloy consisting of aluminum, cadmium and copper in specified proportions is used as a starting material in the preparation of Raney-type ternary alloy catalyst useful in selective hydrogenation of α,β-unsaturated carbonyl compounds, unsaturated fatty acids and unsaturated fatty acid esters.

3,523,790
ENHANCED AND STABLE PHOTOGRAPHIC IMAGES

Allen W. Grobin, Jr., Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

No Drawing. Filed Aug. 29, 1966, Ser. No. 575,505
Int. Cl. G03c *5/04*
U.S. Cl. 96—27 **7 Claims**

Developed Lippmann films are enhanced and stabilized by replacing the free silver images which may have unusual geometric or dendritic forms with free mercury images with regular geometric form. The process is accomplished by contacting developed Lippmann film and silver images therein with aqueous solutions of mercuric iodide and potassium iodide which acts as a complexing agent. Reacting the mercuric iodide with the silver images changes the silver to silver iodide and leaves mercury images within the film. The complexing agent carries the silver iodide out of the film, leaving a film having only mercury images.

3,523,791
PROCESS OF THERMOGRAPHIC COPYING

Marcel Nicolas Vrancken, Hove, Belgium, and Alexander Riebel, Leverkusen, Germany, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company

Filed June 22, 1966, Ser. No. 559,522
Claims priority, application Great Britain, June 22, 1965, 26,467/65; Nov. 26, 1965, 50,442/65
Int. Cl. G03c *11/12, 5/00*
U.S. Cl. 96—28 **14 Claims**

1. A method of recording information, comprising the steps of providing a recording material including a recording layer, which consists of at least about 80% by weight of gelatin and contains homogeneously distributed therein a finely divided material that absorbs visible light and converts absorbed light into heat, said material being present in such an amount that at least 20% and at most 80% of the visible light to which the original is exposed is transmitted; reflectographically exposing the recording layer while in direct contact with an original having visible light-absorbing markings on a visible light-reflecting background for a time not longer than 10^{-1} seconds, said exposure being of such an intensity as to heat portions of said recording layer corresponding to said background to the extent that the swelling rate and the rate of dissolution in water of the gelatin are increased but not of such intensity as to heat portions of said recording layer corresponding to said light-absorbing markings to the extent that the swelling rate and the rate of dissolution in water of the gelatin are increased, and developing the image formed on the recording layer by swelling or dissolving the heated portions of the gelatin.

3,523,792
PROCESS FOR THE PHOTOPOLYMERISATION OF ETHYLENICALLY UNSATURATED MONOMERS

Gerard Albert Delzerne and Urbain Leopold Laridon, Wilrijk, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company

No Drawing. Filed July 3, 1967, Ser. No. 650,576
Claims priority, application Great Britain, Aug. 22, 1966, 37,585/66
Int. Cl. G03c *1/68*
U.S. Cl. 96—35.1 **8 Claims**

A process for the photopolymerisation of ethylenically unsaturated compounds by exposing to light radiation in the presence of an oxazirane compound and a light-sensitive iron (III) compound.

3,523,793
DEVELOPERS CONTAINING SILVER HALIDE SOLVENTS

Vincent J. Micell, Conklin, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 3, 1967, Ser. No. 650,603
Int. Cl. G03c *5/30, 5/50, 7/00*
U.S. Cl. 96—59 **2 Claims**

First developers for reversal process color development containing high concentration of an alkali metal chloride.

3,523,794
DEVELOPERS CONTAINING SILVER HALIDE SOLVENTS

Vincent J. Micell, Conklin, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 3, 1967, Ser. No. 650,631
Int. Cl. G03c *5/30, 5/50, 7/00*
U.S. Cl. 96—59 **2 Claims**

First developers for reversal process color development containing high concentration of an alkali metal bromide.

3,523,795
HEAT DEVELOPABLE PHOTOGRAPHIC COPYING MATERIALS

Kinji Ohkubo and Takao Masuda, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Ashigara-Kanigun, Kanagawa, Japan

No Drawing. Filed Dec. 22, 1965, Ser. No. 515,761
Claims priority, application Japan, Dec. 25, 1964, 39/73,005
Int. Cl. G03c *1/06, 1/48, 5/30*
U.S. Cl. 96—66 **16 Claims**

By heating a photographic light-sensitive material comprising a support and one or more layers containing (a) a light-sensitive silver halide emulsion, (b) at least one oxalate of an aliphatic amine, an aromatic amine or a heterocyclic amine, (c) a metallic salt of acetic acid, and (d) a developer such as hydroquinone, catechol, or their derivative after image exposure, a photographic silver image can be obtained without any liquid treatment. The image quality is further improved by the developer (d) together with 1-phenyl-3-pyrazolidone.

3,523,796
DEVELOPMENT OF LIGHT-SENSITIVE SILVER HALIDE EMULSIONS

Jozef Frans Willems, Wilrijk, Francis Jeanne Seis, Kontich, and Robrecht Julius Thiers, Brasschaat, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a company of Belgium

No Drawing. Filed Aug. 9, 1967, Ser. No. 659,334
Claims priority, application Great Britain, Aug. 30, 1966, 38,552/66
Int. Cl. G03c *5/30*
U.S. Cl. 96—66 **4 Claims**

Photographic light-sensitive silver halide materials comprising a polymeric compound containing N-alkyl-alkylene-amino groups in base or salt form linked through hydroxy-substituted oxyalkylene groups are described. The polymeric compounds in the silver halide materials increase the developability and sensitivity of the photographic emulsion.

3,523,797
DEVELOPMENT OF LIGHT-SENSITIVE SILVER HALIDE EMULSIONS

Jozef Frans Willems, Wilrijk-Antwerp, Francis Jeanne Seis, Kontich, and Robrecht Julius Thiers, Brasschaat, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company

No Drawing. Filed Oct. 6, 1966, Ser. No. 584,655
Claims priority, application Great Britain, Oct. 11, 1965, 42,971/65
Int. Cl. G03c *5/30*
U.S. Cl. 96—66.3 **8 Claims**

Photographic light-sensitive silver halide materials comprising a polymeric compound containing alkylene (N-alkyl)-amino-alkylene groups linked through hydroxy-substituted oxyalkylene groups and/or such polymeric compounds wherein the hydrogen atoms of said hydroxyl groups are wholly or partly substituted are described.

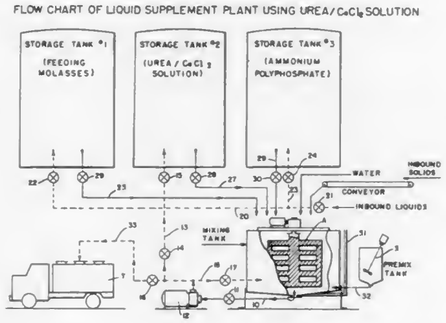
3,523,798
LIQUID FEED SUPPLEMENT FOR RUMINANTS AND METHOD OF PREPARATION

Ralph L. Kail, Box 235, Edinburg, Ind. 46124

Filed Sept. 13, 1967, Ser. No. 667,579
Int. Cl. A23k *1/02*
U.S. Cl. 99—6 **14 Claims**

Liquid feed supplements for ruminants are prepared using calcium chloride as the calcium source in a water solution of urea and molasses. A phosphorus source (e.g. ammonium polyphosphate, phosphoric acid, diammonium

polyphosphate, or sodium tripolyphosphate) is preferably included. The preferred method of preparation is to first

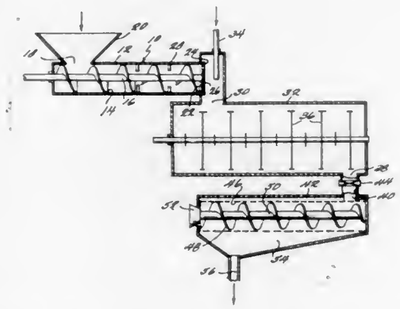


form a water solution of the urea and calcium chloride which is then mixed with the other ingredients.

3,523,799
PROCESS AND APPARATUS FOR EXTRACTION OF HOPS WITH A SOLVENT

Francis L. Rigby, Toronto, Ontario, Canada, assignor to John I. Haas, Inc., Washington, D.C., a corporation of Delaware

Filed Nov. 25, 1966, Ser. No. 597,080
Int. Cl. C12c *9/02;* **C12l** *9/00*
U.S. Cl. 99—50.5 **7 Claims**



Apparatus and process for extracting resins in the lupulin of hops with a solvent which includes extruding the hops under pressure whereby the lupulin is ruptured and the resins are released. The extruded hops are then suspended in a solvent for the released resins to provide a solvent-resin extract. The resulting suspension is then pressed to separate the solvent-resin extract from the remainder of the suspension.

3,523,800
METHOD OF EXTRACTING SALT SOLUBLE PROTEIN FROM POST-RIGOR MEAT

Jack C. Trautman, Madison, Wis., assignor to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois

No Drawing. Filed July 15, 1966, Ser. No. 565,415
Int. Cl. A22c *11/00;* **A23j** *1/02*
U.S. Cl. 99—107 **3 Claims**

A process for improving the binding or emulsion-forming properties of post-rigor meats used in sausages, luncheon meats, and similar ground meat products. In particular, salt soluble protein, substantially entirely in the form of actomyosin, is extracted at a temperature of from 0° C. to —15° C. with a sodium chloride solution having a sodium chloride content of from approximately 2% to 12%, by weight. The weight ratio of the sodium chloride solution to meat ranges from approximately one-tenth part to five parts of aqueous chloride solution for each one part of post-rigor meat and the time of extraction ranges from approximately 5 minutes to 24 hours.

3,523,801
PROCESS FOR THE PREPARATION OF SEASONINGS

Akio Shiga and Kengo Ishida, Tokyo-to, Japan, assignors to Kyowa Hakko Kogyo Kabushiki Kaisha, Tokyo-to, Japan, a corporation of Japan

No Drawing. Filed Jan. 6, 1967, Ser. No. 607,658
Claims priority, application Japan, Jan. 13, 1966, 41/1,551, 41/1,552, 41/1,553, 41/1,554
Int. Cl. A23l *1/22*
U.S. Cl. 99—140 **10 Claims**

Process of preparing seasonings from microbial bodies obtained from fermentation liquors, or from fermentation liquors containing such microbial bodies, by combined enzymatic and chemical treatment of said microbial bodies or liquors containing same.

3,523,802
LIQUID SMOKE COMPOSITION AND METHOD OF MAKING SAME

Robert H. Wandel, Floyd C. Olson, and William J. Parker, Madison, Wis., assignors to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois

No Drawing. Filed Jan. 31, 1967, Ser. No. 612,815
Int. Cl. A23b *1/04*
U.S. Cl. 99—229 **6 Claims**

The method of regulating the color of smoked meat products involving the contacting of a meat product to be smoked with a liquid smoke composition which has been treated with a non-toxic oxidizing agent such as a solution of hydrogen peroxide or dehydrogenase enzymes to oxidize the color-forming constituents thereof. The non-toxic oxidizing agents are added to the liquid smoke composition in an amount sufficient to oxidize a portion or all of the color forming constituents thereof and are then preferably heated to accelerate the oxidation reaction. The maximum temperature cannot exceed the temperature at which either the oxidizing agent or liquid smoke composition is adversely effected.

3,523,803
MANUFACTURE OF BOROSILICATE GLASS FIBERS

Claude Haslay, Agnetz, and Jean Paymal, Clermont, France, assignors to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France

No Drawing. Filed Apr. 27, 1965, Ser. No. 451,334
Claims priority, application France, Apr. 29, 1964, 972,775
Int. Cl. C03c *13/00*
U.S. Cl. 106—50 **15 Claims**

Glass fibers having good water resistance, specific surface, viscosity, resistance to chemicals, speed of devitrification, temperature of fusion, crystallization, density and thermal conductivity. The fibers being of a glass having a composition by weight within the ranges 46–60% SiO_2, 3–8% B_2O_3, 5–12% Al_2O_3, 1–5% ZrO_2, 0–6% TiO_2, 4.5% CaO, 1.5–2.7% MgO, 1–4% BaO, 2–9% ZnO, 6–7.8% Na_2O, 1.5–3.5% K_2O, 0.2% Li_2O, 1–3.5% F in

which the sum of the alkali metal oxides is between 9 and 11.5%, and the ratio of the sum of alumina, zirconia and titania to alkali metal oxides is between 1 and 1.5, and the ratio of alkaline earth oxides to alkali metal oxides is between 0.6 and 1.1 and the ratio of baria to lime is between 0.1 and 0.5.

3,523,804
METHOD OF PRODUCING HEAT-FUSED CAST REFRACTORY PRODUCT HAVING CaO AND MgO AS ITS PRINCIPAL CONSTITUENTS

Yukio Fukatsu, 1439 2-chome, Setagaya, Setagaya-ku, Tokyo, Japan, and Kazuyuki Iida, 2441 Nakatohara, Kawashima-cho, Hodogaya-ku, Yokohama, Japan

No Drawing. Filed Aug. 8, 1967, Ser. No. 659,032
Int. Cl. C04b *35/04, 35/06*
U.S. Cl. 106—58 **9 Claims**

Cast refractory product of CaO-MgO system, in which the content of CaO plus MgO is above 85% by weight analysis and SiO_2 content is below 8% by weight analysis, is produced by melting raw refractory materials of various kinds in the presence of metal, casting and resolidifying the molten materials.

3,523,805
MOISTURE-RESISTANT PLASTER OF PARIS BANDAGES CONTAINING WATER-SWELLABLE GUMS

David F. Smith, 120 Grove St., Bay Head, N.J. 08744

No Drawing. Continuation-in-part of application Ser. No. 427,178, Jan. 21, 1965. This application Dec. 23, 1966, Ser. No. 604,144
Int. Cl. C04b *11/16;* **A61f** *13/04*
U.S. Cl. 106—112 **5 Claims**

This invention discloses moisture-resistant plaster of paris bandages containing minor proportions of water-swellable gums which impart a smooth, creamy, plastic texture to the bandages as they are wet in water preparatory to use in making a cast.

3,523,806
PLASTER OF PARIS BANDAGE MANUFACTURE

David F. Smith, 120 Grove St., Bay Head, N.J. 08742

No Drawing. Filed Apr. 26, 1967, Ser. No. 633,708
Int. Cl. C04b *11/14*
U.S. Cl. 106—114 **13 Claims**

This invention discloses methods of making plaster of paris bandages through use of a slurry of powdered plaster of paris in an aqueous liquid containing ammonia and dextrin which delays the setting of the plaster while the slurry is coated on a suitable backing material and the so-coated material is dried to yield a settable, coherent bandage which can be rapidly wet in water and formed into a cast.

3,523,807
METHOD OF MAKING A CROSS-LINKED FIBRIN PROSTHESIS

Mihaly Gerendas, 18 Ferenczi I. utca, Budapest, Hungary

No Drawing. Continuation-in-part of application Ser. No. 277,082, May 1, 1963. This application Nov. 25, 1966, Ser. No. 596,754
Int. Cl. C08h *7/00;* **A61l** *17/00*
U.S. Cl. 106—124 **4 Claims**

A process for producing a synthetic prosthetic appliance from the fibrin in clotted blood plasma by molding powdered fibrin to form a shaped prosthetic appliance and thereafter treating said molded prosthetic appliance with a cross-linking agent the same being used in surgical procedures for the preparation of absorptive shaped pieces.

3,523,808
NITROACETAL COMPOUNDS

Marvin H. Gold, Sacramento, and Henry J. Marcus, West Covina, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Application Nov. 29, 1963, Ser. No. 327,877, now Patent No. 3,291,833, dated Dec. 13, 1966, which is a continuation-in-part of application Ser. No. 2,072, Jan. 12, 1960. Divided and this application Oct. 19, 1965, Ser. No. 529,892
Int. Cl. C07c *43/00;* **C08f** *45/34*
U.S. Cl. 106—287 **1 Claim**

Nitroacetals prepared by reacting 2,2-dinitropropanol with an aldehdye in the presence of an acid esterification catalyst useful as plasticizers for solid rocket propellants.

3,523,809
PROCESS FOR THE PREPARATION OF TITANIUM DIOXIDE PIGMENT

Raymond Gerard Holbein, Thann, France, assignor to Fabriques de Produits Chimiques de Thann et de Mulhouse, Thann, Haut-Rhin, France, a French body corporate

No Drawing. Filed Dec. 19, 1966, Ser. No. 602,474
Claims priority, application France, Dec. 23, 1965, 43,509
Int. Cl. C09c *1/36*
U.S. Cl. 106—300 **15 Claims**

The stability to light of titanium dioxide pigments, especially for use in melamine resin laminates, is improved by coating the particles with silica and magnesia, and optionally also alumina. The oxides may be precipitated on the pigment particles from aqueous solution at 50–80° C. Afterwards the coated pigment is calcined at say 600°–700° C.

3,523,810
NONGELLING TITANIA PIGMENTS

Thomas F. Swank, Woburn, Mass., assignor to Cabot Corporation, Boston, Mass., a corporation of Delaware

No Drawing. Filed Dec. 20, 1966, Ser. No. 603,142
Int. Cl. C09c *1/36, 3/02*
U.S. Cl. 106—300 **7 Claims**

Titanium dioxide treated with a particular crystalline form of alumina which is useful as a pigment in the formulation of gel-resistant latex paints and a process for preparing said pigments.

3,523,811
PIGMENTARY FERRIC AMMONIUM FERROCYANIDE PARTICLE WITH CATIONIC SURFACTANT COATING

John Henry Cramer and Walter Eldon Ness, Marietta, Ohio, assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed July 3, 1967, Ser. No. 650,639
Int. Cl. C09c *1/26, 3/00;* **C09d** *11/02*
U.S. Cl. 106—304 **4 Claims**

Iron-Blue pigments of improved storage stability as a component of ink compositions result from treating a ferric ammonium ferrocyanide pigment, preferably while still in aqueous dispersion, with a cationic surfactant of the asphalt anti-stripping type, such as an alkylamidoalkyl-hydroxyalkyl quaternary ammonium compound, such as stearamidopropyl-dimethyl-2-hydroxyethyl ammonium nitrate.

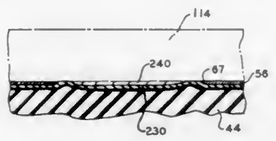
3,523,812
MODIFIED FURNACE CARBON BLACK
Gerard Kraus, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Continuation of application Ser. No. 405,773, Oct. 22, 1964. This application June 6, 1968, Ser. No. 736,546
Int. Cl. C09c *1/58*
U.S. Cl. 106—307 8 Claims

A modified furnace black which can be substituted for channel black in a rubber compounding recipe is produced by forming carbon black in a carbon black furnace in the presence of an alkali metal; maintaining the carbon black in the presence of the combustion gases in the furnace, prior to the quench, for a time sufficient to increase the surface area of the black about 15 to 40 square meters per gram higher than the surface area of the black at a photelometer of 90; cooling the black to a temperature of about 200° F. or lower; and then treating the black with an oxidizing agent such as nitric acid, ozone, or oxides of nitrogen.

3,523,813
APPLICATION OF A PRINTED IMPRESSION OF METAL POWDER ONTO ARTICLES
Willy Koller, Falkenweg 14, Baar, Zug, Switzerland
No Drawing. Filed Aug. 17, 1966, Ser. No. 577,566
Claims priority, application Switzerland, Sept. 2, 1965, 12,303/65
Int. Cl. B41m *1/22;* B44d *1/92, 1/94*
U.S. Cl. 117—13 2 Claims

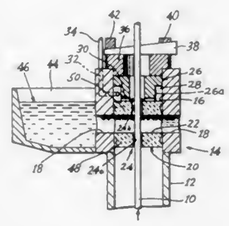
In applying a printed impression of metal powder onto an article, a mixture of a hardenable synthetic resin, a hardener therefor, and a heat sealable adhesive are applied to the article in selected areas to form a reproduction of the printed impression. Metal powder is thereafter transferred to such selected areas and thereafter bonded by heat and pressure.

3,523,814
COATING OF A SHOE PART WITH A STIFFENER
Jacob S. Kamborian, 1380 Soldiers Field Road, Boston, Mass. 02135
Filed Aug. 25, 1965, Ser. No. 482,480
Int. Cl. A43b *23/16*
U.S. Cl. 117—38 54 Claims



There is disclosed herein the coating of a shoe part with a stiffener wherein the shoe part is supported on a support and a mask, having a gap whose periphery corresponds to the contour of at least a part of the stiffener, is caused to overlie the shoe part while an applicator is applied against the mask in the vicinity of the gap and is moved across the mask and gap with the applicator straddling the gap. Coating material in a fluent condition is deposited on the shoe part in the gap in position to be intersected by the applicator during its movement across the mask.

3,523,815
METHOD FOR PRODUCING A UNIFORM METALLIC COATING ON WIRE
Lawson J. Baxter, Raytown, Mo., assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Filed Jan. 2, 1968, Ser. No. 695,097
Int. Cl. B05c *11/02;* C23c *1/08*
U.S. Cl. 117—102 9 Claims



Wire coating apparatus having a vertically upward wire pass line and wherein a molten coating metal is confined between entrance and exit dies through which the wire passes, the exit die being substantially submerged in the molten coating metal.

Control of coating thickness is obtained by varying the relative levels of coating metal and the top surface of the exit die, along with control over exit die clearance, wire speed wire temperature, and the temperature of the coating metal.

3,523,816
METHOD FOR PRODUCING PURE SILICON
Louis L. Cave, Celina, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 27, 1967, Ser. No. 678,749
Int. Cl. C23c *11/06*
U.S. Cl. 117—106 5 Claims

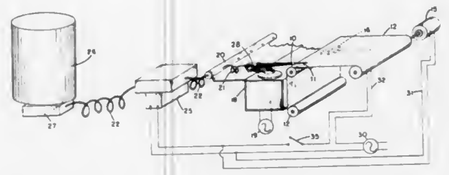


In the method of producing pure silicon by passing a gaseous mixture of hydrogen and a halosilane, such as trichlorosilane, through quartz reaction chamber for contacting the gases with the surface of a heated silicon substrate supported within the chamber and depositing silicon from the gases onto the surface of the silicon subsrate, the improvement which comprises preheating the gases to a temperature between about 90° C. and the decomposition temperature of the gaseous mixture by passing the gases through a conduit positioned in proximity to the outer surface of the reaction chamber before discharging the gas from the conduit into the reaction chamber. The heat radiated from the reaction chamber is thus utilized to preheat the reaction gases to achieve greater deposition rates than can be obtained by using unheated gases.

3,523,817
ANTI-STICKING ENAMELED COOKING UTENSIL
Max S. Reiss, Wheeling, W. Va., assignor to Lisk-Savory Corporation, Buffalo, N.Y.
Filed July 17, 1967, Ser. No. 653,923
Int. Cl. B23b *15/00;* C23d
U.S. Cl. 117—129 2 Claims

A cooking utensil having an enamel coating at least on its bottom surface. The coating is formed by application of a vitreous material which upon firing, adheres to the utensil and which, upon cooling, becomes devitrified.

3,523,818
RECORDING INSTRUMENT RESINOUS FILM
John Blumenthal, Wickliffe, Ohio, assignor to Clevite Corporation, a corporation of Ohio
Filed Dec. 11, 1967, Ser. No. 689,526
Int. Cl. B44d *5/02;* C08b *21/08*
U.S. Cl. 117—138.8 12 Claims



A method of making a matte-finished film comprising

(1) Coating a poly(alkenyl-benzene) substrate with a composition containing a solvent for the substrate, a cellulose ester, a polymeric acrylic ester, and a particulate abrasive material,
(2) allowing the composition to remain in contact with the substrate for 1 to 20 seconds; and
(3) drying the coating.

3,523,819
METHOD FOR TREATING THE SURFACE OF SEMICONDUCTOR DEVICE
Takashi Tokuyama and Keijiro Uehara, Tokyo-to, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan
Continuation-in-part of application Ser. No. 341,008, Jan. 29, 1964. This application Jan. 16, 1968, Ser. No. 703,209
Claims priority, application Japan, Feb. 4, 1963, 38/4,489
Int. Cl. H01b *3/08, 3/10*
U.S. Cl. 117—213 3 Claims

A process for treating the surface of a silicon semiconductor in order to stabilize the electric characteristics thereof and to avoid decrease of the breakdown voltage of a p-n junction formed therein which comprises the steps of immersing the semiconductor into pure hydrofluoric acid HF to remove oxides of the semiconductor existing thereon and then into alcohol and thereafter providing a protective silicon dioxide film on the surface of the semiconductor which formed by pyrolysis of an organooxysilane, constituting such a surface.

3,523,820
ELECTRICAL CONDUCTOR COATED WITH HIGH TEMPERATURE INSULATING VARNISHES
Howard E. Sheffer, Burnt Hills, N.Y., assignor to Schenectady Chemicals, Inc., Schenectady, N.Y., a corporation of New York
Filed Apr. 18, 1966, Ser. No. 543,150
Int. Cl. B44d *1/14, 1/18;* C23b *1/06*
U.S. Cl. 117—218 6 Claims

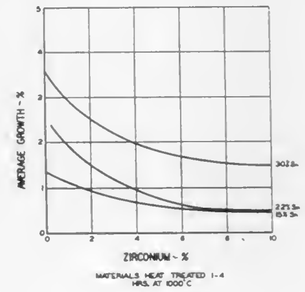


Electrical conductors having improved properties at high temperature are produced by providing such conductors with three resinous coatings, the second coating being polyethylene terephthalate or linear polyimide-polyamides.

3,523,821
ELECTRICALLY SCREENED FERROMAGNETIC FERRITE ELEMENT AND METHOD
Clement Bryce, Frank Stanworth, and John Trafford, Southport, England, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed July 13, 1967, Ser. No. 653,112
Claims priority, application Great Britain, July 27, 1966, 33,785/66
Int. Cl. G11b *5/00;* H01f *15/04*
U.S. Cl. 117—227 6 Claims

An electrically screened ferromagnetic ferrite element used principally as a storage element. A ferrite element is coated with a non-magnetic electrically conducting layer deposited from a suspension of a glass powder and an electrically conducting material in an organic solvent. The coated element is subsequently heated in air to convert the coating to an electrically conducting vitreous layer.

3,523,822
METHOD FOR PRODUCING A SUPERCONDUCTING COATING RESISTANT TO THERMAL GROWTH
Donald C. Freeman, Jr., Indianapolis, Ind., assignor to Union Carbide Corporation, a corporation of New York
Filed Jan. 11, 1968, Ser. No. 697,127
Int. Cl. C23c *13/00*
U.S. Cl. 117—227 7 Claims



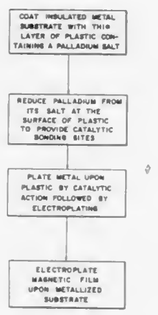
A method for producing a superconducting coating on a substrate which will be resistant to thermal growth upon

heat treatment which comprises prereacting metallic particles of niobium or vanadium with an appropriate gettering material to form a powder, mixing the powder with appropriate particles of either tin, aluminum or silicon, feeding the mixture into a high thermal content plasma which is being directed against the substrate and heat treating the structure.

3,523,823
ELECTROLESS PLATING WITH LOW CONTROLLED COERCIVITY
John H. Kefalas, North Billerica, Mass., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 582,090, Sept. 26, 1966. This application Oct. 20, 1967, Ser. No. 676,734
Int. Cl. H01f *10/02;* **C23c** *3/02*
U.S. Cl. 117—238 **9 Claims**

A "soft" magnetic memory film of the nickel-cobalt type electroless plated onto a ceramic substrate, thickness being kept below about two microns and coercivity below about 10 oe. The film may be plated to have an unusually pronounced anisotropy (large remanent flux B_r in Easy direction; small B_r in Hard direction) and an extremely high H_c/H_k ratio (1.0 being the practical max.), on the order of as high as 0.9. Electroless plating methods and associated electrolyte for plating such films are also discussed and involve rather basic electrolytes having an unusually low concentration of cobalt/nickel relative to "hypo" concentration (such as about 1:1.5 at pH 8.0), as well as high concentrations of ammonium chloride and citric acid.

3,523,824
METALLIZATION OF PLASTIC MATERIALS
John V. Powers, Shenorock, and Lubomyr T. Romankiw, Millwood, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 29, 1966, Ser. No. 605,639
Int. Cl. G11b *5/84*
U.S. Cl. 117—239 **4 Claims**



A process for metallizing plastic materials by treating the plastic material with a varnish. The varnish is formed by dissolving a metal compound such as palladium salt in a solvent compatible with the insulating varnish or polyimide used for coating the base object. The varnish is cured and the metal compound is reduced to its catalytic metal so as to form bonding sites on the surface of said base object. Then, additional layers of metal are formed on the plastic material thereby forming a substantially fixed smooth metallic layer on the base material.

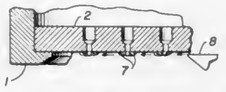
3,523,825
CLEANING COMPOSITION AND METHOD OF USING SAME
Joseph W. Callahan and Eric G. Marque, Maplewood, La., assignors to Chemical Cleaning and Equipment Service, Inc., a corporation of Texas
No Drawing. Filed Apr. 7, 1967, Ser. No. 629,109
Int. Cl. C23g *1/02;* **C02b** *5/02*
U.S. Cl. 134—2 **9 Claims**

A cleaning composition and method of using same for the removal of polymer, coke, coke-like, and other foulants which are produced in such equipment as boilers, towers, process lines, reactors, and heat exchangers in the course of processing in refineries and petrochemical plants.

3,523,826
PROCESS OF CLEANING PIPING SYSTEMS
Kenneth J. Lissant, St. Louis, Mo., assignor to Petrolite Corporation, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 17, 1967, Ser. No. 653,627
Int. Cl. B08b *9/06;* **C23g** *5/00*
U.S. Cl. 134—22 **8 Claims**

A process for cleaning piping systems, particularly those systems containing particulate matter, which is characterized by circulating a thixotropic or pseudo-plastic fluid having non-Newton viscosity properties for a time sufficient to effect such cleaning. An excellent pseudo-plastic fluid is a stable, viscous, thixotropic high internal phase emulsion, where the internal phase is the major part of the emulsion, for example, containing at least about 60% internal phase, such as about 80%, but preferably at least about 90% by volume. Auxiliary additives may also be added to the emulsion. After cleaning, any residual emulsion may be removed by flushing the system with a fluid which is miscible with the emulsion's external phase or which is capable of breaking the emulsion.

3,523,827
SPINNERET RECONDITIONING
James G. Sims, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed May 6, 1968, Ser. No. 726,653
Int. Cl. B08b *5/02*
U.S. Cl. 134—37 **5 Claims**



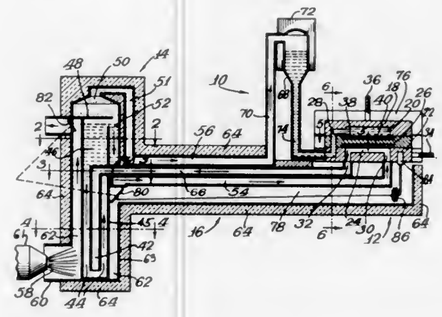
Process for treating the extrusion face of a spinneret used in melt spinning thermoplastic filaments to remove materials deposited near the periphery of the orifices in the spinneret during spinning. The process includes establishing a planar stream of hot fluid, moving the stream at a speed of at least one-quarter of sonic velocity, and directing the stream against the face of the spinneret in a direction generally parallel thereto. This procedure disengages and casts away the deposited materials.

3,523,828
METHOD OF ACTIVATING NICKEL BATTERY ELECTRODE
Friedrich August Schneider, Nuenen, Netherlands, assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed May 31, 1968, Ser. No. 733,324
Claims priority, application Great Britain, Dec. 8, 1967, 55,989/67
Int. Cl. H01m *35/30*
U.S. Cl. 136—76 **12 Claims**

Directed to a process for activating sintered porous nickel battery plaques with an active mass of nickel oxide

hydrate generate from nickel metal initially present in the plaque which comprises first subjecting the plaque to positive pulsed direct current anodic oxidation in alkali metal bicarbonate solution and thereafter subjecting the resulting partially activated plaque to at least one and up to six charge-discharge cycles in aqueous potassium carbonate solution to produce an active electrode having high capacity in short activation time.

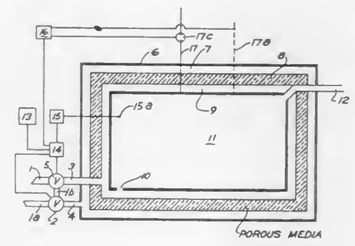
3,523,829
ELECTROCHEMICAL POWER SUPPLY REGENERATED BY HEAT
C. Roland McCully, Prospect Heights, Ill., assignor to Modine Manufacturing Company, a corporation of Wisconsin
Filed Dec. 6, 1965, Ser. No. 511,928
Int. Cl. H01m *27/30, 27/16*
U.S. Cl. 136—86 **3 Claims**



An electrochemical power supply device for supplying electrons to an external circuit in which means are provided for circulating an anode fluid to an anode chamber, means defining a cathode chamber containing a cathode gas, means for separating the anode fluid from the cathode gas by permitting the passage of ions formed from the cathode gas with the result that the anode fluid releases electrons to the anode chamber for passage to the cathode chamber by way of the external circuit. The cathode gas thereupon receives these electrons for forming ions therein and these ions combine with the anode fluid to form a partially modified anode fluid. In the device there are provided means for thermally disassociating the resulting partially modified anode fluid into the original anode fluid and the cathode material for recirculating in the manner defined above so that the device may be continually operated by continually disassociating the partially modified anode fluid that is produced in supplying the electrons.

3,523,830
FUEL CELL AND METHOD OF CONTROLLING THE TEMPERATURE OF SAID CELL
Bernard S. Baker and Dimitri Gidaspow, Chicago, Ill., assignors to Institute of Gas Technology
Filed Sept. 26, 1966, Ser. No. 581,845
Int. Cl. H01m *27/00*
U.S. Cl. 136—86 **17 Claims**

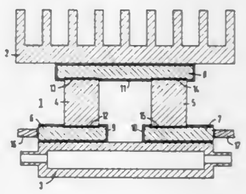
Method and apparatus utilizing the flow of relatively cold input gas, whether oxidant, e.g. air, or the gas to be oxidized, e.g. the fossil fuels, "counter-current" to the heat flow from the operating fuel cell, e.g. as through a porous media adjacent and in thermal contact with the fuel cell, as a heat-sink to moderate the heat generated in the cell, thereby preventing overheating and permitting the maximum power output of the cell to be realized. The heat transfer to the relatively cold gas as it passes counter-currently to the heat flow through a porous media is termed "transpiration heating," and provides the equivalent of a simply controllable, variable thickness insulation. The amount of the input gas transpiration heated may be controlled in response to internal temperature conditions of the cell, electrical output, or in response to predetermined load conditions.



3,523,831
STORAGE BATTERY WITH NICOTINIC ACID AMIDE ADDITIVE
Hiroshi Nozaki, Tokyo, Japan, assignor to Kabushiki Kaisha Noza Kagaku, Tokyo, Japan
No Drawing. Filed Jan. 26, 1968, Ser. No. 700,715
Claims priority, application Japan, Feb. 2, 1967, 42/6,321
Int. Cl. H01m *39/04*
U.S. Cl. 136—154 **3 Claims**

An electrolyte of a storage battery containing less than 10 g. per liter of nicotinic acid amide.

3,523,832
THERMOGENERATOR WITH GERMANIUM-SILICON SEMICONDUCTORS
Joachim Rupprecht, Nuremburg, Eugen Szabo de Bucs, Erlangen, and Gerhard Oesterhelt, Nuremburg, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Continuation of application Ser. No. 556,211, June 8, 1966. This application June 9, 1969, Ser. No. 834,595
Claims priority, application Germany, June 11, 1965, S 97,564
Int. Cl. H01v *1/16*
U.S. Cl. 136—205 **1 Claim**



A thermogenerator includes an electrical contact between a germanium-silicon semiconductor body and a metallic heat exchange body. The electrical contact is of a material selected from the group consisting of

molybdenum disilicide, tungsten disilicide and silicon enriched variants thereof. The contact piece, with the exception of the contact point to the semiconductor body, has a coating of silicon oxides.

3,523,833
METHOD OF IMPROVING THE PROPERTIES OF ALLOY STEEL CASTINGS

Max Kroneis and Erwin Plöckinger, Kapfenberg, and Karl Swoboda, Vienna, Austria, assignors to Gebr. Bohler & Co. Aktiengesellschaft, Vienna, Austria

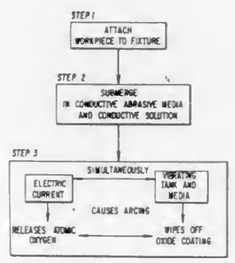
No Drawing. Filed Mar. 8, 1968, Ser. No. 711,520
Claims priority, application Austria, Mar. 14, 1967, A 2,576/67
Int. Cl. B22d *11/00;* **C21d** *7/14*
U.S. Cl. 148—2 **2 Claims**

A process for making semi-finished or finished products having improved properties by a hot-forming treatment of cast ingots or parts thereof, which consist of high-alloy steels containing nickel and chromium in a total amount of at least 20%. These steels are transformed into a state in which they consist substantially of austenite and ferrite by being heated to a temperature within the range of 1150° C. and the solidus temperature of the steel. In an initial step of the process a starting material, which is suitable for remelting, is made. This starting material is then continuously fused in a known manner to form a melt; the melt is converted into cast ingots in a water-cooled mold by zone casting. The resulting ingot is annealed at a temperature between 1150° C. and the solidus temperature of the steel in question until the degree of segregation, as determined by electron beam microanalysis of a carbide-free structure, falls below 1.05. Thereafter, the ingot is subjected to a hot-forming treatment to eliminate the coarse grains formed during annealing and to produce the desired semi-finished or finished product.

3,523,834
METHOD OF DEBURRING

Thomas F. Hewins, Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Oct. 13, 1967, Ser. No. 675,211
Int. Cl. B23p *1/00;* **C23f** *7/10*
U.S. Cl. 148—6.15 **9 Claims**



The removing of burrs and other small imperfections from conductive workpieces by a combination of mechanical, electrical, and chemical processes consisting of a vibratable container having therein a conductive abrasive media immersed in a conductive solution. The workpieces are submerged in said conductive abrasive media and conductive solution and an electric current is passed through the workpieces, simultaneously with vibrating the container. The conductive abrasive media immersed in the conductive solution provides automatic current regulation for any given supply voltage.

3,523,835
SURFACE TREATMENT OF METALS

Harold Leslie Turner, Southall, Middlesex, England, assignor to Joseph John Lorant, East Molesey, Surrey, England

No Drawing. Filed June 22, 1967, Ser. No. 647,953
Claims priority, application Great Britain, July 1, 1966, 29,619/66
Int. Cl. C23f *9/02*
U.S. Cl. 148—6.24 **27 Claims**

Known processes used in cleaning oil, grease and other contaminants from ferrous metal sheet and other metal goods are described, for cleaning and preparing such goods for the reception of industrial finishes.

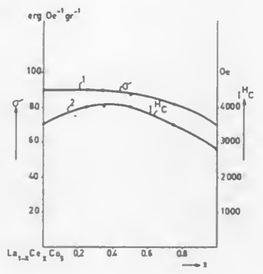
The invention contemplates as few as 4 operative steps and is based upon the use of a composition which effects degreasing, derusting and passivating in a single step. Compositions which can effect this are described in detail and are based upon a hydroxy or polyhydroxy carboxylic acid containing one or more carboxyl groups or a lactone of such an acid, e.g. malic acid or detal-gluconolactone, a non-ionic wetting agent selected from alkylphenol polyethoxylates and an ether of a sulpho-dibasic fatty acid.

The composition preferably has the form of an aqueous solution, desirably of pH 7 to 2, and can also contain an N-methyl-glycine derivative smut removal, alkali metal phosphates, to assist degreasing, buffer systems to maintain a selected pH, and accelerating agents to assist in forming a conversion coating.

3,523,836
PERMANENT MAGNET CONSTITUTED OF FINE PARTICLES OF A COMPOUND M_5R

Kurt Heinz Jurgen Buschow and Wilhelmus Antonius Johannes Josephus Velge, Emmasingel, Eindhoven, Netherlands, asisgnors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 644,101, June 7, 1967. This application Jan. 19, 1968, Ser. No. 699,232
Claims priority, application Netherlands, Jan. 21, 1967, 6700998
Int. Cl. C22c *19/0, 31/00;* **H01f** *1/06*
U.S. Cl. 148—31.57 **4 Claims**



A permanent magnet is constituted of a body composed of fine particles of a compound M_5R in which M is cobalt or a combination of cobalt and one of the metals Fe, Ni or Cu and R is $La_{1-x}Ce_x$ where $0<x<1$.

3,523,837
NON-REACTIVE REFRACTORY SEPARATING COATINGS FOR ELECTRICAL STEELS

Norman M. Pavlik, Plum Boro, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Nov. 6, 1967, Ser. No. 681,026
Int. Cl. H01f *1/18*
U.S. Cl. 148—113 **3 Claims**

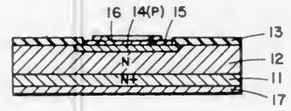
An aqueous slurry comprising about 60% by weight of Al_2O_3, based on the weight of the water, and small

amounts of polyvinyl alcohol and an organic suspending agent (more particularly, a cellulosic suspending agent), is applied to electrical sheet steel and dried thereon to provide a relatively thin and uniform separating coating. A plurality of such coated sheets may be stacked or a single such sheet may be coiled for final annealing at elevated temperature.

3,523,838
VARIABLE CAPACITANCE DIODE

Paul J. Heidenreich, Mesa, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed May 9, 1967, Ser. No. 637,159
Int. Cl. H01l *7/00, 7/36*
U.S. Cl. 148—175 **4 Claims**



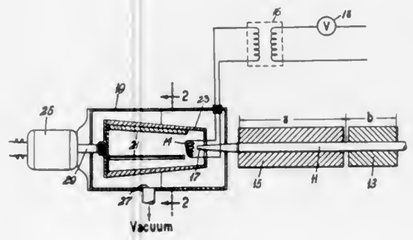
A semiconductor diode is fabricated by a process involving the formation of a diffused step junction in an epitaxial layer having a carefully retrograded impurity profile. The resistivity-thickness profile of the epitaxial layer is a critical feature of the device and of the method for its fabrication. Designed for use as a voltage-variable capacitor in tunable circuits, a specific embodiment of the diode has the following electrical characteristics:

Junction capacitance range: 6.8 to 100 pf.
Minimum tuning ratio: 2.7 to 1
Reverse breakdown voltage: 30 v.
Minimum Q at 50 mHz.; 4 v.: 500.

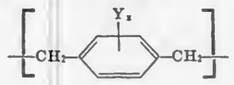
3,523,839
ENCAPSULATION OF ROCKET AND MISSILE FUELS WITH METALLIC AND POLYMERIC COATINGS

Leon Shechter, Summit, and William E. Loeb, Martinsville, N.J., assignors to Union Carbide Corporation, a corporation of New York

Filed Sept. 17, 1962, Ser. No. 223,920
Int. Cl. C06b *19/02*
U.S. Cl. 149—7 **18 Claims**



6. A unitary propellant formulation comprising a particulate solid potent oxidizer having a tough adherent coating thereon encapsulating the oxidizer comprising a light metal having an atomic weight below 27 in vapor deposited form and a tough solvent-resistant linear polymer having the general repeating unit



wherein Y is an inert aromatic nuclear substituent group having a sigma para value from about zero to about +0.8 and commensurate with the reactivity of the oxidizer, and x is an interger from 1 to 3 inclusive.

3,523,840
POLYMER SOLUTION OF EUTECTIC OF HYDRAZINE PERCHLORATE AND LITHIUM PERCHLORATE

Stanley F. Bedell, Andover, Mass., assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application July 2, 1962, Ser. No. 207,460. Divided and this application Apr. 27, 1964, Ser. No. 363,351
Int. Cl. C06b *11/00*
U.S. Cl. 149—19 **12 Claims**

1. A polymeric solid solution of an oxidant amount of a eutectic of hydrazine perchlorate and lithium perchlorate and a polymer including at least one hetero donor atom selected from the class consisting of O, S and N in the same homogeneous phase.

2. The method of forming a polymeric solid solution of a hydrazine perchlorate/lithium perchlorate eutectic wherein said perchlorate eutectic and polymer are in the same homogeneous phase which comprises polymerizing a polymerizable monomer containing a hetero donor atom selected from the class consisting of O, S and N, in the presence of dissolved hydrazine perchlorate/lithium perchlorate eutectic.

3,523,841
AQUEOUS SLURRY TYPE BLASTING COMPOSITIONS CONTAINING A DENSIFIED NITROCELLULOSE SENSITIZER

Herbert G. Knight, Jr., Flanders, N.J., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 694,097, Dec. 28, 1967. This application Dec. 16, 1968, Ser. No. 784,212
Int. Cl. C06b *7/00*
U.S. Cl. 149—21 **18 Claims**

Inorganic oxidizer salt explosives of the aqueous slurry type are provided which contain a particulate densified nitrocellulose sensitizer component having a particle size of from 100 to 2000 microns and a density of from 1.2 to 1.5 grams per cc., and prepared in accordance with the selected series of steps described. When the proportion of densified nitrocellulose sensitizer component is less than about 8 percent, the composition contains a supplementary sensitizer.

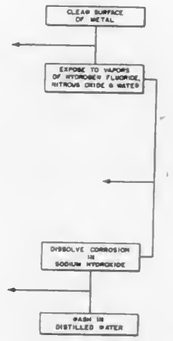
3,523,842
MANUFACTURING IN-PROCESS CONTROL AND MEASURING TECHNIQUES FOR SEMICONDUCTORS SURFACE ETCHING

William B. Glendinning, Belford, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Mar. 31, 1967, Ser. No. 628,245
Int. Cl. H01l *7/44, 7/50*
U.S. Cl. 156—17 **7 Claims**

This is a method for controlling the depth of an etch in a metallic surface such as that of a semiconductor. The etch is produced by corroding the surface of the semiconductor with an atmosphere of hydrogen fluoride, nitrous oxide and water vapors, and removing the corrosion layer. The depth of the etch is proportional to the thickness of the corrosion layer. The actual, in-process control of the ultimate depth of the etch is achieved by observing the interference-pattern colors reflected, by the corroded surface layer, from a source of incident, white light. The interference-pattern colors change as the corrosion layer

on the surface increases and the process is terminated when a given color—or number of cycles of color—indicate the correct thickness. The corrosion layer is removed



from the metal by a wash of dilute alkaline solution such as sodium hydroxide, leaving the surface etched to the correct depth.

3,523,843
PROCESS FOR IMPARTING A LOW GLOSS ON ALUMINUM

Walter G. Zelley, Lower Burrell, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

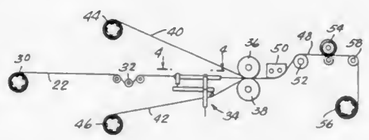
No Drawing. Filed July 21, 1967, Ser. No. 654,976
Int. Cl. C23f *1/00*; C23g *1/14*
U.S. Cl. 156—22 **5 Claims**

The gloss of the surface of an aluminum article may be reduced by etching the article in a heated aqueous alkaline solution containing an alkali metal hydroxide, zinc ion, and an alkali metal hydroxide soluble sequestering agent. As an example, the gloss of the surface of a sample of 5252 alloy can be reduced by etching the sample in a solution maintained at a temperature above 125° F. containing 25 to 200 grams per liter of sodium hydroxide, 0.2 to 10 grams per liter of zinc ion, and 1 to 100 grams per liter of Rochelle salt.

3,523,844
METHOD AND APPARATUS FOR MAKING FLEXIBLE MULTICONDUCTOR FLAT CABLE

David J. Crimmins, Pennington, and Rocco F. Basile, Roselle, N.J., and Joseph W. Breakfield, Norristown, Pa., assignors to Thomas & Betts Corporation, Elizabeth, N.J., a corporation of New Jersey

Application Apr. 23, 1965, Ser. No. 451,698, which is a continuation-in-part of application Ser. No. 365,414, May 6, 1964. Divided and this application Jan. 20, 1967, Ser. No. 610,507
Int. Cl. B65h *57/28*; H01b *13/22*
U.S. Cl. 156—52 **22 Claims**

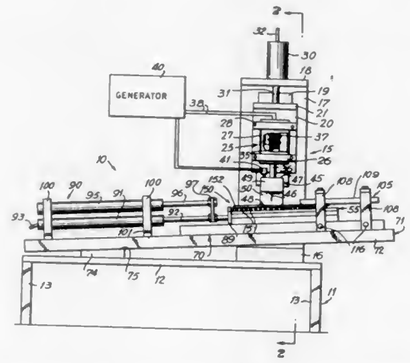


Method and apparatus for making multiconductor flat cable. Individual guide means are provided for varying the position of individual conductors before insulation is applied to the conductors to form the cable. In a preferred embodiment of the apparatus, linkages are connected to the guide means and a cam is provided which, in conjunction with the linkages, causes the guide means to move, thereby to variably position the conductors before insulation is applied.

3,523,845
METHOD AND APPARATUS FOR JOINING A SERIES OF ELEMENTS TO A WORKPIECE BY ULTRASONIC ENERGY

Clifford A. Robertson, Bayshore, N.Y., assignor to Cavitron Corporation, Long Island City, N.Y., a corporation of New York

Filed June 27, 1966, Ser. No. 560,595
Int. Cl. B29c *27/08*
U.S. Cl. 156—73 **25 Claims**



A method and apparatus for successively joining a series of elements to a workpiece to form a composite member with the use of ultrasonic energy. The elements and workpiece to be joined are moved in such a manner that the output surface of the ultrasonically vibrated member is in the form of an inclined plane so that at any one time only some of the elements in contact with the output surface require the maximum power which is necessary for the initial phase of an ultrasonic insertion process.

3,523,846
PROCESS FOR THE PRODUCTION OF POROUS, SELF-ADHESIVE TAPES OR SHEETS, PARTICULARLY PLASTERS

Heinz Muller, 74 Brahmsallee, Hamburg 13, Germany

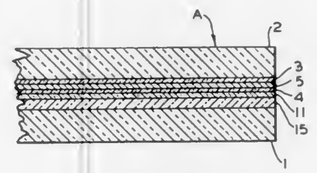
No Drawing. Filed Aug. 12, 1966, Ser. No. 571,968
Claims priority, application Germany, Aug. 20, 1965, B 83,366
Int. Cl. A61l *15/06*; B32b *31/08*
U.S. Cl. 156—78 **4 Claims**

Porous, self-adhesive tapes, particularly plasters, are obtained by applying a visco-elastic self-adhesive mass in the form of a solution or dispersion to an intermediate layer with an adhesive-repellent surface, converting the same into a fine vesicular condition (i.e., forming numerous very small bubbles) by rapid evaporation of the solvent or dispersion medium at increased temperature, and transferring the fully-dried adhesive layer thus obtained to a porous base by cooling it to room temperature and applying it to the porous base under pressure. By the final pressure treatment under a relatively high pressure the bubbles are broken, whereby a very fine-pored, microporous structure forms, by which the desired air- and water vapor-permeability of the tapes or plasters is achieved. At the same time, good anchorage of the adhesive layer to the porous base is obtained.

3,523,847
METHOD OF MAKING PELLUCID LAMINATES HAVING AN INTERFERENCE FILTER

James W. Edwards, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Original application Jan. 4, 1965, Ser. No. 423,263. Divided and this application Aug. 1, 1969, Ser. No. 846,761
Int. Cl. C03c *27/04*
U.S. Cl. 156—99 **8 Claims**

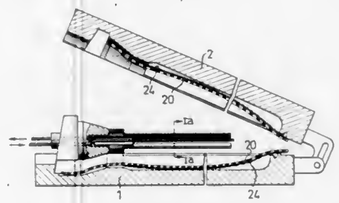


A method of making a pellucid laminate having a pair of outer panels with at least one interference filter disposed between the outer and inner panels. The method includes the locating of a relatively thin plastic member, a multilayer dielectric film serving as an interference filter, a monolayer film and a plastic support member in marginal registration and laminating these components to form an optical device.

3,523,848
METHOD OF MAKING WARM WATER BOTTLE AND SIMILAR FLAT HOLLOW BODIES OF RUBBER AND RUBBER-LIKE VULCANIZABLE SYNTHETIC MATERIALS

Karl Huff, Ahlem, Hannover, Heinz Moeller, Apelern, Wunstorf, and Rolf Krauss, Langenhagen, Hannover, Germany, assignors to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany

Filed Oct. 26, 1967, Ser. No. 678,382
Claims priority, application Germany, May 27, 1967, 1,729,586
Int. Cl. B65d *37/00*
U.S. Cl. 156—156 **3 Claims**



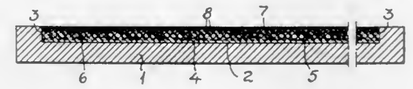
The present invention relates to an improved hollow body of rubber material, especially warm water bottle, which is characterized in that its surface is of a textile material as for instance terry cloth.

3,523,849
SHEET MATERIAL FOR USE IN BUILDING

Roger Dunsby, Slagen, near Tonsberg, Norway

Filed May 3, 1965, Ser. No. 452,804
Claims priority, application Norway, May 5, 1964, 153,133
Int. Cl. B29c *1/00*
U.S. Cl. 156—242 **6 Claims**

A sheet material having utility as a construction material and a method for its production in which a synthetic resin binder is placed in a mold and a layer of fibrous material is pressed into the binder to form a reinforcing layer of fibrous material embedded in the binder near the bottom surface of the mold. A filler is then dispersed in the binder layer and a second layer of fibrous material is then placed on the binder and pressed thereinto to a level somewhat below the surface of the binder whereby an assembly is formed containing the layer of filler sandwiched between the two reinforcing layers. An even layer of a crushed stone material is then sprinkled on the binder and pressed partly thereinto whereby the surface of the assembly thereat has the appearance of a stone surface. Finally, the synthetic resin binder is cured whereby to form said sheet material.



3,523,850
PROCESS FOR IMPROVING ADHESION IN A HIGH MOLECULAR WEIGHT POLYETHYLENE-REGENERATED CELLULOSE LAMINATE THROUGH ELECTRICAL DISCHARGE TREATMENT

Russell Thomas Uhline, Richmond, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

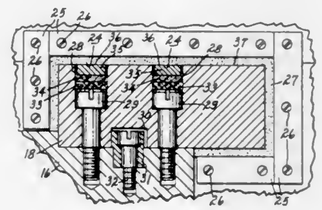
No Drawing. Filed Mar. 14, 1966, Ser. No. 533,799
Int. Cl. B29b *3/00*
U.S. Cl. 156—244 **5 Claims**

A laminate of regenerated cellulose film/polyethylene is produced by applying to an electrically discharge-treated surface of a regenerated cellulose film containing softener and an anchoring agent, a layer of high density polyethylene resin.

3,523,851
WAY PLUG INSTALLATION

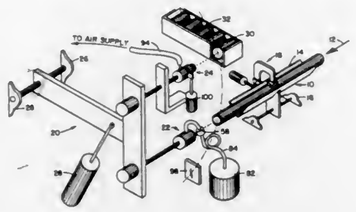
Lawrence A. Attermeyer, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio

Filed June 19, 1967, Ser. No. 647,043
Int. Cl. B32b
U.S. Cl. 156—344 **11 Claims**



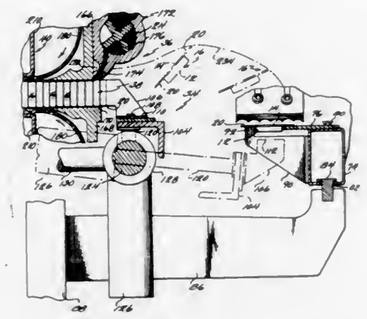
An apparatus and method for a way plug installation (and removal) into holes through which fastening means are installed for securing machine tool ways to machine tools wherein a filler material member in the hole acts as a seal to confine a curable adhesive means and the adhesive means retains a magnetic plug. A magnetic tool holding means is utilized for holding the magnetic plug for a sufficient period of time to permit setting of the adhesive means and to assure accurate coplanar relationship of a subsequently exposed way plug end and the way surface.

3,523,852
MACHINE FOR AUTOMATICALLY CEMENTING COUPLINGS TO PLASTIC PIPE
Fernando V. Guerrero, Solon, Ohio, assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Sept. 21, 1967, Ser. No. 669,423
Int. Cl. B32b 31/00
U.S. Cl. 156—350 8 Claims



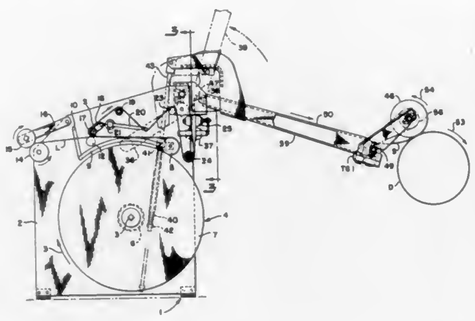
Machine to automatically cement a coupling onto an end of a plastic pipe, comprising means to apply liquid cement to the pipe end, and means to position a coupling on the cement-bearing end.

3,523,853
APPARATUS FOR MAKING HONEYCOMB COREBOARD
Richard V. Thomas, 2906 Ridgewood Ave., Alliance, Ohio 44601
Original application Dec. 12, 1961, Ser. No. 158,755, now Patent No. 3,231,452, dated Jan. 25, 1966. Divided and this application Dec. 29, 1965, Ser. No. 535,624
Int. Cl. B26d 5/00; B31f 1/00
U.S. Cl. 156—354 14 Claims



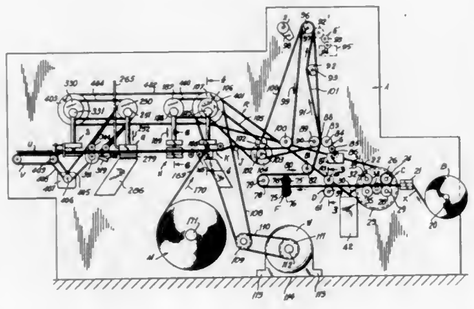
A honeycomb structure having a skin covering each end of the cells is formed by transversely corrugating a strip of material, bonding the corrugated strip to one surface of an uncorrugated strip of greater width to thereby form a cellular tape having uncorrugated flaps formed by the longitudinal edge portions of the uncorrugated strip, stacking a plurality of such tapes against one another and then folding and bonding the flaps into engagement with the ends of the cells. A machine for automatically producing the laminated honeycomb structure includes a pair of intermittently-driven, opposed endless belts which receive between them each length of cellular tape as it is formed. A special transfer system for feeding lengths of cellular tape to the belts permits the tape-forming mechanism to operate continuously at constant speed rather intermittently.

3,523,854
APPARATUS FOR APPLYING STRIP TREAD ON TIRE BUILDING DRUM
Armindo Cantarutti, Akron, Ohio, assignor, by mesne assignments, to NRM Corporation, Akron, Ohio, a corporation of Ohio
Filed Sept. 26, 1966, Ser. No. 582,125
Int. Cl. B29h 17/20
U.S. Cl. 156—397 15 Claims



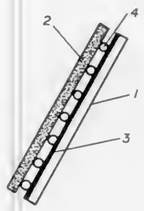
An apparatus for applying strip tread on a tire building drum. The apparatus comprises an assembly including a distributor belt, a stitcher wheel, and a system of convex pulleys. The assembly is supported on a powered screw parallel to the axis of the tire building drum, the screw on rotation causing the assembly to traverse the face of the drum. Stock from a relatively stationary source is caused to make at least one 90° turn by the system of convex pulleys from a first direction of movement into alignment with the distributor belt. The stock then passes through the nip between the stitcher and the face of the drum.

3,523,855
MACHINE FOR MAKING FRAME MOUNTINGS FOR TRANSPARENCIES
Leonard Friedman, New York, N.Y., assignor to Filmways, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 24, 1968, Ser. No. 700,281
Int. Cl. B32b 31/08, 31/06; B31f 7/00
U.S. Cl. 156—514 9 Claims



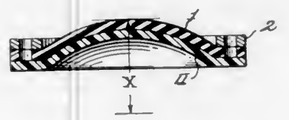
Machine for preparing transparency or film frame mounting cards in which cardboard is fed in at one side of the machine and then is successively given a central fold line and then is successively slit, given a central folding score line, printed, punched, laminated on one side, heat-sealed, round punched, and finally rectangularly punched so as to form a frame capable of being folded on to a transparency which is to be preserved in review.

3,523,856
WARNING SIGN
Luther L. Yaeger, Houston, Tex., assignor to Griffolyn Company, Inc., Houston, Tex., a corporation of Delaware
Filed Oct. 6, 1966, Ser. No. 584,788
Int. Cl. B44f 1/02
U.S. Cl. 161—4 5 Claims



A day-night flexible foldable warning sign of extreme flexural fatigue resistance and excellent efficiency has a reflecting metal light barrier layer and a fiber reinforced resilient adhesive layer, and on one side a plastic film or layer containing a fluorescent dye, on the other side a transparent colored plastic film or layer. Thus incident light will be reflected in a conspicuous manner and at a conspicuous wave length.

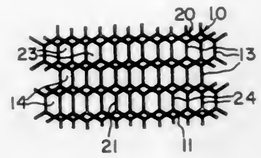
3,523,857
DIAPHRAGM ASSEMBLY
Howard C. Crosland, Hopewell Junction, N.Y., assignor to Chemical Rubber Products, Inc., Beacon, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 276,427, Apr. 29, 1963. This application Apr. 21, 1967, Ser. No. 633,674
Int. Cl. B32b 1/00; F16j 3/00
U.S. Cl. 161—40 4 Claims



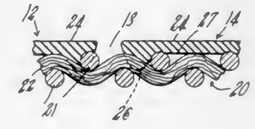
A generally flat diaphragm assembly in which the central portion of the diaphragm is bloused or bagged to extend over a larger area than the plane of the assembly, and in which the outer portion of the diaphragm is smoothly and evenly bonded to a gasket.

3,523,858
VENTILATED HONEYCOMB STRUCTURE
Conrad R. Schudel, Irving, Tex., assignor to Hexcel Products, Inc., Berkeley, Calif.
Filed May 21, 1964, Ser. No. 369,249
Int. Cl. B32b 3/12; E04c 2/34
U.S. Cl. 161—69 8 Claims

A honeycomb product or honeycomb sandwich and method of making same is disclosed wherein at least two sheets of honeycomb are forceably compressed together so that the cell edges at the abutting faces of the honeycomb sheets cut into one another to interlock the sheets and to provide intercellular communication in the cells of one sheet through the cells of another. Permeable membranes can be provided in the region of interpenetration of the honeycomb sheets, face skins can be provided to produce a sandwich structure and the cell walls of the respective sheets can be bonded at the intersections.



3,523,859
ADHESIVE TAPE PRODUCTS
Joseph C. Komp, Bowling Green, Ky., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Continuation of application Ser. No. 437,813, Mar. 8, 1965. This application Dec. 11, 1968, Ser. No. 786,815
Int. Cl. C09j 7/04; B32b 33/00
U.S. Cl. 161—94 3 Claims

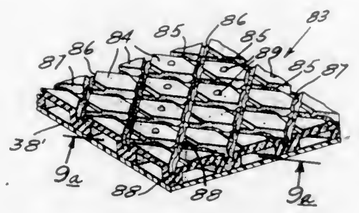


Adhesive tape comprising a pervious backing sheet and a plurality of spaced pressure-sensitive adhesive film strips positioned on the backing sheet providing continuously extending slots therebetween, said strips having a flat smooth outer surface and an inner surface of greater film thickness at its edges than in its central portion in contact with the backing sheet, said film at the edges penetrating the backing sheet to a greater depth than the film between the edges, providing a greater degree of bonding between the film and the backing sheet along the edges of the strips throughout their length to provide a high degree of resistance to delamination along the edges of said strips. Preferably, the strips extend in a sinuous pattern back and forth across said backing sheet and the backing sheet has warp and filling yarns, and the amplitude of the sinuous pattern of the strips is such that the slots extend back and forth across at least one of the warp yarns.

3,523,860
SPONGE RUBBER PADDING
John O. Prohaska and Donald M. Wysopal, Capistrano Beach, Calif., assignors to Ludlow Corporation, Los Angeles, Calif., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 431,516, Feb. 10, 1965. This application Apr. 4, 1966, Ser. No 539,814
Int. Cl. B32b 3/26, 5/18
U.S. Cl. 161—122 8 Claims

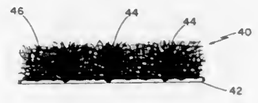
A resilient cushion of the type used under carpets consisting of a pattern of hollow sponge rubber buttons of uniform shape and size and having flat bottoms. Each button has relatively straight side walls standing substantially perpendicular to the plane of the flat bottoms,

the side walls of each button being spaced from all adjacent side walls of all adjacent buttons. Edges of the side walls are integrally joined to respective adjacent edges



of adjacent buttons and an impervious non-stretchable rubber impregnated sheet is attached to all the edges of said buttons closing hollow interiors of the buttons.

3,523,861
NONWOVEN LINER MATERIAL AND METHOD OF MAKING SAME
Nicholas S. Newman, West Newton, Mass., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed Dec. 20, 1966, Ser. No. 603,226
Int. Cl. D04h *1/58*
U.S. Cl. 161—151 **8 Claims**



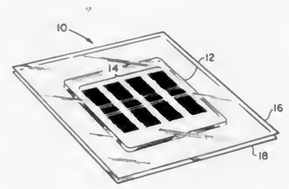
An unspun and unwoven array of textile-length fibers or blend of such fibers is lightly needled until a portion of the fibers have been reoriented into closer mechanical engagement with each other. This array of fibers is brought into contact, under heat and pressure, with the surface of a transiently thermoplastic film capable of becoming thermoset when heated, adhesive being effected along only a portion of the lengths of the fibers.

3,523,862
CONDUCTIVE METAL CHEMICALLY BONDED TO PLASTIC SUBSTRATE
Alvin H. Lybeck, Mansfield Center, Conn., assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 577,214
Int. Cl. B32b *15/08, 27/34, 27/42*
U.S. Cl. 161—217 **2 Claims**



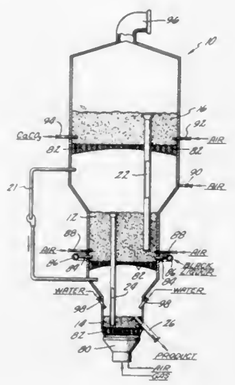
An electrically conductive laminate comprising a conductive layer of copper, a layer of copper oxide adhered to said copper, a bonding layer of particulate polyethylene, a peroxide and an allyl cyanurate applied from a solvent solution; and a substantially rigid non-conducting plastic supporting layer.

3,523,863
DRYING AND PRESERVATION OF ELECTROPHORESIS GEL FILMS
Eva Th. Juhos, Mountain View, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Nov. 9, 1966, Ser. No. 593,036
Int. Cl. B32b *27/30*
U.S. Cl. 161—249 **6 Claims**



This invention relates generally to zone electrophoresis and particularly to the drying and preservation of gel films which contain electrophoretic patterns or electropherograms formed during zone electrophoresis runs.

3,523,864
PAPER PULPING CHEMICAL RECOVERY SYSTEM
Joseph Osterman, Simsbury, and Herbert E. Klei, Jr., Willington, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 28, 1967, Ser. No. 694,335
Int. Cl. D21c *11/12*
U.S. Cl. 162—30 **10 Claims**



A recovery system for kraft process black liquor including a three zone fluidized bed reactor in which the black liquor is dried and oxidized in the intermediate zone, the inorganic sodium and sulfur compounds are reduced in the bottom zone, and calcium carbonate is calcined to form calcium oxide in the top zone. The fluidized beds are formed essentially of calcium oxide particles or pellets, which overflow from the top bed into the intermediate bed where they are coated by the black liquor. From this intermediate bed the now coated particles overflow into the bottom bed and finally the agglomerate particles or pellets are transferred to a slaker-causticizer tank.

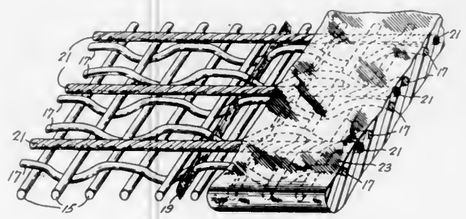
3,523,865
METHOD OF PRODUCING EXTENSIBLE PAPER
Carl Bertil Andreas Ihrman, Saffle, Sweden, assignor to Billeruds Aktiebolag, Saffle, Sweden, a company of Sweden
Continuation-in-part of application Ser. No. 323,055, No. 26, 1963. This application Mar. 21, 1967, Ser. No. 624,948
Claims priority, application Sweden, Nov. 15, 1962, 12,243/62
Int. Cl. B31f *1/12;* **D21h** *5/24*
U.S. Cl. 162—111 **3 Claims**

Extensible paper of improved properties, including toughness and tensile strength, is disclosed. A running paper web formed of a suitable moisture content is mechanically shrunk in its machine direction. This web is dried while supported upon heated gaseous medium, thereby allowing the web to shrink essentially without restriction in its cross machine direction. By this process, an 8% stretch in both the cross machine direction and the machine direction of the paper may be obtained. In a preferred embodiment, the paper web is subjected to a draw tension in the machine direction while it is supported on the heated gaseous medium. This draw tension is in excess of the tension necessary to draw the wet web through the gaseous supported drying zone, and may actually stretch the paper, thereby removing a portion of the mechanical shrinkage previously imparted thereto. In addition to improved physical properties of the paper produced, the process allows higher machine speed, better web guidance, and freedom of cockling of the paper.

3,523,866
AUTHENTICATABLE PAPER
Wilbur W. Krueger, 500 Strollers Lane, Wausau, Wis. 54401, and John F. Dever, 1621 S. Douglas St., Appleton, Wis. 54911
No Drawing. Filed Nov. 19, 1968, Ser. No. 777,180
Int. Cl. D21f *11/00;* **D21h** *5/10*
U.S. Cl. 162—140 **5 Claims**

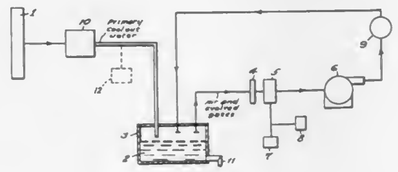
Authenticatable paper containing an azoic coupling component which, upon treatment with a solution of an azoic diazo component, produces an insoluble azo dye as an identification color suitable for authenticating the paper.

3,523,867
FOURDRINIER WIRE BELT
Donald G. MacBean, Pierrefonds, Quebec, Canada, assignor to The Johnson Wire Works Limited, Montreal, Quebec, Canada
Filed Jan. 26, 1967, Ser. No. 612,027
Claims priority, application Great Britain, Jan. 28, 1966, 3,947/66
Int. Cl. D21f *1/10;* **B21f** *27/00*
U.S. Cl. 162—348 **10 Claims**



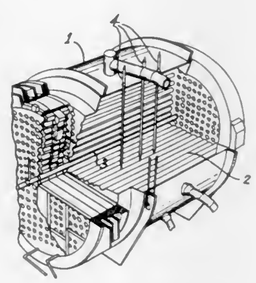
A Fourdrinier wire belt having its marginal edges reinforced by a high tensile strength material strand juxtaposed to the wire and held in place by plastic material adhering to the strand and wire.

3,523,868
APPARATUS AND METHOD FOR MONITORING FISSION PRODUCTS
Charles E. Dady, 100 Border Road, Reading, Mass. 01867
Filed Jan. 26, 1968, Ser. No. 700,837
Int. Cl. G21c *17/02*
U.S. Cl. 176—19 **7 Claims**



A nuclear reactor fission-product monitor having a coolant water reservoir and recirculation system for gases evolved from the water. The evolved gases radioactively decay to products which are removed and analyzed.

3,523,869
BOOSTER-SOURCE RODS IN HEAVY WATER MODERATED REACTOR
John W. Hilborn, Pinawa, Manitoba, Canada, assignor to Byk-Gulden Lomberg Chemische Fabrik G.m.b.H., Constance, Germany, a company of Germany
Original application Sept. 9, 1966, Ser. No. 578,344. Divided and this application Oct. 3, 1967, Ser. No. 675,748
Int. Cl. G21c *3/00*
U.S. Cl. 176—144 **2 Claims**



A rod for insertion in the active lattice of a uranium fueled, heavy water moderated nuclear reactor for providing a source of neutrons for start-up of a reactor and additional reactivity during full power operation, the rod consisting essentially of a mixture of beryllium and plutonium 239.

3,523,870
STEROID TRANSFORMATION BY ENZYMES OF *ASPERGILLUS TAMARII*
Donald R. Brannon, Indianapolis, Ind., assignor to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Sept. 5, 1967, Ser. No. 665,947
Int. Cl. C07c *167/08*
U.S. Cl. 195—51 **10 Claims**

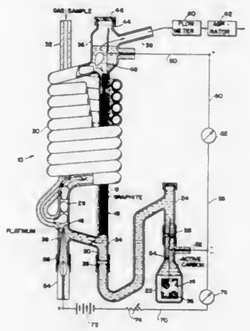
A process for the transformation of androstane and pregnane steroids to known hydroxy derivatives thereof and in some instances D-ring lactone derivatives by subjecting the steroids to the actions of enzymes obtained by the aerobic fermentation of *Aspergillus tamarii* and to

two novel steroid compounds 5α-androstane-3α,11α-diol-17 one and 5α-androstane-6 β-ol-3,17-dione obtained thereby.

3,523,871
STABILIZATION OF CATALASE
Yoshitaka Matsuoka and Mizuo Yajima, Tokyo, Japan, assignors to Eisai Co., Ltd., Bunkyo-ku, Tokyo, Japan, a corporation of Japan
No Drawing. Filed July 13, 1967, Ser. No. 653,041
Claims priority, application Japan, July 20, 1966, 41/47,045; Feb. 7, 1967, 42/7,451
Int. Cl. C07g *7/02*
U.S. Cl. 195—63 **3 Claims**

A method of stabilizing catalase in which a polysaccharide which is soluble or dispersible in water is added to a catalase-containing solution or a crystalline catalase suspension, the amount of the polysaccharide added from 0.5 to 10.0 times by weight of the weight of the catalase, and then freeze-drying or spray-drying the solution or suspension, and the product of said method.

3,523,872
GAS ANALYSIS
Paul A. Hersch, Fullerton, and Rudolf Deuringer, El Toro, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Feb. 18, 1965, Ser. No. 433,554
Int. Cl. G01n *27/46*
U.S. Cl. 204—1 **18 Claims**



An electrochemical process and apparatus for continuously monitoring reduced species, such as SO_2, in a gas stream. The apparatus comprises a cell holding a halide electrolyte, means for generating a constant level of halogen and a current generating means which produces a current indicative of the level of SO_2 in the gas stream entering the cell. The invention is particularly suited for air pollution studies.

3,523,873
ELECTRODEPOSITION OF STRIPPABLE METAL COATINGS AND COMPOSITIONS AND ARTICLES USEFUL THEREFOR
Eugene Mitchell Elkin, Montreal, Quebec, Canada, assignor to Canadian Copper Refiners Limited, Toronto, Ontario, Canada, a corporation of Canada
No Drawing. Filed Dec. 14, 1965, Ser. No. 513,854
Int. Cl. C23b *7/00, 7/02*
U.S. Cl. 204—3 **10 Claims**

It has been found that a dressing or parting agent composition comprising an aqueous emulsion containing minor amounts by way of a polar, saturated, substantially water-insoluble aliphatic organic compound or a sulfur-containing material is useful and yields improved results when employed in an operation for the preparation of metal cathode starting sheets, such as copper cathode starting sheets.

3,523,874
METAL COATING OF AROMATIC POLYMERS
Arabinda N. Dey, Arlington, Mass., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Mar. 16, 1967, Ser. No. 623,567
Int. Cl. C23b *5/60*
U.S. Cl. 204—30 **21 Claims**

Aromatic polymers, particularly those polymers containing aromatic hydrocarbon nuclei, such as polystyrene and phenolic resins, are coated with metals by a process which involves pretreatment of the polymer surface to bond amino radicals or hydroquinone radicals to the aromatic nuclei of the polymer, followed by contacting the chemically treated surface with a metal salt or complex thereof. The process of chemical treatment involves nitration of the aromatic polymer surface to add nitro groups to the aromatic nuclei, followed by reduction with sodium hydrosulfite to convert the nitro groups to amino groups. The amino-modified polymer can be further reacted by diazotization to convert the amino groups to N_2Cl groups, which are replaced by hydroquinone radicals by treating the polymer surface with an alcoholic solution of hydroquinone. The treated surfaces bearing either amino or hydroquinone radicals are subsequently contacted with a metal salt or complex thereof. The resulting treated surface is either conductive or is capable of catalyzing the reduction of a metal salt to produce a conductive surface. Such conductive surfaces are readily electroplated by conventional techniques.

3,523,875
PROCESS FOR METAL COATING SUBSTRATE PRETREATED WITH ALKALI METAL SULFIDE AND RESULTANT PRODUCT
Alfred O. Minklei, Kenmore, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Mar. 15, 1967, Ser. No. 623,210
Int. Cl. C23b *5/64;* **C03c** *17/10;* **C23c** *3/02*
U.S. Cl. 204—38 **16 Claims**

Various substrates, including polymers that contain an aromatic nucleus, particularly phenolic resins, are plated with metals by pretreatment of the substrate surface with an alkali metal sulfide, followed by contacting the treated surface with a metal salt. The resulting treated surface is readily electroplated by conventional techniques. The metal salt treatment of the pre-treated surface can be performed by a metal salt solution in a conventional electroplating bath.

3,523,876
METHOD OF ELECTROCHEMICALLY FORMING THE PLATES OF TURBINE ROTORS
Gustav Stark, Klaus Otto, and Rolf Geissler, Nuremberg, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany
Filed Oct. 12, 1967, Ser. No. 674,896
Claims priority, application Germany, Sept. 2, 1967, S 111,656
Int. Cl. B23p *1/00*
U.S. Cl. 204—143 **1 Claim**

A method of electrochemically forming turbine rotors by means of a tool electrode which has a tubular metallic shank insulated on its internal and external surfaces and a generally annular metallic electrode foot conductively joined with the metallic shank and has an inner contour adapted to the porfile of a turbine blade to be formed out of a rotor workpiece, the electrode foot protrudes laterally from the shank and has an arcuate length larger than the arcuate blade division of the rotor to be formed, the method has the steps of sequentially forming the blades out of the workpiece material by moving each time the electrode tool radially into the workpiece, changing between each two consecutive forming operations the angular relation of the tool to the workpiece in accordance with the blade division, and overlapping the consecutive forming operations at the bladefoot circle of the rotor being produced so as to completely remove the workpiece material from between the resulting blades of the rotor.

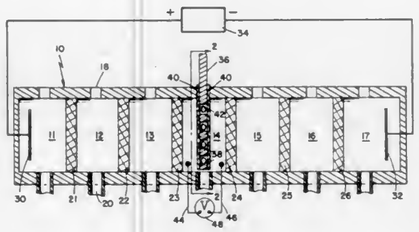
3,523,877
METHOD FOR TREATING A SCRUBBING SOLUTION FOR CHLORINATED HYDROCARBONS
George W. Woest, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Mar. 23, 1966, Ser. No. 536,599
Int. Cl. C01d *1/40;* **C22d** *1/00*
U.S. Cl. 204—153 **1 Claim**

Method for scrubbing chlorinated hydrocarbons with caustic solution which has been pretreated to remove metal impurities therefrom by passing an electrical current between spaced apart electrodes in contact with the solution so as to electrodesposit metal impurities such as colloidal copper and nickel from the solution upon at least one of the electrodes.

3,523,878
ISOMERIZATION OF 1,4-DIENES WITH ULTRA-VIOLET RADIATION
Robert Junior Harder and Howard Ensign Simmons, Jr., Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 1, 1967, Ser. No. 657,485
Int. Cl. B01j *1/10*
U.S. Cl. 204—162 **7 Claims**

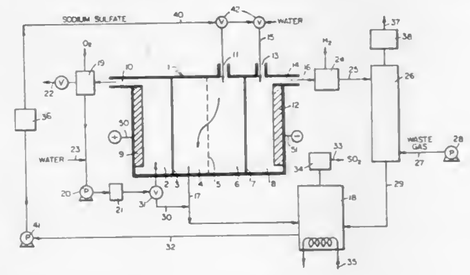
A process for geometrically isomerizing a 1,4-diene which is not at its isomeric equilibrium composition and thereby bringing it closer to its equilibrium composition which comprises mixing the 1,4-diene with a promoter and exposing the mixture to radiation having a wave length of 250–400 millimicrons.

3,523,879
METHOD AND APPARATUS FOR MATERIAL EXTRACTION
Julio M. Cortes, Shrewsbury, Mass., assignor to Worcester Foundation for Experimental Biology, Shrewsbury, Mass., a corporation of Massachusetts
Filed Aug. 25, 1966, Ser. No. 575,053
Int. Cl. B01d *13/02, 59/42*
U.S. Cl. 204—180 **16 Claims**



A method of extracting a component from organic tissue includes the steps of positioning the organic tissue in an extraction chamber, and migrating cations into the extraction chamber by electrodialysis to extract a component from the tissue.

3,523,880
ELECTROLYTIC CELL FOR REMOVAL AND RECOVERY OF SO_2 FROM WASTE GASES
Edgardo J. Parsi, Watertown, Mass., assignor to Ionics, Incorporated, Watertown, Mass.
Filed Dec. 27, 1967, Ser. No. 693,903
Int. Cl. C01b *17/56;* **B01d** *13/02;* **B01k** *3/00*
U.S. Cl. 204—180 **7 Claims**



This invention relates to a four compartment electrolytic cell for converting a solution feed into its corresponding acid, acid salt and caustic solution for use in connection with a liquid with a liquid SO_2 absorption system. The caustic produced absorbs the SO_2 gas and on exhaustion is neutralized with the acid salt to reform the original salt feed solution. The desorbed SO_2 gas is collected and the salt solution recycled as feed to the cell. The acid produced in the anode compartment of the cell as removed from the scrubber system in an amount which is sufficient to maintain the reformed salt feed solution substantially neutral in pH.

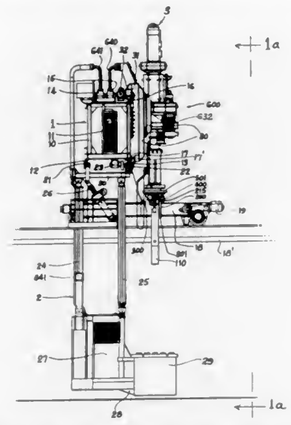
3,523,881
INSULATING COATING AND METHOD OF MAKING THE SAME
Robert G. Hirst and Paul V. Voloscove, Pittsfield, Mass., assignors to General Electric Company, a corporation of New York
No Drawing. Filed Sept. 1, 1966, Ser. No. 576,558
Int. Cl. B01k *5/02;* **C23b** *13/00;* **H01f** *1/18*
U.S. Cl. 204—181 **10 Claims**

Insulating coating is provided on silicon steel sheet by applying a first coating of colloidal silica or colloidal alumina, electro-depositing thereon a coating of calcium hydroxide, and heating the thus coated sheet at elevated temperature to form a final coating of calcium metasilicate or calcium aluminum silicate.

3,523,882
APPARATUS FOR CONTROL OF CONSUMABLE ANODES IN ELECTROLYTIC SYSTEMS
Daniel Duclaux, Lille, France, assignor to Pechiney, Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France
Filed Feb. 25, 1969, Ser. No. 802,159
Int. Cl. B66c *17/16*
U.S. Cl. 204—194 **9 Claims**

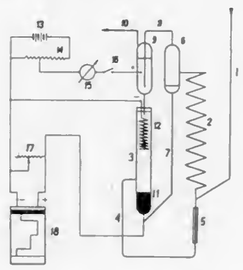
A control apparatus for a continuous Soderberg anode, the apparatus including a pin gripping device for withdrawing the anode pins from the anode; a device for actuating the pincer members which maintain mechanical and electrical connections between the pin stems and the current feed bars, the pincer actuating device being movable between operative and in operative positions; and a cleaning device for the current feed bars; the gripping,

pincer-actuating and cleaning devices together constituting a sub-assembly, and means being provided for vertically



moving and/or rotating this sub-assembly between operative and inoperative positions.

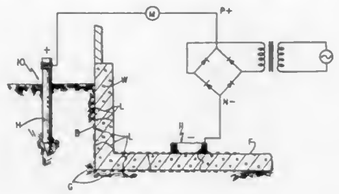
3,523,883
APPARATUS FOR REGENERATING ELECTRODES
Jerzy Waclawik, Ul. Kasprowicza 59, m. 8, Warsaw, Poland, and Stefan Waszak, Ul. Leohitow 14/16, Piaseczno-Golkow, Poland
Filed June 15, 1967, Ser. No. 646,390
Claims priority, application Poland, June 15, 1966, P 115,136
Int. Cl. G01n *27/54*
U.S. Cl. 204—195 **3 Claims**



Method and equipment for the continuous regeneration of an electrode which is oxidized or reduced in the electrochemical process occurring in the galvanic cell of a gas analyzer such as used for the automatic determination of gas mixture components without interrupting their function.

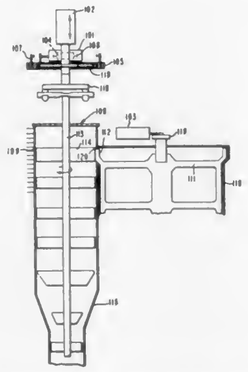
3,523,884
METHOD AND APPARATUS FOR MAKING WALL STRUCTURE IMPERVIOUS TO MOISTURE
Samuel M. Bagno, Belleville, N.J.; Goldie Bagno, administratix of said Samuel Bagno, deceased, assignor to Systron-Donner Corporation, Concord, Calif., a corporation of California
Original application Mar. 23, 1964, Ser. No. 353,990. Divided and this application May 10, 1968, Ser. No. 736,903
Int. Cl. B01k *1/00, 5/00*
U.S. Cl. 204—196 **5 Claims**

Apparatus for waterproofing a wall structure including a first electrode adapted for insertion in the ground adjacent to the exterior of the wall and a second electrode adapted for electrical connection to the interior of the wall. A water soluble electrolyte stored in each of the electrodes, and these electrolytes are such that when combined they produce a water insoluble precipitate. Wetting the electrodes and connecting them to the op-



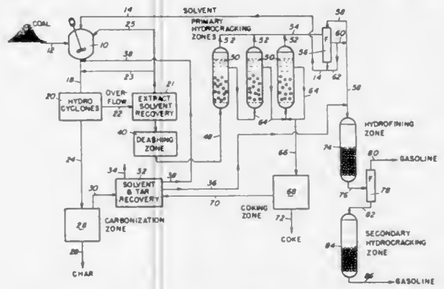
posite terminals of a direct current power source causes the water insoluble precipitate to collect on the wall structure intermediate the electrodes.

3,523,885
TICKLER ASSEMBLY FOR RISER PIPE OF FUSED SALT ELECTROLYSIS CELL FOR THE PRODUCTION OF SODIUM
Clyde T. Gallinger, Niagara Falls, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 10, 1967, Ser. No. 637,502
Int. Cl. C22d *3/06*
U.S. Cl. 204—245 **6 Claims**



A tickler assembly for the riser pipe of a fused salt electrolysis cell for the production of sodium, which assembly comprises (A) a tickler designed to free solid deposits, e.g., calcium deposits, from the inner walls of the riser pipe, in combination with (B) a first driving means, preferably a double-acting gas cylinder, for imparting vertical movement to the tickler and (C) a rack and pinion gear in combination with a ratchet and a second driving means, preferably a double-acting gas cylinder, for imparting intermittent rotary motion to the tickler, together with (D) means, preferably a reversing gas valve, for intermittently reversing the directions of the drives of said first and second driving means. The tickler assembly also includes means for bringing the vertical movement of the tickler to a sudden "jarring" stop to cause dislodgmement of solids from the tickler. Preferably, the tickler assembly for the riser pipe is operated in conjunction with an agitator assembly for a sodium receiver into which sodium passes from the top of the riser pipe into the receiver by way of a weir connecting the two. The agitator assembly for the receiver comprises a rotary agitator including scraper blades for cleaning the side walls of the receiver and the weir between the riser pipe and receiver, and a reversible drive means, preferably a double-acting gas cylinder, in association with a ratchet, for intermittently rotating the agitator.

3,523,886
PROCESS FOR MAKING LIQUID FUELS FROM COAL
Everett Gorin, John A. Phinney, and Eric H. Reichl, Pittsburgh, Pa., assignors to the United States of America as represented by the Secretary of the Interior, and Consolidation Coal Company, Library, Pa., jointly
Filed Feb. 24, 1969, Ser. No. 801,626
Int. Cl. C10g *1/04*
U.S. Cl. 208—8 **3 Claims**



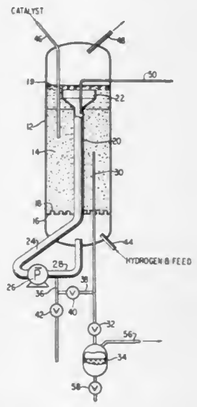
In a process for making liquid fuel from coal by solvent extraction wherein the coal is extracted with solvent, and the extract is separated from undissolved coal residue by hydrocyclones, wherein the extract which is the overflow product from the hydrocyclone is catalytically hydrocracked to produce the desired liquid fuel, and wherein said undissolved residue which is the underflow product from the hydrocyclone is carbonized, the improvement comprising maintaining said underflow product as a pumpable slurry containing at least 35% by volume of liquid.

3,523,887
CATALYTIC HYDROCRACKING WITH A MIXTURE OF CRYSTALLINE ALUMINOSILICATE AMORPHOUS BASE CRACKING COMPOUNDS PROMOTED WITH ONE OR MORE HYDROGENATION COMPONENTS
Francis V. Hanson and Paul W. Snyder, Jr., Pitman, N.J., assignors to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Oct. 11, 1968, Ser. No. 766,958
Int. Cl. C10g *13/02*
U.S. Cl. 208—111 **5 Claims**

A catalytic hydrocracking operation is described employing a catalyst mixture comprising a crystalline alumino-silicate cracking base in admixture with an amorphous cracking base and promoted with one or more hydrogenating components wherein the activity and selectivity of the catalyst is under substantial surveillance and the activity of the catalyst is maintained by an adjustment of temperature and selectivity of the damaged mixed base catalyst is restored to substantially its original condition by ammonia treatment of the catalyst.

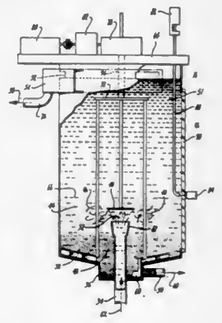
3,523,888
CATALYST WITHDRAWAL PROCESS
Norman C. Stewart, Kendall Park, and Roger P. Van Driesen, Hopewell, N.J., assignors to Cities Service Research and Development Company, New York, N.Y., a corporation of Delaware
Filed Dec. 26, 1967, Ser. No. 693,615
Int. Cl. C10g *23/06*
U.S. Cl. 208—157 **6 Claims**

A method for the controlled withdrawal of particulate catalyst from an operating high pressure ebullated bed hydrogenation reactor is disclosed herein. The hydrogenation reactor has an internal liquid recycle conduit with a pump attached to the bottom end of the conduit, which pumps recycled liquid through a return conduit back into the bottom of the reactor. A catalyst withdrawal conduit extends into the catalyst bed of the reactor and is connected to the return conduit by suitable valves and a connecting conduit. In the present improved method, catalyst particles are intermittently withdrawn from the operating hydrogenation reactor by withdrawing a catalyst particle and liquid mixture at reactor pressure from the catalyst bed through the catalyst withdrawal conduit to a catalyst discharge pot at the other end of the withdrawal



conduit until the desired amount of particulate catalyst is removed from the reactor, whereupon withdrawal of particulate catalyst is terminated. Fluid flow in the withdrawal conduit is then reversed by pumping a portion of the recycled liquid from the recycle pump through the connecting conduit to the lower end of the withdrawal conduit thereby purging the withdrawal conduit of catalyst particles and preventing in situ coking and clogging of the conduit.

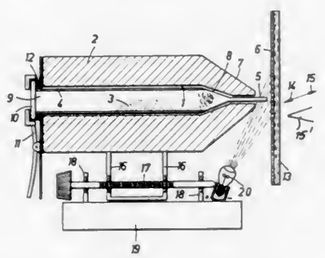
3,523,889
METHOD AND APPARATUS FOR SEPARATING LIQUIDS FROM SOLIDS
Frederick G. Eis, Woodland, Calif., assignor to American Sugar Company, New York, N.Y., a corporation of Delaware
Filed Nov. 26, 1968, Ser. No. 779,089
Int. Cl. B01d *21/01*
U.S. Cl. 210—20 **11 Claims**



A method and apparatus for rapidly and continuously separating finely divided and suspended solid materials from liquids, at a predetermined controlled rate, involving initially agglomerating at least part of the solids through use of a settling aid and thereafter causing additional agglomeration of the solids to produce a rapidly setting, easily removable dense underflow of agglomerates and entrained solids. The additional agglomeration

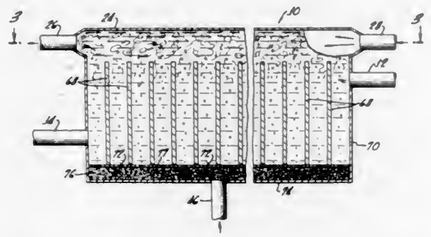
is carried out in the presence of previously formed agglomerates under controlled conditions, and in the absence of reliance on a free settling zone. The rate of removal of the dense underflow effects a degree of control over the settling bed depths and the density of the underflow. The clarified liquid is removed as a clear overflow. Both the clear liquid and the dense underflow are recoverable as end products, depending upon the particular liquid-solid system undergoing processing.

3,523,890
CHROMATOGRAPHIC METHOD AND APPARATUS
Egon Stahl, Auf den Hutten 25, Scheidt (Saar), Germany
Filed Sept. 18, 1968, Ser. No. 760,480
Claims priority, application Germany, Nov. 21, 1967, 1,673,097
Int. Cl. B01d *15/08*
U.S. Cl. 210—31 **7 Claims**



In order to determine or extract a volatile substance from a mixture, the mixture is placed in a glass cartridge with a solvent, the cartridge is heated and the volatile substance entrained by the solvent vapor leaves the cartridge through a capillary opening directing it onto a sheet of chromatographic material to form a deposit which can be subjected to chromatography.

3,523,891
ELECTROLYTIC SEWAGE TREATMENT SYSTEM AND PROCESS
Ronald C. Mehl, Colton, Calif., assignor to Purity Control, Inc.
Filed Feb. 19, 1969, Ser. No. 800,478
Int. Cl. B03d *1/02*; **C02c** *5/12*
U.S. Cl. 210—44 **21 Claims**



A two stage sewage treatment process and system including a first electrolytic cell for producing a metal hydroxide floc on electrolysis, an ozone unit for bubbling ozone upwardly through the cell and floating the floc on top of the fluid. A vacuum blower communicates with the cell for removing the floc and entrapped solids. A second stage cell having a pair of horizontally mounted electrodes may be included for further removing suspended solids.

3,523,892
METHOD OF FLOCCULATION WITH WATER-SOLUBLE CONDENSATION POLYMERS
Dallas L. Schiegg, Pittsburgh, Pa., assignor to Calgon Corporation, Pittsburgh, Pa.
No Drawing. Original application Dec. 20, 1965, Ser. No. 515,190, now Patent No. 3,391,090, dated July 2, 1968. Divided and this application Feb. 14, 1968, Ser. No. 705,307
Int. Cl. B01d *21/01*
U.S. Cl. 210—54 **4 Claims**

Suspended particulate matter is flocculated and removed from an aqueous medium by adding a condensation polymer of epihalohydrin and polyalkylene polyamine.

3,523,893
FIRE EXTINGUISHING POWDER COMPOSITION
Zbigniew J. Lobos, East Brunswick, N.J., assignor to Stop-Fire, Inc., Monmouth Junction, N.J.
No Drawing. Filed Mar. 22, 1967, Ser. No. 625,034
Int. Cl. A62d *1/00*
U.S. Cl. 252—5 **4 Claims**

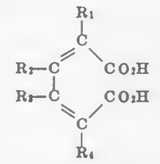
A dry composition of ammonium phosphate-base fire extinguishing powder with finely divided boron oxide in admixture therewith and the process of making the same.

3,523,894
CORROSION INHIBITORS
Samuel E. Jolly, Ridley Park, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed July 18, 1966, Ser. No. 565,701
Int. Cl. C23f *11/10*
U.S. Cl. 252—8.55 **5 Claims**

This specification discloses compositions and methods for inhibiting corrosion normally caused by oil well fluids. The compositions comprise a major amount of an amine salt wherein the amine is

$$RNHCH_2CH_2CH_2NH_2$$

wherein R is selected from the group consisting of aliphatic and cycloaliphatic hydrocarbon radicals having 12 to 30 carbon atoms and the acid is



wherein R_1, R_2, R_3 and R_4 are selected from the group consisting of CH_3 and H.

3,523,895
METAL WORKING LUBRICANT
Hisamichi Ishibashi, Koji Tsuchioka, and Ryojiro Shinozawa, Yokohama, Japan, assignors, by mesne assignments, to Mobil Oil Corporation, New York, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 781,648, Sept. 9, 1968, which is a continuation of application Ser. No. 553,319, May 27, 1966. This application Apr. 21, 1969, Ser. No. 818,158
Int. Cl. C10m *7/46, 7/02, 7/20*
U.S. Cl. 252—17 **18 Claims**

An emulsion lubricant for the cold-rolling of metals containing, on a water-free basis, from about 20% to about 50% by weight of the neat composition of a solid aliphatic monocarboxylic acid having from about 10 to about 30 carbon atoms provides excellent rolling characteristics. The emulsion lubricants containing the solid acids are particularly useful in the cold rolling of steel.

3,523,896
LUBRICATING OIL ADDITIVES
James T. Gragson, David W. Bosse, and King L. Mills, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 29, 1966, Ser. No. 575,870
Int. Cl. C10m *1/40, 1/10*
U.S. Cl. 252—33 **7 Claims**

A method of increasing the filtration rate of metal sulfonates and overbased metal sulfonates which comprises adding a mixture of methanol and water to the dry sulfonate followed by the heating in the range of 215–320° F.

3,523,897
INCREASED BASE NUMBER METAL PETROLEUM SULFONATE AND PROCESS FOR ITS PREPARATION
Albert N. De Vault, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 5, 1966, Ser. No. 540,230
Int. Cl. C10m *1/10, 1/40, 1/48*
U.S. Cl. 252—32.7 **9 Claims**

Overbased metal sulfonates are formed by reacting a sulfonic acid or metal salt thereof with metal base and carbon dioxide in the presence of zinc dihydrocaryldithiophosphate at a temperature below 250° F. The inventive sulfonates are used as detergents in lubricating oils.

3,523,898
INCREASED BASE NUMBER METAL PETROLEUM SULFONATE AND PROCESS FOR ITS PREPARATION
Albert N. De Vault, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 5, 1966, Ser. No. 540,229
Int. Cl. C10m *1/10, 1/40*
U.S. Cl. 252—33 **6 Claims**

Overbased metal petroleum sulfonates are formed by reacting a sulfonic acid or metal salt thereof with metal base and carbon dioxide in the presence of an alkylated phenol sulfonic acid having 10–24 carbon atoms in the alkyl group. The inventive sulfonates are used as detergents in lubricating oils.

3,523,899
OVERBASED METAL PETROLEUM SULFONATE AND METHOD FOR ITS PREPARATION
Albert N. De Vault, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 4, 1966, Ser. No. 540,022
Int. Cl. C10m *1/10, 1/40*
U.S. Cl. 252—33 **10 Claims**

Overbased metal sulfonates are formed by reacting a sulfonic acid or metal salt thereof with carbon dioxide in a critical reaction medium which consists of phenol, water, and petroleum solvent. The inventive sulfonates are used as detergents in lubricating oils.

3,523,900
LIQUID DEVELOPERS FOR DEVELOPING ELECTROSTATIC IMAGES
Yasuo Ueda, 3–32 Kitano-cho, Ikuta-ku, Kobe, Hyogo Prefecture, Japan; Eiichi Inoue, 719 Toriyama-cho, Setagaya-ku, Tokyo, Japan; Yasutoki Kamezawa, 2–18 Higashi, Hamaguchi-cho, Sumiyoshi-ku, Osaka, Japan; and Tatsuo Aizawa, 6–34 Kuwazu-cho, Higashisumiyoshi-ku, Osaka, Japan
No Drawing. Filed Mar. 13, 1968, Ser. No. 712,621
Claims priority, application Japan, Mar. 18, 1967, 42/17,254
Int. Cl. G03g *9/04*
U.S. Cl. 252—62.1 **5 Claims**

A liquid developer for developing electrostatic images in electrophotography in which asphaltic bitumen reacting with sulphur and sulphur compounds provides the image forming material in minute particulate form with the image forming material suspended in an insulating carrier liquid for producing a visible image of high degree of resolution and permanent copy.

3,523,901
MAGNETIC MATERIAL HAVING SQUARE HYSTERESIS LOOP CHARACTERISTIC AND A MEMORY CORE MADE OF THE SAME
Masahiro Amemiya, Kokubunji-shi, Shiuzi Sakuma, Tokyo, and Susumu Kurokawa and Masayuki Emoto, Kodaira-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Dec. 12, 1967, Ser. No. 689,966
Claims priority, application Japan, Dec. 28, 1966, 42/85,335
Int. Cl. C04b *35/40*
U.S. Cl. 252—62.57 **12 Claims**

A magnetic material containing a lithium ferrite which contains 16.7–15.2 mol percent of Li_2O and 83.3–65.8 mol percent of Fe_2O_3 as the main components and 0–18 mol percent of oxide or oxides of at least one metal selected from the group consisting of Mn, Mg, Ni, Zn, Cu and V as subcomponents, and 0.1–4 weight percent of oxide or oxides of at least one element selected from the group consisting of Y and lanthanide elements, and having the magnetic properties of coercive force $Hc \geqq 6.5$ oe. and squareness ratio $Br/Bm \geqq 0.85$.

3,523,902
CONTROLLED SUDS DETERGENT
Irving R. Schmolka, Grosse Ile, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan
No Drawing. Continuation-in-part of application Ser. No. 446,432, Apr. 7, 1965. This application Aug. 3, 1967, Ser. No. 658,053
Int. Cl. C11d *3/066, 3/07*
U.S. Cl. 252—137 **10 Claims**

The high sudsing characteristics of anionic synthetic detergents can be controlled by a synergistic combination of a water-soluble nonionic surface active agent and an alkyl phosphate ester.

3,523,903
PHOTOCHROMIC CIS-1-ARYL-2-NITROALKENES COMPOSITIONS
Aaron L. Bluhm, Canton, Mass., assignor to the United States of America as represented by the Secretary of the Army
No Drawing. Original application Apr. 18, 1966, Ser. No. 544,354, now Patent No. 3,328,466, dated June 27, 1967. Divided and this application Mar. 22, 1967, Ser. No. 627,246
Int. Cl. G03c
U.S. Cl. 252—300 **4 Claims**

Transparent media containing photochromic cis-1-aryl-2-nitroalkenes which develop color upon exposure to light.

3,523,904
PROCESS FOR RECLAIMING CONTAMINATED PHOSPHORS
David Single, Chicago, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Aug. 28, 1967, Ser. No. 663,621
Int. Cl. C09k *1/04*
U.S. Cl. 252—301.6 **4 Claims**

A contaminated phosphor slurry used in the manufacture of a color cathode ray tube is processed for reuse by a sequence of steps including pyrolysis at 1100° F. to

1200° F. with an alkali metal nitrate to volatilize certain impurities and convert other contaminants to a more readily separable form. The contaminated slurry or "sludge" is first subjected to a series of mildly acid, hot water washing operations followed by settling and decantation to remove water soluble contaminants prior to the pyrolysis step. The phosphor and the remaining water insoluble solids are thoroughly mixed with a concentrated aqueous solution of potassium nitrate. The mixture is then dehydrated at about 500° to 600° F., and subject to pyrolysis. The non-volatile residue is subjected to a mildly acid water wash, followed by settling and decantation similarly as before. Finally, the reclaimed phosphor is centrifuged and dried in preparation for reuse.

3,523,905

METHOD OF PREPARING PHOSPHORS AND COLOR DISPLAY SYSTEMS CONTAINING SAME

Robert Carvell, Jr., Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 14, 1967, Ser. No. 690,569

Int. Cl. C09k *1/12;* **H01j** *1/63, 29/20*

U.S. Cl. 252—301.6 **9 Claims**

Zinc sulfide and zinc sulfide-cadmium sulfide phosphors are treated in a molten zinc or cadmium salt bath at an elevated temperature to effect an exchange of zinc from the molten salt for cadmium from the phosphor particles or cadmium from the molten salt for zinc from the phosphor particles to form phosphor particles in which the concentration of zinc sulfide relative to the concentration of cadmium sulfides varies from the outer portion of the particles to the core portion. After cooling the mixture of the phosphor particles and salt, the salt in the mixture is dissolved in a solvent in which the phosphor particles are substantially insoluble to produce phosphor particles which emit light of different hues when energized by electrons at different energy levels. A viewing screen utilizing these phosphors is also described.

3,523,906

PROCESS FOR ENCAPSULATING WATER AND COMPOUNDS IN AQUEOUS PHASE BY EVAPORATION

Marcel Nicolas Vrancken, Hove, and Daniel Alois Claeys, Mortsel, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a company of Belgium

No Drawing. Continuation-in-part of application Ser. No. 292,469, July 2, 1963. This application Apr. 25, 1968, Ser. No. 724,217

Claims priority, application Netherlands, July 11, 1962, 280,825

Int. Cl. A61k *9/04;* **B01j** *13/02;* **G03c** *1/10*

U.S. Cl. 252—316 **7 Claims**

In a process of encapsulating water or a compound in aqueous phase in a polymerized material soluble in a water-immiscible solvent and forming when free of the solvent a dry, solid film insoluble in the water or aqueous phase in which the polymerized material is dissolved in a water-immiscible solvent therefor having a boiling point below 100° C. and the water or aqueous phase is emulsified within the resulting solution, the improvement of emulsifying the thus formed emulsion in an aqueous solution of a hydrophilic colloid and removing the water-immiscible solvent by evaporation. The polymerized material can be any vinyl polymer or copolymer, polycarbonate, polyester, polysulfonate, polyurethane, polyamide, chlorinated natural rubber or cellulose derivative having the above-noted characteristics.

3,523,907

METHOD FOR ENCAPSULATING WATER AND COMPOUNDS IN AQUEOUS PHASE BY EXTRACTION

Marcel Nicolas Vrancken, Hove, and Daniel Alois Claeys, Mortsel, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a company of Belgium

No Drawing. Continuation-in-part of application Ser. No. 292,470, July 2, 1963. This application Apr. 25, 1968, Ser. No. 724,216

Claims priority, application Netherlands, July 11, 1962, 280,826

Int. Cl. A61k *9/04;* **B01j** *13/02;* **G03c** *1/10*

U.S. Cl. 252—316 **5 Claims**

In a process of encapsulating water or a compound in aqueous phase in a polymerized material soluble in a water-immiscible solvent and forming when free of the solvent a dry solid film insoluble in the water or aqueous phase in which the polymerized material is dissolved in a water-immiscible solvent therefor, the water or aqueous phase is emulsified within the resulting solution and the polymeric material is caused to deposit out of said solution around the dispersed phase particles of said water or aqueous phase by the addition of a liquid which is co-miscible with water and with the solvent but does not dissolve the polymeric material, the improvement of emulsifying the emulsion of water or aqueous phase in the polymer solution in an aqueous solution of a hydrophilic colloid prior to the addition of the co-miscible liquid. The polymerized material can be any vinyl polymer or copolymer, polycarbonate, polyester, polysulfonate, polyurethane, polyamide, chlorinated natural rubber or cellulose derivative having the above-noted characteristics.

3,523,908

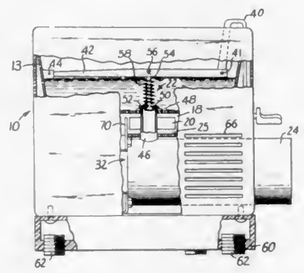
LATHER MAKING MACHINE

Jacob Morris Levy, 5238 Oakton St., Skokie, Ill. 60076

Filed July 12, 1968, Ser. No. 744,421

Int. Cl. B01f *3/04, 7/08*

U.S. Cl. 252—359 **7 Claims**



The improved lather maker is characterized by a hollow member circular in cross section, open at both ends and with a corrugated interior surface. A soap inlet is located at one end and a discharge outlet is at the other end. A coextensive rotor circular in cross section and with an entirely corrugated exterior surface and of slightly lesser diameter is concentrically supported within the hollow member. The rotor at its end near the inlet is formed with transverse circular rings produced by incorporating transverse annular or peripheral grooves in the rotor. The grooves are confined to the rear or inlet portion of the device and are variably spaced axially, being closer together further removed from the inlet and toward the discharge end.

3,523,909

PROCESS FOR PREPARING SOAP BARS FREE OF OMEGA PHASE SOAP

George Rowland Bradley III, Madeira, Ohio, and Marinus Anton Hoolboom, The Hague, Netherlands, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Jan. 3, 1967, Ser. No. 606,592

Int. Cl. C11d *13/00, 13/18, 13/24*

U.S. Cl. 252—370 **8 Claims**

A process for preparing soap bars substantially free of omega phase soap, comprising sequential drying and cooling steps, several of said steps involving limitations on conditions such as temperature, moisture and pressure. A specific molten soap composition is dried under pressure to a moisture content of from about 17% to about 24%. Then, the molten soap composition is cooled quickly to a temperature of from about 25° C. to about 60° C. After flakes are formed during milling, the moisture content of the flakes is further reduced to a final moisture level of from about 5% to about 14%. The dried flakes are then formed into a soap bar by plodding and extruding.

3,523,910

METHOD OF USE OF A 1-t-BUTYL-3:7-DIALKYL PHENOTHIAZINE AS ANTIOXIDANT AND STABILIZED COMPOSITIONS CONTAINING SAME

Donald Richard Randell, Stockport, England, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Original application Apr. 26, 1967, Ser. No. 633,687. Divided and this application Mar. 17, 1969, Ser. No. 812,550

Claims priority, application Great Britain, May 6, 1966, 20,014/66

Int. Cl. B01j *1/16*

U.S. Cl. 252—402 **7 Claims**

Alkyl-substituted phenothiazines which bear in 1-position at the phenothiazine nucleus a t-butyl group and in 3- and 7-position of said nucleus the same or different alkyl groups of from 1 to 9 carbon atoms and which are useful as antioxidants; a method of protecting organic material susceptible to oxidative deterioration with the aid of a novel tri-alkylated phenothiazine; and compositions containing such oxidation-susceptible organic material and an antioxidant amount of a novel tri-alkylated phenothiazine.

3,523,911

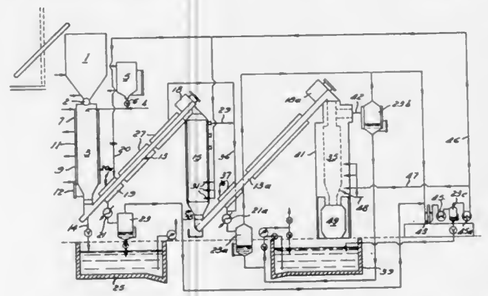
METHOD OF SEPARATING COMPONENTS OF CELLULOSIC MATERIAL

Harald F. Funk, 68 Elm St., Murray Hill, N.J. 07971, and Paula M. Sarten, 24 Munchberg Str., 8 Munich 9, Germany

Continuation-in-part of application Ser. No. 577,374, Sept. 6, 1966. This application Feb. 26, 1969, Ser. No. 802,624

Int. Cl. C01b *31/10;* **C13k** *9/00*

U.S. Cl. 252—421 **11 Claims**



A method for treating, in the heated upper portion of a vessel, cellulosic material including hemicellulose and lignin by steam and dilute aqueous acid vapors. Sugars are removed with condensate from the lower portion of the vessel. Vapors of tars and acids are driven from the condensate-free residue material and the latter is carbonized by heating the latter in the presence of inert gases. The carbon is activated by treating it with highly heated gases and steam. The method is preferably continuous.

3,523,912

PREPARATION OF MULTICOMPONENT CATALYSTS

Joseph Jaffe, Berkeley, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 568,760, July 29, 1966, which is a continuation-in-part of application Ser. No. 369,583, May 22, 1964. This application Aug. 30, 1968, Ser. No. 756,396

The portion of the term of the patent subsequent to Oct. 18, 1983, has been disclaimed

Int. Cl. B01j *11/74, 11/78*

U.S. Cl. 252—439 **5 Claims**

Method of producing a multicomponent hydrocarbon conversion catalyst comprising coprecipitating a mixture of at least three different metal compounds at a pH of 5.5 to 8, at least one of said compounds being a metal chloride, reducing the chloride content of the coprecipitate to below about 0.25 percent of the total weight thereof, drying the coprecipitate, and heat treating the dried coprecipitate by contact with an oxygen-containing gas at 850° to 1600° F. for 0.25 to 48 hours.

3,523,913

METHOD OF PREPARING HYDROREFINING CATALYSTS

Mark J. O'Hara, Prospect Heights, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Mar. 13, 1968, Ser. No. 712,623

Int. Cl. B01j *11/40*

U.S. Cl. 252—455 **5 Claims**

A method of catalyst preparation. A carrier material is impregnated with an aqueous solution of a soluble compound of a metal of Groups VI–B and VIII. A rapid evaporation of water and/or water vapors from contact with the catalyst is effected at temperatures up to about 125° C. The catalyst is useful for hydrorefining of petroleum crude oils and residual oils.

3,523,914

HYDROCARBON CONVERSION PROCESS AND CATALYST THEREFOR

Roy T. Mitsche, Island Lake, and Ernest L. Pollitzer, Skokie, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Apr. 24, 1968, Ser. No. 723,896

Int. Cl. C10g *35/08;* **B01j** *11/40*

U.S. Cl. 252—455 **9 Claims**

A catalytic composite comprising a platinum group metallic component and a rhenium component combined with a carrier material containing alumina and a finely divided crystalline aluminosilicate, is provided. A specific example of the catalytic composites disclosed herein is a composite containing 0.05 to 1.0 wt. percent platinum and 0.05 to 1.0 wt. percent rhenium, combined with a gamma-alumina carrier material having 0.5 to 20 wt. percent of the hydrogen form or mordenite uniformly distributed therethrough. Principal utility of these catalytic composities is, broadly, in the field of processes for the conversion of hydrocarbons and, more particularly, in a process for the production of LPG and a high octane reformate.

3,523,915

ELECTRICALLY CONDUCTIVE CERAMIC MATERIAL AND METHOD OF PREPARATION

Anne Marie Anthony, Meudon, and David Yerouchalmi, Issy-les-Moulineaux, France, assignors to Commissariat a l'Energie Atomique, Paris, France

Filed Mar. 15, 1967, Ser. No. 623,309

Claims priority, application France, Mar. 21, 1966, 54,359

Int. Cl. H02n *4/00;* H01b *1/08*

U.S. Cl. 252—513 7 Claims



Electrically conductive ceramic material as primarily intended for use in the fabrication of electrodes of the type employed in magnetohydrodynamic conversion channels and consisting of monoclinic zirconia associated with one or a number of refractory ceramic materials, such as strontium, calcium or barium zirconates, having electronic conductivity and also with a refractory metal.

3,523,916

ADDITIVE DISPERSANT

Donald G. Needham and George R. Hill, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Jan. 26, 1967, Ser. No. 611,832

The portion of the term of the patent subsequent to Oct. 1, 1985, has been disclaimed

Int. Cl. B65d *25/14;* B23b *27/00;* C08j *1/20*

U.S. Cl. 260—2.5 9 Claims

Blends, useful in the production of containers, are produced by admixing polymers of 1-olefins or chloro-olefins with a pigment and a dispersing agent such as polyisobutylene or butyl stearate.

3,523,917

ORGANIC POLYISOCYANATE GELS AND URETHANE POLYMERS THEREFROM

Eugene A. Dickert, Buffalo, and Hartley A. Silverwood, Fairport, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed July 7, 1967, Ser. No. 651,704

Int. Cl. C08g *22/18, 22/46, 41/04*

U.S. Cl. 260—2.5 12 Claims

The organic polyisocyanate gels of this invention, which are less hazardous to use than liquid isocyanates are prepared by mixing a polyisocyanate with a minor amount of polyvinyl chloride. In the gel state, the polyisocyanate is stable with respect to active hydrogen containing compounds, but the polyisocyanate is activated when the gel is warmed or is vigorously agitated. This invention includes one-can compositions of polyisocyanate gel and active hydrogen containing substances. The polyisocyanate gels and one-can compositions are particularly useful for the preparation of polyurethanes.

3,523,918

METHOD OF FABRICATION OF MOLDED PARTS OF POLYURETHANE FOAM HAVING A NON-CELLULAR SURFACE LAYER

Georges Gonzalez, Paris, France, assignor to Société Quillery, La Garenne-Colombes, France

No Drawing. Continuation-in-part of application Ser. No. 619,189, Feb. 28, 1967. This application Feb. 12, 1968, Ser. No. 704,549

Claims priority, application France, July 31, 1964, 983,926; Apr. 7, 1965, 12,247, 12,248; Mar. 2, 1966, 51,617

Int. Cl. C08g *22/46*

U.S. Cl. 260—2.5 35 Claims

Process by producing molded parts of polyurethane foam structure by pouring into a mold a single liquid which has just been obtained by admixture of constituents which carry at least two NCO terminations, constituents which carry at least two labile hydrogen atoms reactive with the constituents carrying NCO, to produce elastic, flexible, impermeable parts having good resistance to tear and plastic deformation, a compact surface and a cellular internal structure.

3,523,919

PROCESS FOR THE PREPARATION OF HEAT-HARDENED INTERNALLY PLASTICIZED EPOXIDE RESINS

Erwin Weinrich, Dusseldorf-Holthausen, Germany, assignor to Hendel & Cie, G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany

No Drawing. Filed Nov. 16, 1967, Ser. No. 683,442

Claims priority, application Germany, Nov. 30, 1966, H 61,139

Int. Cl. C08g *30/12*

U.S. Cl. 260—18 7 Claims

This invention relates to a process for the preparation of an internally plasticized hardened epoxide resin having increased flexibility without a substantial effect on its thermal properties which comprises the steps of reacting (1) a hardenable epoxide compound containing more than one epoxide group in the molecule with (2) an acid anhydride mixture consisting of from 50% to 95% by weight of an organic polycarboxylic acid anhydride epoxide hardener and from 5% to 50% by weight of an epoxidized acid anhydride selected from the group consisting of epoxidized unsaturated fatty acid anhydrides having from 8 to 26 carbon atoms in the fatty acid moiety, epoxidized anhydrides of unsaturated fatty acids having 8 to 26 carbon atoms in the fatty acid moiety, epoxidized cycloalkene monocarboxylic acid anhydrides having from 6 to 8 carbon atoms in the cycloalkene monocarboxylic acid moiety and epoxidized alkyl cycloalkene monocarboxylic acid anhydrides having from 7 to 12 carbon atoms in the alkylcycloalkene monocarboxylic acid moiety, under epoxide resin hardening conditions, and recovering said internally plasticized hardened epoxide resin.

3,523,920

CROSS-LINKED LACTONE POLYMERS AND METHODS FOR PRODUCING SAME

Herman S. Schultz, Easton, Pa., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 5, 1968, Ser. No. 734,538

Int. Cl. C08g *17/02, 51/04;* C08k *1/02*

U.S. Cl. 260—37 10 Claims

Improved polymers are produced by cross-linking polylactones with a free radical initiator. The resultant polymers are much less sensitive to solvent attack and have improved softening points.

3,523,921

POLYLACTONE RUBBERS AND METHODS FOR MAKING SAME

Herman S. Schultz, Easton, Pa., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 5, 1968, Ser. No. 734,582

Int. Cl. C08g *17/02, 51/04;* C08k *1/02*

U.S. Cl. 260—37 12 Claims

Highly branched lactones and mixtures of lactones when polymerized and cross-linked with a free-radical initiator yield elastomers with the properties of a typical vulcanized rubber.

3,523,922

PROCESS FOR THE PRODUCTION OF POLYALDEHYDES

Iwao Yamashita, 7–253 Satsukigaoka, 3-chome, and Noboru Yamamoto, 7–6 Midorigaoka, 1-chome, both of Ikeda-shi, Osaka, Japan

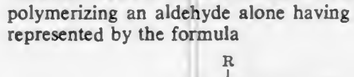
Filed Feb. 23, 1968, Ser. No. 707,804

Claims priority, application Japan, Feb. 24, 1967, 42/11,883

Int. Cl. C08g *1/00, 1/10, 23/00*

U.S. Cl. 260—67 10 Claims

A process for the production of a polyaldehyde having thioether bonds in the side chains thereof which comprises polymerizing an aldehyde alone having a thioether bond represented by the formula



wherein R' is selected from the group consisting of an alkyl radical having 1 to 6 carbon atoms and a phenyl radical, and R is selected from the group consisting of the methyl radical and a hydrogen atom, by the bulk or solution polymerization procedure in the presence of an ionic polymerization catalyst selected from the group consisting of Lewis acids and their organo complexes at a temperature from −20° C. to −150° C.

3,523,923

HIGH VISCOSITY ELASTOMERIC POLYESTERS CONTAINING ETHER GLYCOL RESIDUES AND PREPARED IN THE PRESENCE OF CHLORINATED ORGANIC COMPOUNDS

James G. Smith and Bobby J. Sublett, Waterloo, Ontario, Canada, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 637,851, May 11, 1967, which is a continuation of application Ser. No. 237,383, Nov. 13, 1962. This application May 20, 1968, Ser. No. 730,636

Int. Cl. C08g *17/14, 51/30*

U.S. Cl. 260—75 10 Claims

Elastomeric polyesters of (1) a dibasic carboxylic acid or its lower alkyl ester, (2) 1,4-cyclohexanedimethanol, and (3) a poly(tetramethylene glycol), have improved inherent viscosities of at least 1.3 when a high boiling compound boiling above 250° C. at atmospheric pressure (for example, a chlorinated triphenyl compound) is employed during condensation of the above reactants.

3,523,924

CARBON DIOXIDE POLYMERS

Robert D. Lundberg, St. Albans, and Donald R. Montgomery, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Feb. 20, 1967, Ser. No. 617,083

Int. Cl. C08g *22/04*

U.S. Cl. 260—77.5 11 Claims

Substituted aziridines are reacted with carbon dioxide to produce a copolymer containing repeating urethane and imine groups. Unsubstituted aziridines do not form copolymers. The reaction may be optionally catalyzed by a Lewis acid, Lewis base or Grignard reagent. The polymers are useful as waterproof coatings for paper.

3,523,925

POLYMERS PREPARED FROM ORGANIC POLYISOCYANATES OR POLYISOTHIOCYANATES AND AMIDES OF CERTAIN KETIMINE BLOCKED POLYAMINES AND CARBOXYLIC ACIDS

Marwan R. Kamal, John R. Nazy, and Harold A. Wittcoff, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Original application Oct. 24, 1966, Ser. No. 588,772. Divided and this application Apr. 31, 1969, Ser. No. 829,840

Int. Cl. C08g *22/02, 22/04*

U.S. Cl. 260—77.5 5 Claims

New compositions of matter are prepared by reacting a polyamine having at least one free secondary amine group and at least two ketimine blocked primary amine groups with a carboxylic acid compound in substantially equivalent amounts to form an amide linkage or linkages from the secondary amine group or groups and the carboxyl group or groups of the carboxylic acid compound. Polymers are prepared by reacting the resulting derivatives with an organic polyisocyanate or polyisothiocyanate in the presence of water.

3,523,926

RUBBER VULCANIZATION AGENTS AND METHODS FOR THEIR PREPARATION

Stanley B. Mirviss, Stamford, Conn., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 8, 1967, Ser. No. 681,573

Int. Cl. C08f *27/06;* C08c *11/54;* C08g *33/00*

U.S. Cl. 260—79 6 Claims

Superior vulcanization agents for rubber are prepared by heating conjugated diolefins with sulfur in the presence of catalytic amounts of amines.

3,523,927

RAPID, BLOOM-FREE CURING OF ETHYLENE COPOLYMERS WITH BUTYRALDEHYDE-BUTYLAMINE CONDENSATE OR N,N'-DIBUTYL THIOUREA

Fred D. Shaw, Jr., Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 24, 1967, Ser. No. 611,225

Int. Cl. C08f *27/06;* C08c *11/18*

U.S. Cl. 260—79.5 5 Claims

Curing of black-loaded ethylene copolymers (e.g., ethylene, propylene, 1,4-hexadiene terpolymers) in the pres-

ence of sulfur, zinc oxide, mercaptobenzothiazole and certain specific thiuram or dithiocarbamates plus the presence of N,N'-dibutyl thiourea or a butylamine-butyraldehyde condensation product. Rapid, uniform cures are obtained without surface bloom.

3,523,928

COPOLYMERS OF BICYCLO[1.1.0]BUTANES

Elwood P. Blanchard, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 601,325, Dec. 13, 1966. This application May 29, 1968, Ser. No. 732,885

Int. Cl. C08f *17/00*

U.S. Cl. 260—80 **16 Claims**

Copolymers of bicyclo[1.1.0]butanes and polymerizable ethylenically unsaturated monomers which are produced by free-radical, cationic, anionic or coordination-type initiators are useful for preparing self-supporting films, coatings, shaped objects and fibers.

3,523,929

OLEFIN POLYMERIZATION PROCESS

John L. Paige, Naugatuck, Conn., and Sebastian M. Di Palma, Baton Rouge, La., assignors to Uniroyal, Inc., a corporation of New Jersey

Original application July 17, 1964, Ser. No. 383,329, now Patent No. 3,341,503. Divided and this application Mar. 22, 1967, Ser. No. 625,080

Int. Cl. C08f *15/40*

U.S. Cl. 260—80.78 **2 Claims**

Solution polymerization of olefins (particularly terpolymerization of ethylene, propylene and a nonconjugated diene such as dicyclopentadiene, to make a sulfur-vulcanizable unsaturated rubber), is carried out by a continuous process in a liquid-full system, using a soluble catalyst based for example on vanadium oxytrichloride and alkyl aluminum sesquichloride. Pre-dissolving of monomers and pre-chilling of the feed are features of the process. The equipment used is a series of scraped-surface, cooled reactors, each preceded by an in-line mixer. Unreacted monomers recovered from the product stream are treated, prior to recycling, to remove inert gases which would prevent continuous operation in liquid-full condition if they accumulated in the system.

3,523,930

MODIFIED POLYOLEFIN COPOLYMER COMPOSITION

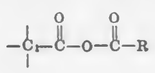
Daniel Edwin Maloney, Hockessin, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Original application Dec. 31, 1964, Ser. No. 422,498. Divided and this application May 10, 1967, Ser. No. 637,362

Int. Cl. C08f *27/02*

U.S. Cl. 260—80.8 **4 Claims**

Copolymers of alpha olefins and polymerized units containing anhydride groups of the formula:



where C_1 is a carbon atom in the main polymer chain and R is a hydrocarbon radical of 1 to 22 carbon atoms. Processes for production of such copolymers. Composite structures of such copolymers on an organic substrate.

3,523,931

METAL FREE LUBRICANT ADDITIVES

Eric Simon Forbes, Woking, John Mansel Squire, Thorpe, and John Michael Wood, Ashford, England, assignors to The British Petroleum Company Limited, London, England, a corporation of England

No Drawing. Filed Sept. 7, 1966, Ser. No. 577,605

Claims priority, application Great Britain, Sept. 15, 1965, 39,354/65

Int. Cl. C08f *7/12*

U.S. Cl. 260—88.1 **6 Claims**

N-vinyl pyrrolidone is copolymerized with an alpha olefin having from two to twenty carbon atoms in the presence of a Friedel-Crafts catalyst and at a temperature within the range of −60° C. to +50° C. The copolymer obtained is suitable for use as a lubricating oil additive.

3,523,932

THERMOPLASTIC COMPOSITION

Johan G. Aalbers and Johannes C. Zwaneveld, Bodegraven, Netherlands, assignors to Chem-Y Fabriek van Chemische Produkten N.V., Bodegraven, Netherlands, a corporation of the Netherlands

No Drawing. Filed Dec. 30, 1966, Ser. No. 605,989

Claims priority, application Netherlands, Dec. 30, 1965, 6517203

Int. Cl. C08f *27/00*

U.S. Cl. 260—88.2 **10 Claims**

Olefin polymer compositions are provided having anti-static properties which include, as anti-static agents, polyglycol carboxylic acids of the formula

$$R—(O—CHR'—CH_2)_n—O—CH_2—COOH$$

wherein R is an aliphatic or cycloaliphatic hydrocarbon radical of 1–20 carbon atoms or an aliphatic-aromatic radical of 1–20 carbon atoms in its aliphatic moiety, R' is hydrogen or methyl or both, and *n* is 1–40.

3,523,933

PRODUCTION OF PARTIALLY ALCOHOLYZED VINYL ESTER POLYMERS

Harold K. Inskip, Tonawanda, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 29, 1967, Ser. No. 671,575

Int. Cl. C08f *3/50, 3/34*

U.S. Cl. 260—89.1 **6 Claims**

Partially alcoholyzed vinyl ester polymers are produced by reacting a vinyl ester polymer with a hydrolytic alcohol in the presence of an acid or a base alcoholysis catalyst, and stopping the reaction when from 25 to 60% of the ester groups of the polymer have been replaced by hydroxyl groups, by rapidly mixing with the reaction

mixture, a neutralizing agent and sufficient water, e.g., about 5 to 55%, based on the reaction mixture, to maintain the reacted polymer product as a mobile solution.

3,523,934

PHENYL-AZO-NAPHTHOL LAKES

Heinz Haubrich, Leverkusen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Apr. 14, 1967, Ser. No. 630,796

Claims priority, application Germany, Apr. 23, 1966, F 49,002; May 6, 1966, F 49,137

Int. Cl. C07c *107/08;* **C09b** *45/14*

U.S. Cl. 260—151 **1 Claim**

Pigment dyes laked with salts of calcium and/or manganese which comprise diazotized 1 - methyl-3-amino-6-chlorobenzene-4-sulfonic acid or diazotized 1-methyl-4-aminobenzene-3-sulfonic acid coupled with 2-hydroxy-naphthalene-3-carboxylic acid-6-sulfonic acid.

3,523,935

DISAZO DYESTUFF CONTAINING m-CRESOL COUPLING COMPONENTS

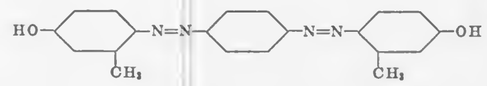
William H. Armento, Albany, and Lester N. Stanley, Delmar, N.Y., assignors to GAF Corporation, a corporation of Delaware

No Drawing. Filed Dec. 5, 1966, Ser. No. 598,934

Int. Cl. C09b *31/02;* **D06p** *1/02*

U.S. Cl. 260—186 **1 Claim**

A dyestuff of the formula



and a method of dyeing polyester fibrous material therewith.

3,523,936

2 - SULFONAMIDO - 4 - (N,N - DISUBSTITUTED AMINO)BENZENEAZO - 1,4 - NAPHTHALENE- OR 1,4-BENZENE-AZOBENZENE DYES

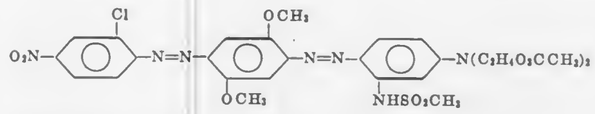
Masuo Toji, Bellmawr, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 31, 1967, Ser. No. 612,832

Int. Cl. C09b *31/02, 31/04*

U.S. Cl. 260—187 **9 Claims**

2 - sulfonamido - 4 - (N,N-disubstituted amino)benzeneazo - 1,4 - naphthalene(or 1,4 - benzene)azobenzene dyes, for example,



having superior light-, sublimation-, ozone- and washfastness properties, and useful for dyeing polyester fibers and polyester fiber blends which thereafter can be subjected to a permanent press resin treatment.

3,523,937

PHLORIZIN ANALOGUES AND THEIR USE

Hyman I. Biegeleisen, 177 E. 75th St., New York, N.Y. 10021

No Drawing. Filed Nov. 6, 1967, Ser. No. 680,959

Int. Cl. C07c *47/18*

U.S. Cl. 260—210 **6 Claims**

Phlorizin analogues useful for the elimination of glucose from animals.

3,523,938

STARCH PLASMA EXPANDERS AND PROCESS OF PREPARATION

Harold Hershenson, Burbank, and Jon M. Brake, Glendale, Calif., and Martin Roberts, Seattle, Wash., assignors to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois

No Drawing. Filed Dec. 13, 1967, Ser. No. 690,103

Int. Cl. C08b *19/06*

U.S. Cl. 260—233.3 **12 Claims**

Starch plasma expanders of predetermined intravascular persistence are prepared by specific controlled hydrolysis and etherification procedures. A waxy starch composed principally of amylopectin is subjected to acid hydrolysis to reduce the inherent viscosity of the starch, the hydrolysis being terminated at a preselected end point; and the starch either before or after hydrolysis is etherified with ethylene oxide or propylene oxide to an established substitution level, without substantially changing its inherent viscosity. The formation of colored by-products is substantially reduced or eliminated by conducting the hydroxy-ethylation or hydroxypropylation before the controlled hydrolysis. The hydrolyzed and etherified product can be purified to reduce the content of by-product glycol to a clinically acceptable level.

3,523,939

5-(2,6-DISUBSTITUTED PHENYL)-1,4-BENZODIAZEPINES AND METHODS FOR THEIR PREPARATION

Rodney Ian Fryer, North Caldwell, Leo Henryk Sternbach, Upper Montclair, and James Valentine Earley, Cedar Grove, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed July 3, 1967, Ser. No. 650,651

Int. Cl. C07d *53/06*

U.S. Cl. 260—239 **30 Claims**

1,4-benzodiazepines and benzodiazepin-2-ones having a 2,6-di-substituted phenyl group in the 5-position wherein the phenyl group is substituted with at least one halogen, and a process for their production including intermediates in this process. These benzodiazepines and benzodiazepin-2-ones are useful as sedatives, psychosedatives, hypnotics, muscle relaxants and anticonvulsants.

3,523,940

PREPARATION OF LACTAMS AND KETONES BY REACTION OF CARBON MONOXIDE WITH A NITROCYCLOALKANE

John W. Churchill, Mount Carmel, Conn., William E. Hanford, New York, N.Y., and Ehrenfried H. Kober, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Apr. 6, 1967, Ser. No. 628,810
Int. Cl. C07d *41/06*
U.S. Cl. 260—239.3 9 Claims

Lactams and ketones of cycloalkanes are prepared by reacting in a one-step process, a nitrocycloalkane with carbon monoxide in the presence of a carbonyl of iron, cobalt, nickel or of metals selected from Groups V–B and VI–B of the Periodic Table. Temperatures ranging from about 20° C. to about 250° C. and pressures ranging from atmospheric to 2000 p.s.i.g. may be utilized.

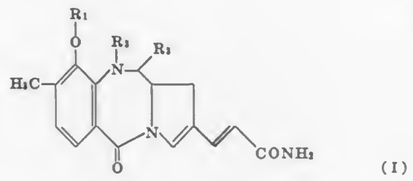
3,523,941

BENZODIAZEPINE COMPOUNDS AND PROCESS FOR THEIR PREPARATION

Willy Leimgruber, Cedar Grove, and Fausto Eugenio Schenker, Bloomfield, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 598,608, Dec. 2, 1966. This application Mar. 6, 1967, Ser. No. 620,618
Int. Cl. C07d *27/30*
U.S. Cl. 260—239.3 27 Claims

Compounds of the formula:



(I)

wherein R_1 is selected from the group consisting of H, acyl, carbamoyl and alkoxycarbonyl; R_2 is selected from the group consisting of hydrogen and acyl; and at least one of R_1 and R_2 is a substituent other than hydrogen; R_3 is selected from the group consisting of alkoxy, hydroxy and acyloxy, R_2 and R_3 taken together can be a chemical bond, displaying chemotherapeutic properties, displaying activity as an antiprotozoal, anthelmintic and antitumor agent.

3,523,942

17-TERTIARY AMINO-SUBSTITUTED STEROID DERIVATIVES

Kenneth G. Holden, Stratford, N.J., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 389,470, Sept. 13, 1964. This application Feb. 15, 1968, Ser. No. 705,629
Int. Cl. C07c *167/34, 171/06, 173/10*
U.S. Cl. 260—239.5 8 Claims

New 17-tertiary aminomethyl testosterone derivatives having depressant activity. These compounds are prepared by reacting a 17,20-epoxy-3β-hydroxy-21-norpregn-5-ene with a tertiary amine, followed by oxidation at position 3.

3,523,943

16,17-ACETAL DERIVATIVES OF THE RETRO PREGNANE SERIES

Engbert Harmen Reerink, Pieter Westerhof, and Hendrik Frederik Louis Scholer, Van Houtenlaan, Weesp, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, a corporation of Delaware

No Drawing. Continuation of application Ser. No. 681,939, Nov. 9, 1967, which is a continuation of application Ser. No. 472,702, July 16, 1965. This application Apr. 14, 1969, Ser. No. 824,341
Int. Cl. C07c *173/00, 169/66*; A61k *17/06*
U.S. Cl. 260—239.55 14 Claims

16α,17α-dioxy derivatives of 9β,10α steroids of the pregnane series. Examples are 6-fluora-16α, 17α-isopropylidenedioxy-9β, 10α-pregna - 4,6 - diene - 3,20 - dione; 6-methyl, 16α,17α-isopropylidenedioxy-9β, 10α-pregna-4,6-diene - 3,20 - dione and 16α,17α-isopropylidenedioxy-9β, 10α-pregn-4-ene-3,20-dione. The compounds are generally progestationally active. This abstract is not intended to be a description of the invention defined by the claims.

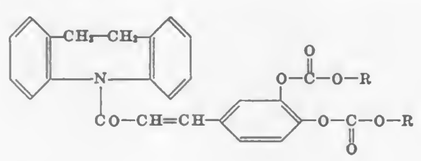
3,523,944

IMINODIBENZYLS AND A PROCESS FOR THEIR PREPARATION

Jean Cahn, Paris, France, assignor to Societe a responsabilite dite: MAR-PHA Societe d'Etude et d'Exploitation de Marques, Paris, France

No Drawing. Filed Mar. 21, 1967, Ser. No. 624,729
Claims priority, application Great Britain, Mar. 25, 1966, 13,362/66
Int. Cl. C07d *41/08*
U.S. Cl. 260—240 2 Claims

N - [3,4-di(alkoxycarbonyl)cinnamyl]iminodibenzyl of the formula:



wherein R is a lower alkyl group, and a nontoxic acid addition salt of said compound. The compound which is an antidepressant is prepared by refluxing 3,4-di(alkoxycarbonyl)cinnamic acid chloride and iminodibenzyl in anhydrous benzene, separating out the residue and crystallizing the compound from the residue.

3,523,945

(2,4-DIMETHOXY-s-TRIAZIN-6-YL)PYRENE MONOSULPHONAMIDE

John Mon Evans, Bebington, England, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Mar. 21, 1967, Ser. No. 624,728
Claims priority, application Great Britain, Mar. 24, 1966, 13,168/66
Int. Cl. C07d *55/36*
U.S. Cl. 260—248 1 Claim

(2,4-dimethoxy-s-triazin-6-yl) pyrene monosulphonamide, prepared by reacting (2,4-dimethoxy-s-triazin-6-yl) pyrene with chlorosulphonic acid and followed by neutralisation with ammonia, is useful as a fluorescer for nylon and other synthetic materials.

3,523,946

SUBSTITUTED TRIAZINES

William Roy Deem, Altrincham, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed June 29, 1967, Ser. No. 649,837
Claims priority, application Great Britain, July 13, 1966, 31,413/66
Int. Cl. C07d *55/48*
U.S. Cl. 260—248 5 Claims

Preparation of 2,4,6 - tris(pentafluoroethyl)-1,3,5-triazine and 2-pentafluoroethyl-4,6-difluoro-1,3,5-triazine by heating cyanuric fluoride with tetrafluoroethylene in acetonitrile or dimethylformamide or other polar, aprotic solvents at 50° C. to 150° C. and under pressures from atmospheric to 50 atmospheres, conveniently under autogenous pressure, in the presence of an alkali metal fluoride or tetraalkyl-ammonium fluoride; and preparation of 2,4,6-tris(heptafluoroisopropyl)-1,3,5-triazine in the same manner except that hexafluoropropene is used instead of tetrafluoroethylene. 2,4,6-tris(perfluoroalkyl)-1,3,5-triazines are readily hydrolysed to perfluoroalkyl carboxylic acids and are thus intermediates for the preparation of insecticides and rodenticides.

3,523,947

1-CYCLIC AMIDINE-5-ARYL-1,4-BENZODIAZEPINE AND PROCESS

Michael E. Derieg, West Orange, Rodney Ian Fryer, North Caldwell, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 23, 1966, Ser. No. 596,399
Int. Cl. C07d *57/12, 57/04, 57/02*
U.S. Cl. 260—256.4 9 Claims

5-aryl-1,4-benzodiazepines substituted in the 1-2 positions thereof with a cyclic nitrogen-containing group and process for preparing the foregoing. The said benzodiazepines are useful as anticonvulsants, muscle relaxants, psychostimulants and sedatives.

3,523,948

2-HETEROCYCLIC AMINO DERIVATIVES OF SPIRO(CYCLO-PROPANE-1,9'-FLUORENE)

Carl Kaiser, Haddon Heights, N.J., and Charles L. Zirkle, Philadelphia, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Original application Mar. 7, 1966, Ser. No. 532,067, now Patent No. 3,419,604, dated Dec. 31, 1968. Divided and this application July 24, 1968, Ser. No. 747,084
Int. Cl. C07d *51/70*
U.S. Cl. 260—268 7 Claims

Heterocyclic amino derivatives of spiro(cyclopropane-1,9'-fluorene) wherein the fluorene ring may be halogen, trifluoromethyl, lower alkyl, lower alkoxy, lower alkylthio or lower alkylsulfonyl substituted have antidepressant and stimulant activity. The compounds are generally prepared via the spiro(cyclopropane-1,9'-fluorene)-2-carboxylic acids.

3,523,949

4-ALLYL-1-(2-ANILINOETHYL)-4-CARBALKOXY-PIPERIDINES

Hans Herbert Kühnis and Rolf Denss, Basel, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Filed July 10, 1967, Ser. No. 652,040
Int. Cl. C07d *29/28*
U.S. Cl. 260—294.3 5 Claims

1-substituted 4-allyl-isonipecotinic acid lower alkyl esters and acid addition salts thereof which have useful analgesic and antitussive properties, therapeutical compositions containing these esters or these salts and a method of treating pain as well as a method of producing an antitussive effect, in mammals. Illustrative embodiments are 1-(3-phenylpropyl)-4-allyl-isonipecotinic acid ethyl ester and 1-n-octyl-4-allyl-isonipecotinic acid ethyl ester.

3,523,950

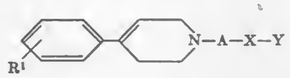
CERTAIN 4 - PHENYL - 1,2,3,6 - TETRAHYDRO-PYRIDYL-N-LOWER ALKYLENE-UREAS AND DERIVATIVES

Grover Cleveland Helsley, Richmond, Va., assignor to A. H. Robins Company, Incorporated, Richmond, Va., a corporation of Virginia

No Drawing. Filed Dec. 13, 1967, Ser. No. 690,097
Int. Cl. C07d *31/40*
U.S. Cl. 260—295 4 Claims

There are disclosed compositions of matter classified in the art of chemistry as derivatives of arylpyridinyl-alkyl alcohols and arylpyridinyl-alkylamines as well as processes for making and using such compositions.

The novel chemical compounds are represented by the following formula:



wherein R' represents hydrogen, lower alkyl, lower alkoxy or trifluoromethyl, A represents alkylene having 2 to 4 carbon atoms or hydroxy substituted alkylene having 4 carbon atoms, X represents one of the groups —O—C(O)— or —NR²—C(O)—, wherein R² is hydrogen or lower alkyl, Y represents phenyl, substituted phenyl, and —NR³R⁴ wherein R³ and R⁴ each represent hydrogen, lower alkyl, or one of said terms R³ and R⁴ represents phenyl, trifluoromethyl phenyl, lower-alkoxyphenyl and the other hydrogen.

The pharmaceutically acceptable acid addition salts of the arylpyridinyl-alkyl alcohol and arylpyridinyl-alkylamine derivatives embraced by the above formula are also included within the scope of this invention.

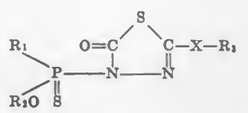
3,523,951

1,3,4-THIADIAZOLE-5(4H)-ONE DERIVATIVES

Kurt Rufenacht, Basel, Switzerland, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Filed Nov. 23, 1966, Ser. No. 596,445
Claims priority, application Switzerland, Dec. 1, 1965, 16,577/65
Int. Cl. C07f *9/24, 9/44*
U.S. Cl. 260—306.7 13 Claims

There are disclosed derivatives of 1,3,4-thiadiazole-5(4H)-one of the formula



wherein

R is lower alkyl, lower alkoxy optionally substituted by lower alkoxy or halogen, or phenyl;

R_2 is lower alkyl optionally substituted by lower alkoxy or halogen;

R_3 is alkyl having from 1 to 6 carbons optionally substituted by lower alkoxy or lower alkylthio; and

X is oxygen or sulphur.

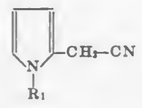
These compounds have fungicidal, insecticidal, acaricidal and nematocidal properties and are therefore useful for soil disinfection.

3,523,952
PROCESS FOR PREPARING PYRRYL-(2)-ACETONITRILES

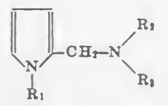
Winfried Orth, Schifferstadt, Ludwig Rappen, Duisburg-Meiderich, and Gerd Busse, Krefeld, Germany, assignors to Rutgerswerke und Teerverwertung Aktiengesellschaft, Frankfurt am Main, Germany

No Drawing. Filed Nov. 28, 1967, Ser. No. 686,305
Claims priority, application Germany, Dec. 3, 1966, R 44,719
Int. Cl. C07d *27/26*
U.S. Cl. 260—326.62 **4 Claims**

Pyrryl-(2)-acetonitriles corresponding to the formula



wherein R_1 stands for hydrogen or an alkyl group having 1–4 carbon atoms, are prepared from dialkyl-[pyrryl-(2)-methyl]-amines corresponding to the formula



in which R_1 stands for hydrogen or an alkyl group having 1–4 carbon atoms and R_2 and R_3 stand for alkyl groups having 1–4 carbon atoms, are converted by alkylation —e.g. with dimethylsulfate—into the corresponding trialkyl-[pyrryl-(2)-methyl]-ammonium salts and reaction of the latter with the aqueous solution of an alkali cyanide. Alkylation is carried out in aqueous suspension and the reaction of the resulting mixture with the solution of the alkali cyanide takes place with the simultaneous addition of a solvent which is not miscible with water and in which the pyrryl -(2)-acetonitrile is soluble.

3,523,953
ULTRA-VIOLET LIGHT ABSORBING COMPOUNDS

Albert F. Strobel, Delmar, and Sigmund C. Catino, Castleton, N.Y., assignors to GAF Corporation, a corporation of Delaware

No Drawing. Filed Jan. 6, 1967, Ser. No. 607,649
Int. Cl. C07d *63/12*
U.S. Cl. 260—332.2 **5 Claims**

Esters and amides of α-cyano-β-alkyl or alkenyl-β-heteroacrylic acid having ultra-violet light absorbing properties and useful as sun-screen agents and for protecting organic materials against degradation by UV radiation.

3,523,954
NOVEL α-AMINO-SUBSTITUTED (3,4-METHYLENEDIOXY - PHENYL) - ALKANONES AND SALTS THEREOF

Herbert Koppe, Ingelheim am Rhein, Gerhard Ludwig, Wedel, Holstein, and Karl Zeile, Ingelheim am Rhein, Germany, assignors to Boehringer Ingelheim G.m.b.H., Ingelheim am Rhein, Germany, a corporation of Germany

No Drawing. Original application Mar. 30, 1965, Ser. No. 444,038. Divided and this application Mar. 7, 1968, Ser. No. 711,168
Int. Cl. C07d *19/00, 21/00*
U.S. Cl. 260—340.5 **5 Claims**

The compounds are 1-(3',4'-methylenedioxy-phenyl)-2-(lower alkyl-amino)-alkanones-(1) and acid addition salts thereof, useful as central nervous system stimulents in warm-blooded animals.

3,523,955
PROCESS FOR THE PREPARATION OF ε-CAPROLACTONE

André Lantz, Oullins, and Francis Weiss, Pierre-Benite, France, assignors to Ugine Kuhlmann, Paris, France, a French company

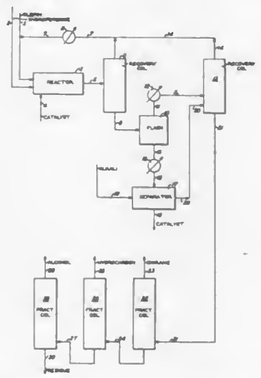
No Drawing. Filed Jan. 24, 1967, Ser. No. 611,255
Claims priority, application France, Jan. 25, 1966, 47,034
Int. Cl. C07d *21/00*
U.S. Cl. 260—343 **7 Claims**

ε-Caprolactone is prepared by heating ε-hydroxy-caproic acid or its monoester or polyester derivatives at a temperature between 150° and 350° C. and in the presence of boric acid or boric anhydride.

3,523,956
PROCESS FOR PREPARING OXIRANE COMPOUND

Richard Kaplan, North White Plains, N.Y., assignor to Halcon International, Inc., a corporation of Delaware

Filed Nov. 23, 1966, Ser. No. 596,639
Int. Cl. C07d *1/06*
U.S. Cl. 260—348.5 **5 Claims**

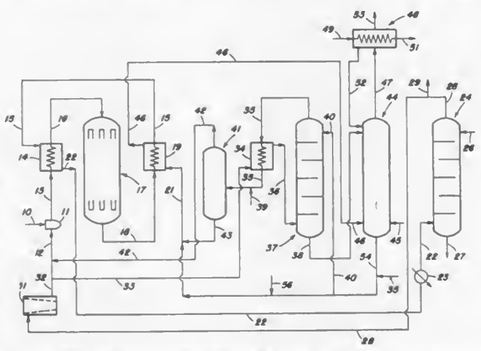


The present disclosure relates to a process for preparing an oxirane compound by reacting an olefin with an organic hydroperoxide wherein the reactor effluent is treated to remove catalyst before recovery of by-product alcohol.

3,523,957
PROCESS FOR PRODUCING AN OLEFINIC OXIDE

Utah Tsao, Jersey City, N.J., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware

Filed Dec. 7, 1966, Ser. No. 599,864
Int. Cl. C07d *1/14*
U.S. Cl. 260—348.5 **6 Claims**



Process for oxidizing an olefin to an olefin oxide which includes provisions for absorbing carbon dioxide from the effluent and stripping carbon dioxide from the absorption solution wherein a portion of the stripped absorption solution is indirectly heated by the effluent from the olefin oxidation and recycled to the stripping operation to provide a portion of the heat requirements therefor. The vent gases from the stripping are employed to heat make-up water for the process.

3,523,958
4 - ALKYL - 6 - DEHYDRO - TESTOSTERONE AND INTERMEDIATES IN THE PRODUCTION THEREOF

Engbert Harmen Reerink, Pieter Westerhof, and Hendrik Frederik Louis Scholer, Van Houtenlaan, Weesp, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 472,726, July 16, 1965. This application June 7, 1968, Ser. No. 735,166
Int. Cl. C07c *169/22*
U.S. Cl. 260—397.4 **6 Claims**

4,17 dialkyl 9β,10α steroids of the androstane series having 2–5 carbon atoms in the 4-alkyl group and a keto, alkoxy or acyloxy group at the 3-position. Examples are 4-ethyl-17α - methyl - 17β - hydroxy-9β,10α-androsta-4,6-dien-3-one and 4,4-diethyl - 17α - methyl-17β-hydroxy-9β,10α-androst-5-en-3-one. These compounds have hormonal activities and in general have been found to have antigonadotrophic activities.

3,523,959
PREPARATION OF 7-CYCLOHEXYLHEPTANOIC ACID AND 8-CYCLOHEXYLOCTANOIC ACID

Sydney Archer, Bethlehem, and Roman R. Lorenz, East Greenbush, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 25, 1966, Ser. No. 589,201
Int. Cl. C07c *61/08, 61/36*
U.S. Cl. 260—413 **1 Claim**

The process which comprises the steps of: reacting a cyclohexyl-acyl halide with a 1 - BN - cycloalkene to form a 2 - (cyclohexyl-acyl) - 1 - BN-cycloalkene where BN is morpholino, piperidino, pyrrolidino or di-(lower-alkyl) amino; heating the 2 - acyl - 1 - BN-cycloalkene in acidic aqueous medium to form a 2 - (cyclohexyl - acyl)-cycloalkanone; heating the 2-acylcycloalkanone in an aqueous alkaline medium to form a cyclohexylketo-alkanoic acid; and, reducing the ketoalkanoic acid to yield 8-cyclohexyl-octanoic acid or 7 - cyclohexylheptanoic acid. These acids are useful as intermediates for preparing 2 - hydroxy-3-(8 - cyclohexyloctyl) - 1,4 - naphthoquinone and 2-hydroxy - 3 - (7 - cyclohexylheptyl)-1,4-naphthoquinone, which are potent antimalarial agents.

3,523,960
STABILIZATION PROCESS OF METAL ETHYLENE BIS-DITHIOCARBAMATES

Jean Lehureau, Lyon, France, assignor to Progil, Paris, France, a corporation of France

No Drawing. Filed July 30, 1968, Ser. No. 748,621
Claims priority, application France, Aug. 3, 1967, 49,010
Int. Cl. C07j *1/08, 3/06, 13/00*
U.S. Cl. 260—429 **7 Claims**

Stable and fire-proof zinc, manganese or iron ethylene bis-dithiocarbamates are made by precipitating cuprous ethylene bis-dithiocarbamate within or onto the metal ethylene bis-dithiocarbamate.

3,523,961
PROCESS FOR PREPARING DIOCTYLTIN MALEATE

Justin L. Hirshman, East Brunswick, and Edward J. Breza, Fords, N.J., assignors to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 2, 1968, Ser. No. 694,836
Int. Cl. C07f *7/22*
U.S. Cl. 260—429.7 **19 Claims**

In accordance with certain of its aspects, the process of this invention for preparing dioctyltin dicarboxylate may comprise reacting substantially stoichiometric amounts of dioctyltin oxide and dicarboxylic acid or dicarboxylic anhydride in the presence of an inert aliphatic hydrocarbon solvent as reaction medium thereby forming dioctyltin dicarboxylate; cooling said reaction medium after completion of said reaction thereby crystallizing said dioctyltin dicarboxylate; recovering said crystallized dioctyltin dicarboxylate as product; and maintaining said inert aliphatic hydrocarbon solvent in liquid phase during said recovery.

3,523,962
PROCESS FOR PREPARING ORGANIC ISOCYANATES

Gerhard F. Ottmann and Ehrenfried H. Kober, Hamden, and David F. Gavin, Cheshire, Conn., assignors to Olin Corporation, a corporation of Virginia

No Drawing. Filed Apr. 6, 1967, Ser. No. 628,821
Int. Cl. C07b *29/00;* **C07c** *119/04*
U.S. Cl. 260—453 **11 Claims**

A process for providing an organic isocyanate by the reaction of an organic nitro compound with carbon monoxide in the presence of a catalytic system comprised of a mixture of a noble metal base compound and an organophosphorus compound.

3,523,963
PREPARATION OF AROMATIC ISOCYANATES

Ehrenfried H. Kober, Hamden, Wilhelm J. Schnabel, Branford, and Theodore C. Kraus, Cheshire, Conn., assignors to Olin Corporation, a corporation of Virginia

No Drawing. Filed Apr. 10, 1967, Ser. No. 629,367
Int. Cl. B01j *11/22;* **C07c** *119/04*
U.S. Cl. 260—453 **19 Claims**

In the process for preparing an organic isocyanate by reacting an organic nitro compound with carbon monoxide in the presence of a catalyst, the improvement which comprises employing as said catalyst, a catalytic system comprised of a mixture of (a) an inorganic copper compound, (b) at least one compound selected from the group consisting of elemental palladium, elemental rhodium, palladium halides, rhodium halides, palladium oxides, and rhodium oxides, and (c) at least one oxide of an element selected from the group consisting of vanadium, molybdenum, tungsten, niobium, chromium, and tantalum.

3,523,964
PREPARATION OF AROMATIC ISOCYANATES

Ehrenfried H. Kober, Hamden, Wilhelm J. Schnabel, Branford, and Philip D. Hammond, North Haven, Conn., assignors to Olin Corporation, a corporation of Virginia

No Drawing. Filed Apr. 10, 1967, Ser. No. 629,388
Int. Cl. B01j *11/14;* **C07c** *119/04*
U.S. Cl. 260—453 **24 Claims**

An improvement in the process for preparing organic isocyanates directly by the reaction of corresponding organic nitro compounds with carbon monoxide in the presence of a catalyst, said improvement comprising reacting carbon monoxide with a liquid suspension of the catalyst at an elevated pressure and an elevated temperature prior to reacting the organic nitro compound with carbon monoxide.

3,523,965
PREPARATION OF AROMATIC ISOCYANATES
Ehrenfried H. Kober, Hamden, Wilhelm J. Schnabel, Branford, Theodore C. Kraus, Cheshire, and Gerhard F. Ottmann, Hamden, Conn., assignors to Olin Corporation, a corporation of Virginia
No Drawing. Filed Apr. 10, 1967, Ser. No. 629,389
Int. Cl. B01j *11/12, 11/14;* **C07c** *119/04*
U.S. Cl. 260—453 **13 Claims**

An improvement in the process for preparing organic isocyanates directly by the reaction of an aromatic nitro compoun with carbon monoxide in the presence of a catalyst, said improvement being characterized by effecting the reaction in the presence of a small proportion of an acid halide.

3,523,966
PROCESS FOR PREPARING AROMATIC ISOCYANATES
Gerhard F. Ottmann and Ehrenfried H. Kober, Hamden, and David F. Gavin, New Haven, Conn., assignors to Olin Corporation, a corporation of Virginia
No Drawing. Filed Apr. 1, 1966, Ser. No. 539,322
Int. Cl. C07c *19/04;* **B01j** *11/12, 11/16*
U.S. Cl. 260—453 **13 Claims**

The process for preparing an organic isocyanate which comprises reacting an organic nitro compound and carbon monoxide in the presence of a catalytic proportion of a catalyst mixture comprised of a noble metal-based catalyst and a non-noble metal-based catalyst at elevated temperature and elevated pressure. Suitable noble metal-based catalysts include rhodium trichloride, palladium dichloride and platinum dichloride. Suitable non-noble metal-based catalysts include metals such as chromium, molybdenum, nickel alloys, vanadium, germanium, cobalt, silicon, and mixtures thereof.

3,523,967
PROCESS OF PURIFICATION
Robert Alfred Dewar, Ashburton South, Victoria, Volker Elmar Maier, Hampton, Victoria, and Margaret Anthea Riddolls, Armadale, Victoria, Australia, assignors to Imperial Chemical Industries of Australia and New Zealand Limited, Melbourne, Victoria, Australia, a company of Australia
No Drawing. Filed Dec. 22, 1966, Ser. No. 603,755
Claims priority, application Australia, Jan. 20, 1966, 699/66
Int. Cl. C07c *121/20, 121/26*
U.S. Cl. 260—465.8 **8 Claims**

A process of removing quaternary ammonium compounds from aliphatic dinitriles, dicarboxylates and tetracarboxylates in an aqueous system, by dissolving the nitriles etc. in a solvent, cooling the resultant solution below 0° C. until the bulk of the quaternary ammonium compound precipitates and separating it, together with any ice formed. The quaternary ammonium compound may also be absorbed on to a solid phase and separated from the cooled solution.

3,523,968
PRODUCTION OF 6-CHLORO-3,4-DIMETHYL-PHENOL AND ESTERS THEREOF
Karoly Szabo, Syracuse, N.Y., assignor to Syracuse University Research Corporation, Syracuse, N.Y., a corporation of New York
No Drawing. Filed Sept. 30, 1966, Ser. No. 583,445
Int. Cl. C07c *125/06*
U.S. Cl. 260—479 **15 Claims**

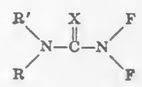
A process for preparing 6-chloro-3,4-dimethylphenol by chlorinating an ester of 3,4-dimethylphenol and hydrolyzing the chlorinated product. More specifically, a process for preparing N-methyl-(6-chloro-3,4-dimethylphenyl)-carbamate by either (a) reacting 6-chloro-3,4-dimethylphenol with methylisocyanate or (b) chlorinating N-methyl-(3,4-dimethylphenyl)-carbamate.

3,523,969
RESOLUTION OF SERINE PARATOLUENE-SULFONATE
Ichiro Chibata and Shigeki Yamada, Toyonaka-shi, Masao Yamamoto, Koyoto-shi, Mitsuru Wada, Osaka, and Takahiko Yoshida, Koyoto-shi, Japan, assignors to Tanabe Seiyaku Co., Ltd., Osaka, Japan, a corporation of Japan
No Drawing. Filed Jan. 30, 1967, Ser. No. 612,728
Int. Cl. C07c *143/00*
U.S. Cl. 260—501.12 **7 Claims**

A process for separation of the optically active components of a racemic mixture of DL-serine paratoluenesulfonate to produce D or L-serine is disclosed.

3,523,970
PROCESS FOR PREPARING DIFLUOROUREA COMPOUNDS
Vytautas Grakauskas, Arcadia, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Dec. 6, 1960, Ser. No. 75,070
Int. Cl. C07c *127/00;* **C01b** *21/52*
U.S. Cl. 260—543 **2 Claims**

This patent describes difluorourea compounds having the general formula:



wherein R and R′ are the same or different and are hydrogen, nitro, alkyl, cyano, nitroalkyl, nitroaryl or aryl radicals; and X is oxygen, sulfur or the imino radical; said compounds being prepared by the direct fluorination of the corresponding urea in the presence of a moderator, preferably water. The difluorourea compounds of the above fomula can be hydrolyzed in the presence of a mineral acid to form difluoroamine which is an oxidizing agent of general utility.

3,523,971
SYNTHESIS OF ACRYLAMIDES
Giovanni Biale, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed May 26, 1966, Ser. No. 553,018
Int. Cl. C07c *103/02*
U.S. Cl. 260—561 **10 Claims**

Oxidative carbonylation of olefins is performed in the presence of alkyl and cycloalkyl amines to produce alpha, beta-unsaturated amides which have the same degree of unsaturation as the reactant olefin and which contain an alkyl or cycloalkyl group substituted on the nitrogen. The invention has application in the production of N-alkyl or N-cycloalkyl acrylamides from ethylene. In a typical embodiment, ethylene, carbon monoxide and oxygen are introduced into a reaction zone containing methanol, palladous chloride, cupric chloride and propylamine. The reaction is performed at about 250° F. and at a pressure of about 900 p.s.i.g. A high yield of N-propyl acrylamide is produced by the reaction.

3,523,972
PREPARATION OF β-OXIMES
George Francis Field, Nutley, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Original application Dec. 3, 1964, Ser. No. 415,793. Divided and this application Apr. 9, 1968, Ser. No. 735,476
Int. Cl. C07c *131/00*
U.S. Cl. 260—566 **3 Claims**

A process for the preparation of 2-aminobenzophenone β-oximes from the corresponding α-oximes or mixtures of α- and β-oximes by treating the latter compounds with a carbonyl compound in the presence of a cupric salt followed by acid hydrolysis of the resulting product. In an alternative procedure aminobenzophenone β-oximes are obtained by acid hydrolysis of correspondingly 1,2-dihydro-quinazoline-3-oxides. The substituted aminobenzophenone β-oximes are useful as intermediates in the preparation of pharmaceutically valuable 5-phenyl-1,3-dihydro-2H-1,4-benzodiazepin-2-one 4-oxides.

3,523,973
DIAMINE PREPARATION
Phillip W. Evans, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Nov. 27, 1967, Ser. No. 685,953
Int. Cl. C07c *85/00*
U. S. Cl. 260—583 **6 Claims**

Alkylenediamine is prepared by heating under pressure bisalkylenetriamine, hydrogen and ammonia in the presence of a suitable catalyst.

3,523,974
PHENYL- (OR LOWER ALKYL-OR-PYRIDYL)-2-MERCAPTOPHENYL KETONES
Earl Reeder, Nutley, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche, Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Original application Dec. 14, 1964, Ser. No. 417,855, now Patent No. 3,362,962, dated Jan. 9, 1968. Divided and this application Nov. 22, 1967, Ser. No. 684,911
Int. Cl. C07c *49/80*
U.S. Cl. 260—591 **2 Claims**

Phenyl- (or lower alkyl-or-pyridyl)-2-mercaptophenyl ketones (A). (A) is prepared by hydrolizing corresponding thiocyano phenyl ketone, preferably, under basic conditions whereby to obtain (A). (A) can be converted into 1,4-benzothiazepines which are muscle relaxants and anticonvulsants.

3,523,975
PROCESS FOR PREPARING ALKENYL DISULFIDES AND ALKENYL TRISULFIDES
William John Evers, Long Branch, and Jack Herbert Blumenthal, Ocean Township, Monmouth County, N.J., assignors to International Flavors & Fragrances, Inc., New York, N.Y., a corporation of New York
No Drawing. Filed Apr. 26, 1968, Ser. No. 724,605
Int. Cl. C07c *149/12;* **A23l** *1/26*
U.S. Cl. 260—608 **9 Claims**

Process for preparing alkenyl disulfides and alkenyl trisulfides such as methyl propenyl disulfide, propyl propenyl disulfide, methyl propenyl trisulfide, propyl propenyl trisulfide, and the like. The process involves the reaction between an alkali metal 1-alkene or an alkaline earth metal 1-alkene halide with an appropriate alkyl substituted di- or trisulfur halide.

3,523,976
METHOD OF PREPARING CUMENE HYDROPEROXIDE
Cesare Reni and Luigi Lugo, Milan, Italy, assignors to Società Italiana Resine S.p.A., Milan, Italy
No Drawing. Filed Oct. 16, 1967, Ser. No. 675,304
Claims priority, application Italy, Oct. 26, 1966, 2,929/66
Int. Cl. C07c *73/08*
U.S. Cl. 260—610 **4 Claims**

In the process of oxidizing cumene to cumene hydroperoxide by means of molecular oxygen (ordinarily air) in an homogeneous reaction medium at elevated temperature in the presence of the sodium salt of cumene hydroperoxide, the oxidation is carried out in the addition presence of diacetone alcohol. Amounts diacetone alcohol exceeding 0.3 wt. percent (preferably exceeding 1 wt. percent), referred to the reactant cumene, have been found to effectively inhibit by-product formation in the conditions of the process.

3,523,977
PROCESS FOR PREPARING CUMENE HYDROPEROXIDE
Cesare Reni and Luigi Lugo, Milan, Italy, assignors to Società Italiana Resine S.p.A., Milan, Italy
No Drawing. Filed Nov. 1, 1967, Ser. No. 679,637
Claims priority, application Italy, Nov. 3, 1966, 29,553/66
Int. Cl. C07c *73/08*
U.S. Cl. 260—610 **3 Claims**

Cumene is oxidized to cumene hydroperoxide in the presence of the sodium salt of cumene hydroperoxide and of phenol; the phenol quantity ranges between 0.1 and 0.1% by weight with respect to the cumene and the quantity of sodium salt of cumene hydroperoxide ranges between 0.05 and 0.5% by weight with respect to cumene. Oxidation takes place at a temperature between 90 and 120° C.

3,523,978
PROCESS FOR THE PURIFICATION OF BENZYL ALCOHOL
Jacques Bonnart and Paul Rey, Lyon (Rhone), France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate
Filed Jan. 9, 1968, Ser. No. 696,617
Claims priority, application France, Jan. 19, 1967, 91,790
Int. Cl. C07c *29/24*
U.S. Cl. 260—618 **3 Claims**

Cresols are removed from benzyl alcohol containing the same by contacting the benzyl alcohol in vapour form with a solution of an alkali metal benzylate.

3,523,979
ISOMERIZATION OF CYCLOOCTADIENE COMPOUNDS
Paul R. Stapp, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Dec. 4, 1964, Ser. No. 416,149
Int. Cl. C07c *5/24*
U.S. Cl. 260—666 **6 Claims**

This invention is based on the isomerization of cyclooctadiene to form 2-bicyclo-3,3,0-octene using a catalyst of concentrated sulfuric acid, concentrated hydrofluoric acid, boron trifluoride or boron trifluoride hydroates.

3,523,980
TRIMERIZATION OF BUTADIENE
David Lee Sullivan, Victoria, Tex., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 10, 1969, Ser. No. 832,014
Int. Cl. C07c *3/18*
U.S. Cl. 260—666 **7 Claims**

The trimerization of butadiene to cyclododecatriene-(1,5,9) (CDDT) using a catalyst prepared from an organoaluminum sesquichloride, oxygen and certain tetravalent titanium compounds.

3,523,981
DIMERS OF ALPHA-METHYL STYRENE AND ITS HOMOLOGUES
Gerhard F. Ottmann, Wuppertal-Elberfeld, Germany, and Haywood Hooks, Jr., West Haven, Conn., assignors to Olin Corporation, New Haven, Conn., a corporation of Virginia
No Drawing. Filed Feb. 27, 1969, Ser. No. 803,099
Int. Cl. C07c *3/20, 15/22*
U.S. Cl. 260—668 **10 Claims**

A process for preparing dimers of alpha-methyl-styrene and/or homologues thereof by heating to a temperature in a range of between about 25 and about 250° C. in the presence of a noble metal based catalyst.

3,523,982
DEHYDROHALOGENATION PROCESS
Van C. Vives, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Feb. 29, 1968, Ser. No. 709,183
Int. Cl. C07c *11/00, 11/04*
U.S. Cl. 260—677 **6 Claims**

Dehydrohalogenation of halogenated hydrocarbons by contacting with an acidic dehydrohalogenation catalyst and a basic compound containing trivalent nitrogen to promote the production of linear unbranched unsaturated hydrocarbons.

3,523,983
OLIGOMERISATION OF OLEFINES
Arthur Gough, Norton-on-Tees, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed May 3, 1967, Ser. No. 635,679
Claims priority, application Great Britain, May 6, 1966, 20,071/66
Int. Cl. C07c *3/18*
U.S. Cl. 260—683.15 **5 Claims**

A process for oligomerising an olefine to a product that is predominantly a direct dimer or direct codimer of the olefine, wherein the oligomerisation is effected using as catalyst a solution of a rhodium or ruthenium salt dissolved in a hydrocarbon solvent incorporating a proportion of water, hydrogen or a hydride.

3,523,984
POLYVINYL CHLORIDE PLASTISOLS CONTAINING TRIGLYCIDYL ISOCYANURATES
Wilhelm Clas, Duisburg-Meiderich, and Gerhard Gierenz, Solingen-Wald, Germany, assignors to Henkel & Cie, G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany
No Drawing. Filed Apr. 23, 1968, Ser. No. 723,558
Claims priority, application Germany, May 11, 1967, H 62,709
Int. Cl. C08g *45/04*
U.S. Cl. 260—836 **6 Claims**

A plastisol based on polyvinylchloride or mixed polymerizates with vinyl chloride, said polymers capable of forming a paste, with a content of an organic compound having more than one epoxide group in the molecule and an epoxide resin hardener characterized in that said organic compound having more than one epoxide group in the molecule is a glycidyl isocyanurate.

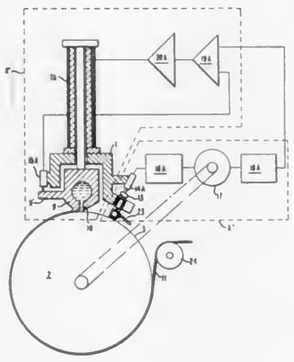
3,523,985
POLYSULFIDES AND PROCESS FOR PRODUCING SAME
Oren L. Marrs, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Feb. 16, 1968, Ser. No. 705,941
Int. Cl. C08d *9/08;* **C08f** *29/12*
U.S. Cl. 260—887 **17 Claims**

A mercaptoalkylcycloalkanethiol, a polythiol having at least three mercapto groups, and an unsubstituted or substituted alkanedithiol are oxidatively coupled with an oxidizing agent such as dimethyl sulfoxide, a peroxide, or oxygen to form polymers containing disulfide linkages. The resulting polymers can be rapidly cured with conventional curing agents to formulate sealants, coatings and the like which have good low temperature flexibility. In addition, the resulting disulfide polymer can be blended with a mercapto-terminated polymer of a 1,3-alkadiene and the resulting blend cured to produce sealants, coatings and the like having low temperature flexibility.

3,523,986
AQUEOUS SUSPENSION POLYMERIZATION PROCESS AND SYSTEMS FOR PREPARATION OF BLOTTER-TYPE VINYL CHLORIDE RESINS
Robert E. Bingham, Cuyahoga Falls, Ohio, assignor to The General Tire & Rubber Company, a corporation of Ohio
No Drawing. Filed Mar. 18, 1968, Ser. No. 714,102
Int. Cl. C08f *1/11, 3/30*
U.S. Cl. 260—92.8 **8 Claims**

Blotter-type vinyl halide resins that have a low bulky density, i.e., between about 0.30 to 0.45 g./cc., high capacity to absorb plasticizer, and require minimal power to form homogeneous mixtures with plasticizer, are made by suspension polymerizations, in which the aqueous suspension system has a pH of 2–6 and contains lithium ions and anionic emulsifier. The resulting resins may be used to form rigid impact plastics or flexible products including sheets, coatings and molded articles.

3,523,987
PROCESS FOR CASTING FILMS OF UNIFORM THICKNESS
Jack C. Cambi, Springfield, Pa., and Donald E. Hackney, New Castle, and Thomas Glenn Lewis, Jr., Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Original application Oct. 19, 1964, Ser. No. 404,698, now Patent No. 3,422,494, dated Jan. 22, 1969. Divided and this application Feb. 23, 1968, Ser. No. 734,180
Int. Cl. B29l *7/02;* **G01b** *13/06*
U.S. Cl. 264—39 **2 Claims**

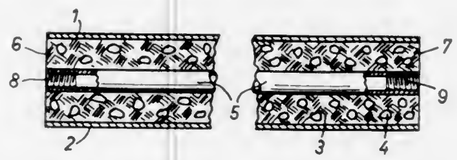


Process for coating films of uniform thickness comprising continuously (1) determining eccentric deviations from a normal locus of the surface of a casting wheel across its width, (2) converting the deviations to signals as the surface rotates past a place, (3) transmitting the signals to a control device for a film casting hopper, and (4) adjusting the distance of the hopper from the surface to conform to average eccentric deviations. The process is useful for casting thermoplastic resins and super polymers.

3,523,988
METHOD OF MAKING LARGE CELLED PLASTIC MATERIALS WITH INTEGRAL SKINS
Zbislaw M. Roehr, Miami, Fla., Richard Berger, Yonkers, N.Y., and Paul A. Plasse, Lexington, Mass., assignors, by mesne assignments, to said Berger and to said Plasse, both % Roehr Metals and Plastics Company, Waterbury, Conn.
Filed Mar. 22, 1965, Ser. No. 441,417
Int. Cl. B29d *27/00*
U.S. Cl. 264—41 **5 Claims**

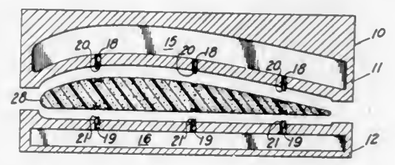
A method of making large cell polypropylene or other polyolefin plastic cellular material having connate thick skins and large cell size, involving delivering the polyolefin through an extruder at melt temperature and in mixture with a foaming agent and a nucleating agent so that the mixture is delivered from the die slot under proper back pressure maintained on the melt to prevent foaming before reaching the die slot while permitting the major portion of foam and thick skin formation within and between the die slot. The foamed material is delivered from the die slot directly through an expansion chamber slightly larger than the die slot where foaming is substantially completed.

3,523,989
METHOD OF PRODUCING STRUCTURAL WALL OR CEILING ELEMENTS COMPRISING RIGID FOAMED MATERIAL AND FILLERS
Albin Murer, Beckenried, Nidwalden, Switzerland
Filed Oct. 3, 1967, Ser. No. 672,490
Claims priority, application Switzerland, Oct. 3, 1966, 14,242/66
Int. Cl. B29d *9/00*
U.S. Cl. 264—45 **7 Claims**



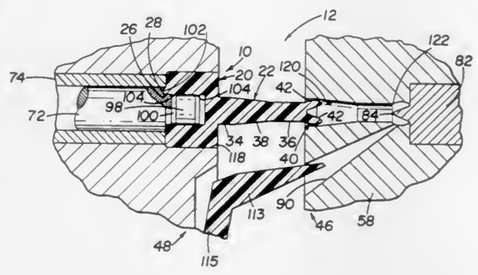
The method of producing molded wall and ceiling elements comprises preparing a mold by horizontally positioning an outer plate, consisting for example of plaster, arranging a mold frame about the outer edges of said plate, introducing light weight filler material, for example expanded clay, into the mold, casting a foamable resin such as polyurethane resin over the filler material in the mold, closing the mold by a second outer plate consisting for example of asbestos, placing the mold in a press, heating the contents of the mold while under pressure to effect foaming of the resin material and subsequently curing the foamed material. The frame members placed around said outer plate to form a mold may remain a permanent component of the structural elements to be produced.

3,523,990
METHOD OF MOLDING EXPANDABLE POLYSTYRENE PELLETS TO FORM OBJECTS WITHOUT SURFACE PROTRUSIONS
Leonard R. Purdy, % Lanier Industries, Inc., Briarwood Road, Oakwood, Ga. 30566
Filed Feb. 13, 1968, Ser. No. 705,123
Int. Cl. B29d *27/08*
U.S. Cl. 264—51 **1 Claim**



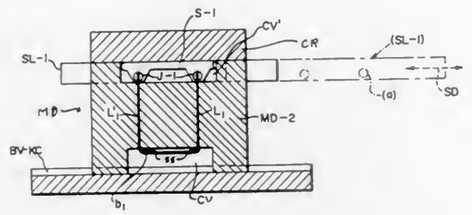
A method of molding expandable polystyrene pellets. The method comprises enclosing the pellets of expandable polystyrene in a mold cavity, injecting steam into the mold cavity through open ended tubular nozzles extending into the mold cavity, cooling the mold while maintaining the position of the nozzles and removing the molded object which contains recesses formed by the tubular nozzles and nipples in the recesses which lie below the surface of the object.

3,523,991
METHOD OF INJECTION MOLDING A ROLLER POST
Archie J. Tucker, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Original application Feb. 28, 1966, Ser. No. 530,598, now Patent No. 3,451,732, dated June 24, 1969. Divided and this application July 16, 1968, Ser. No. 745,314
Int. Cl. B29d *3/00;* **B29f** *1/14*
U.S. Cl. 264—163 **4 Claims**



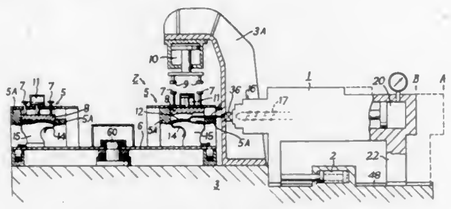
A method of injection molding a roller post consisting of a stem having a roller head on one end of the stem and a snap-in element on the other end of the stem which has a diameter larger than that of the stem so that when the part is ejected from the mold there is no sprue, runner, or tunnel gate which must be broken away from the article but all surfaces of the article come out of the mold smooth. This is accomplished by molding the roller post in such a manner that the tunnel gate, through which the thermoplastic composition passes into the mold cavity, only goes to that portion of the cavity forming the snap-in element and it is wiped smooth when the roller post is ejected from the mold.

3,523,992
FABRICATION OF SUPPORT-MODULE
Charles Bickoff, Quincy, Mass., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 695,178
Int. Cl. B29c *24/00;* **B29d** *3/02;* **B41j** *11/00*
U.S. Cl. 264—163 **13 Claims**



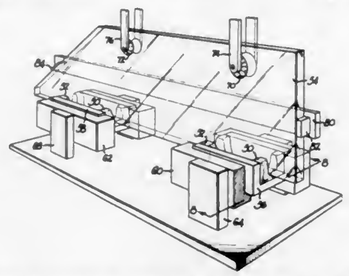
A method of fabricating a set of glass fiber resin supports, and especially a set of paired-supports, for a carefully aligned array of print-hammers whereby, in one embodiment, a set of support strip pairs is laid up in a form, each pair in operative relation with an associated hammer slug, each strip being indexed with an associated cavity in the respective slug, these slugs being aligned in the form so these cavities are in registry for injection of potting material through each set of so-registered cavities, the form also being provided with "break-away" separator slugs, each being removably placed between adjacent hammers for maintaining a prescribed separation thereof, these slugs including cavity means registering with the registered hammer-cavities and also being adapted to be shifted before the cavity potting has completely set up to thereby separate each hammer-support mount for independent hammer pivoting.

3,523,993
MOULDING OF ELASTOPLASTIC AND ELASTOMERIC SUBSTANCES
Wallace Gerald Hawkins, Ashcott, near Bridgwater, Somerset, England, assignor to C.I.C. Engineering Limited, Bath, Somerset, England, a British company
Continuation of application Ser. No. 407,076, Oct. 28, 1964. This application July 3, 1968, Ser. No. 745,079
Claims priority, application Great Britain, Oct. 28, 1963, 42,345/63
Int. Cl. B29h *7/08*
U.S. Cl. 264—244 **4 Claims**



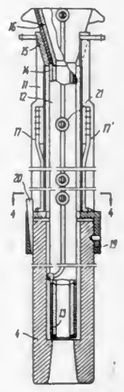
The present invention provides for a method of moulding articles comprising discharging a moulding material from feeding means into a moulding cavity of a mould as said feeding means is withdrawn axially from said cavity in such manner that the volume of substance discharged varies according to the cross section of the article to be moulded at the point of discharge, and displacing at least one component of the mould to apply a moulding pressure to the mould contents.

3,523,994
METHOD FOR BEDDING PANELS INTO FRAMES
Howard J. Shockey, Elkhart, Ind., assignor to Excel Corporation, Elkhart, Ind., a corporation of Indiana
Filed Feb. 18, 1966, Ser. No. 528,457
Int. Cl. B29d *12/00*
U.S. Cl. 264—252 **10 Claims**



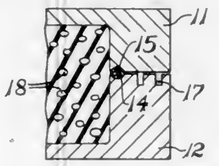
The present invention provides a method for bedding glass panels into metal frames wherein the frame channel is first filled with a liquid bedding material and then a marginal edge of the glass panel is inserted into the frame channel and into the liquid bedding material. The assembly is then subjected to heat whereby the liquid bedding material is cured to a solid form, providing adherence between the glass and the metal of the channel to result in a final window assembly in which the glass panel is firmly bedded into the metal channel. In the process, the metal channel is dammed at two locations spaced from each other along the length of the frame member to form a cavity capable of holding the liquid in the recess, it being appreciated that the channel-type frame is open-ended.

3,523,995
INSTALLATION FOR CASTING METAL WITH THE ELECTROSLAG REFINING THEREOF
Nikolai Alexeevich Tulin, Ul. Stalevarov 36–A, kv. 42; Nikolai Fedorovich Bastrakov, Ul. Bogdana Khmelnitskogo 27, kv. 50; Alexandr Yakovlevich Silaev, Ul. Stalevarov 15, kv. 39; Vitaly Semenovich Pismenov, Ul. 3 Sputnika 3, kv. 34; Ljudmila Viktorovna Krivtsova, Ul. 3 Sputnika 30, kv. 67; Gennady Vasilievich Gutara, Ul. Rumyantseva 36, kv. 36; Leonid Grigorievich Pritulyak, Ul. Kommunisticheskaya 6, kv. 38; Viktor Savelievich Borodin, Ul. Degtyareva 47, kv. 62; and Igor Denisovich Donets, Ul. Rumyantseva 46, kv. 22, all of Chelyabinsk, U.S.S.R.
Filed Feb. 28, 1967, Ser. No. 619,298
Int. Cl. B22d *27/02*
U.S. Cl. 164—252 **4 Claims**



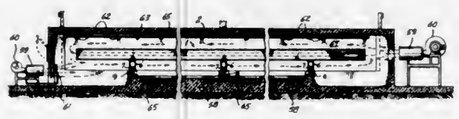
An installation for casting metal with the electroslag refining thereof including a vertically movable mold and a hollow non-consumable electrode having a lined metal conduit for the molten metal that can be readily replaced.

3,523,996
PROCESS FOR MAKING FOAM RUBBER
Stephen M. Kordiak, Orange, Conn., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed June 13, 1966, Ser. No. 556,997
Int. Cl. B29b *3/00;* **B29c** *1/00;* **B29h** *3/02*
U.S. Cl. 264—299 **1 Claim**



In the manufacture of latex foam rubber products (such as mattresses, furniture cushions, pillows and slab pieces) in closed-molds, internal splits or fissures often are noticed in the vulcanized product. The splits or fissures normally extend generally parallel to the broadside faces of the product and probably occur because of dimensional changes in the mold cavity resulting from cooling and/or heating of the mold in the formation of the congealed latex foam structure. Such internal splits or fissures are eliminated in the finished vulcanized product when the congealed, but unvulcanized, latex foam, while still within the mold cavity, is compressed slightly in a direction generally normal to the top and bottom broadside faces of the shaped latex foam and the compressed congealed mass thereafter is vulcanized in such condition.

3,523,997
METHOD OF CURING ELONGATED CONCRETE ARTICLES
Victor E. O. Hennig, 131 N. 40th St., Seattle, Wash. 98103
Continuation of application Ser. No. 457,054, May 19, 1965. This application Sept. 23, 1968, Ser. No. 764,029
Int. Cl. F26b *21/02, 21/10*
U.S. Cl. 264—345 **2 Claims**



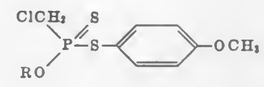
Trough molds constructed as carts to travel along rails progress from a rigging station at which a core form and prestressed strands are installed, to a pouring station at which the trough is filled with concrete, to an initial setting station at which the core form is removed after initial setting of the concrete has occurred, to a curing station at which the concrete is subjected to steam in an enclosure, to a cooling station where the concrete is cooled, to a stripping station where the sides of the trough are spread to release the molded product which is lifted from the mold trough. The mold trough is then returned to the rigging station to be used again. The core forms are held down by loops engaged with the prestressed strands and the prestressed strands are held down by the fingers of frames anchored to the mold troughs. After concrete is poured into the troughs, the trucks are raised from their wheels by vibrating frames, which vibrate the troughs to consolidate the concrete. Steam is supplied by spraying water into currents of air heated by burners. The sides of the trough frames are spread by moving together legs projecting downward from the trough.

3,523,998
METHOD OF WRINKLE SMOOTHING
Wolffe Harry Feinstone, Memphis, Tenn., and Archie Scott Black, deceased, late of Memphis, Tenn., by Gladys Doyle Black, legal representative, Memphis, Tenn., assignors to Plough, Inc., Memphis, Tenn., a corporation of Tennessee
No Drawing. Continuation-in-part of application Ser. No. 451,069, Apr. 26, 1965. This application Oct. 24, 1967, Ser. No. 677,782
Int. Cl. A61k *7/00, 27/00*
U.S. Cl. 424—78 **10 Claims**

Method of temporarily smoothing wrinkles from human skin by applying to the skin area to be smoothed an aqueous solution containing between 5 and 20% by weight of one or more of poly-N-vinyl-5-methyl-2-oxazolidinone, dextran and ethylene-maleic anhydride copolymer and permitting the solution to dry undisturbed on the skin. The solution may contain any one or more of sodium carboxymethyl cellulose, innocuous alcohol, propylene glycol, polyethylene glycol, and glycerine, perfuming and even coloring agents if desired.

3,523,999
METHODS FOR CONTROLLING INSECTS AND MITES WITH ANISYL CHLOROMETHYLPHOSPHONODITHIOATES
Ralph B. Fearing, Bardonia, N.Y., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Original application Oct. 13, 1965, Ser. No. 495,721, now Patent No. 3,442,985, dated May 6, 1969. Divided and this application Dec. 19, 1968, Ser. No. 801,894
Int. Cl. A01n *9/36*
U.S. Cl. 424—217 **5 Claims**

Method of controlling insects and mites employing O-alkyl-S-anisyl chloromethylphosphonodithioates represented by the general formula



wherein R is lower alkyl in pesticidally active amounts. Representative compounds are O-ethyl-S-(p-anisyl)chloromethylphosphonodithioate, O-isopropyl-S-(p-anisyl) chloromethylphosphonodithioate, O-isoamyl-S-(p-anisyl) chloromethylphosphonodithioate and O-n-propyl-S-(p-anisyl)chloromethylphosphonodithioate.

3,524,000
ANTHELMINTIC COMPOSITIONS AND METHOD OF USING SAME
John R. Egerton, Neshanic Station, and Joseph Di Netta, Watchung, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 439,926, Mar. 15, 1965. This application Oct. 20, 1967, Ser. No. 676,697
Int. Cl. A01n *9/22;* **A61d** *7/00;* **A61k** *27/00*
U.S. Cl. 424—267 **13 Claims**

The anthelmintic activity of 2-substituted benzimidazoles is greatly enhanced when the benzimidazole is administered to the host animal in the presence of a tricyclic compound selected from the group consisting of dibenzocycloheptenes and thioxanthenes. Preferably, the 2-substituted benzimidazoles and the tricyclic compounds are administered together in a single formulation. Enhancement of activity, however, is also obtained when each component is administered as a separate formulation.

3,524,001
COMPOSITIONS AND METHOD FOR REDUCING FREE FATTY ACID AND CHOLESTEROL IN THE BLOOD OF MAMMALS WITH 3,5 - DISUBSTITUTED ISOXAZOLES
John B. Wright, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of applications Ser. No. 167,911, Jan. 22, 1962, and Ser. No. 237,329, Nov. 13, 1962. This application Mar. 4, 1965, Ser. No. 437,265
Int. Cl. A61k *27/00*
U.S. Cl. 424—272 **6 Claims**

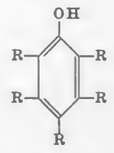
Reduction of free fatty acids and cholesterol in the blood with 3,5-disubstituted isoxazoles.

3,524,002
ARYLOXYALKANOIC ACID AND SALTS THEREOF
Gerhard Baschang, Bettingen, and Charles Morel, Arlesheim, Switzerland, assignors to Geigy Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Oct. 2, 1968, Ser. No. 764,602
Claims priority, application Switzerland, Oct. 17, 1967, 14,505/67
Int. Cl. C11c *3/00*
U.S. Cl. 424—318 **4 Claims**

2-(4-biphenylyloxy)-dodecanoic acid and salts thereof with a base have hypolipemic activity. Pharmaceutical compositions comprising said compounds and methods of treating hyperlipemic conditions are provided.

3,524,003
METHOD OF RENDERING A SURFACE REPELLENT TO BIRDS WITH 2,6-DICYCLOHEXYL-4-METHYLPHENOL
Andrew J. Reinert, Bartlesville, Kenneth E. Cantrel, Dewey, and Raymond L. Cobb, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed July 21, 1966, Ser. No. 566,721
Int. Cl. A01n *9/26*
U.S. Cl. 424—346 **5 Claims**

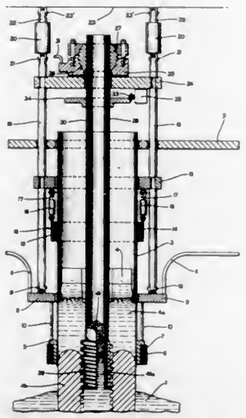
Birds are repelled by applying to a surface a compound of the formula



wherein each R can be the same or different and is hydrogen, alkyl, aryl, alkaryl, aralkyl, alkylcycloalkyl or cycloalkylalkyl.

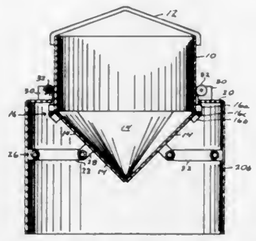
ELECTRICAL

3,524,004
NON-METAL REINFORCED SELF-BAKING ELECTRODE FOR ELECTRIC FURNACES
Jack A. Van Nostran and Otis D. Jordan, North Canton, Ohio, assignors to Ohio Ferro-Alloys Corporation, Canton, Ohio, a corporation of Ohio
Filed Dec. 3, 1968, Ser. No. 780,668
Int. Cl. H05b *7/18, 3/62, 3/40*
U.S. Cl. 13—14 **14 Claims**



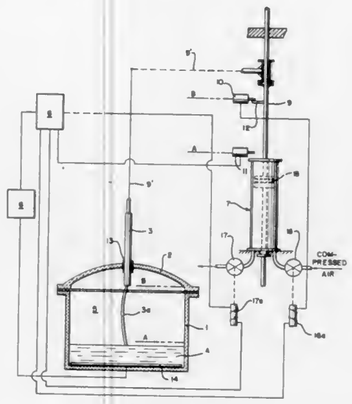
A self-baking electrode for electric furnaces, including a cylindrical metal casing extending into an electric furnace with means supporting the casing with its lower end located well above the furnace charge. A metal supporting tube extends downward concentrically through the cylindrical casing with coarse, deep screw threads upon its lower portion. Means, such as motor-driven gearing, is operatively connected to the upper portion of the tube for rotating it relative to the cylindrical casing. A contact clamp is clamped upon the lower end of the cylindrical casing and connected by condutors to a lain transformer or other conventional source of electric power. A ball and socket rotating contact and non-rotating contact assembly is provided at the upper end of the tube and is connected by conductors with the electric power source, or to power factor correctional devices if desired. Carbon paste is inserted into the open tops of the cylinder and tube and as the paste descends into the heat zone of the furnace it first becomes plastic and completely fills the cylinder and tube, and then undergose a coking or baking process and becomes hard carbon. From time to time, as the lower end o the hard carbon electrode is burned away in the furnace charge, the tube may be rotated within the hard carbon electrode causing it to slide downward through the casing into the furnace charge.

3,524,005
CHARGING BUCKET FOR A FURNACE
Frank S. Scott, New Philadelphia, Ohio, assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
Filed Nov. 13, 1968, Ser. No. 775,439
Int. Cl. H05b; B66c *3/00*
U.S. Cl. 13—33 **11 Claims**



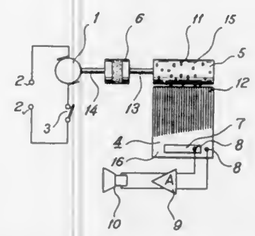
A charging bucket has hinged closure means on the bottom to hold the material in the bucket and is slidably mounted in a shroud. The shroud is connected by links to the closure means and when the combination is lowered onto a furnace and the bucket moves downwardly into the shroud the relative movement between the bucket and the shroud causes the links to open the closure means. When the bucket is raised relative movement between the shroud and bucket in the other direction closes the closure means.

3,524,006
METHOD AND APPARATUS FOR CONTROLLING ARC DISCHARGE IN PLASMA ARC FURNACES
Fred Ebeling and Werner Jakobs, Berlin, Erich Mumme, Falkensee, Herbert Hoffmann and Helmfried Jeske, Hennigsdorf and Karl Spiegelberg, Berlin, Germany, assignors to VEB Qualitats- und Edelstahl-Kombinat, Hennigsdorf, near Berlin, Germany
Filed Oct. 19, 1967, Ser. No. 676,413
Int. Cl. H05b *7/10*
U.S. Cl. 13—34 **11 Claims**



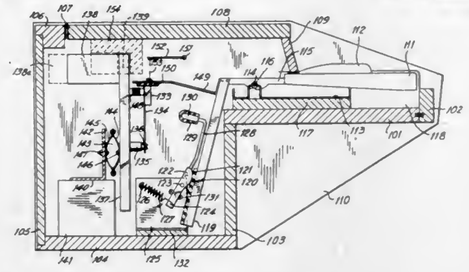
In a plasma arc furnace the burner electrode is lowered toward the melting deposit. In the movement of the arc ignition, the electrical variation in the electrode circuit triggers a controlling means which abruptly reverses the movement of the burner electrode and stretches the plasma arc to a fixed predetermined length.

3,524,007
MUSIC BOXES WITH PIEZOELECTRIC PICKUPS
Junzou Ishikawa and Hiroshi Kitagawa, Minamiakita-gun, Akita-ken, Japan, assignors to Goyo Denshi Kogyo Kabushiki Kaisha, Akita-ken, Japan, a joint-stock company of Japan
Filed Feb. 23, 1968, Ser. No. 707,815
Int. Cl. G10d *13/08*; **G10h** *3/06*
U.S. Cl. 84—1.14 **7 Claims**



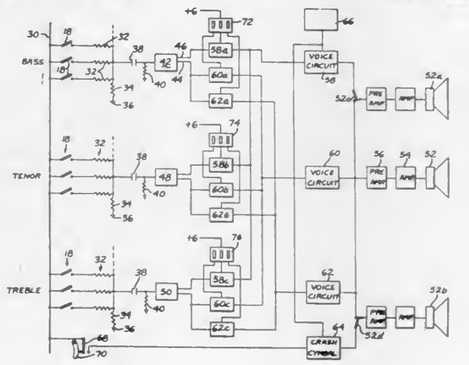
A music box for generating at least one melody in playing a comblike vibrator by a rotating tune drum, where a plate of piezoelectric transducer is adhered on the surface of the base of the comblike vibrator, and an electric signal of the melody is derived from the plate of piezoelectric transducer to generate acoustically the melody. In a modification a push button switch and cam-contact arrangement provides for a limited rotation of the tune drum. In a second modification a pair of music boxes with different melodies may be operated by a push button switch at two locations such as a front door and a back door.

3,524,008
REED-TYPE MUSICAL INSTRUMENT WITH ELECTROMAGNETIC PICKUPS
Karl Scherer and Ernst Zacharias, Trossingen, Wurttemberg, Germany, assignors to Matth. Hohner A.G., Trossingen, Germany
Filed Aug. 13, 1968, Ser. No. 752,227
Claims priority, application Germany, Oct. 16, 1967, H 64,178
Int. Cl. G10d *13/00*; **G10h** *3/04*
U.S. Cl. 84—1.15 **25 Claims**



A musical instrument which is electrically operated. The instrument includes a vibratory means which is adapted to be set into mechanical vibratory motion and an electrical pick-up means coacts with the vibratory means to convert the mechanical vibrations thereof into electrical waves. An elongated bar means which has a mass substantially greater than that of the vibratory means carries the latter, and the instrument further includes a support means which is stationary and has a mass at least as great as that of the vibratory assembly which is formed by the elongated bar means and vibratory means carried thereby. This latter vibratory assembly will vibrate about a given nodal point, and an elastic means which is situated substantially at this nodal point interconnects the vibratory assembly with the support means so that the latter will carry the vibratory assembly in a manner permitting the entire assembly to vibrate about the nodal point due to the elastic connecting means. In this way even if the vibratory means is set into vibration as a result of impact derived from a hammer-type of action, proper sounds will be produced.

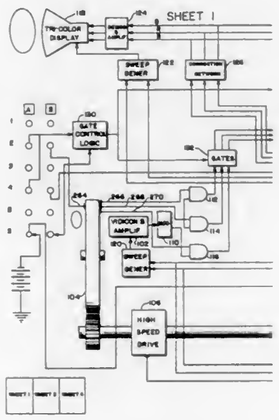
3,524,009
PERCUSSION RHYTHM DEVICE FOR KEYBOARD MUSICAL INSTRUMENTS
Alan B. Welsh, Jasper, Ind., assignor to Kimball Piano & Organ Co., Jasper, Ind.
Filed May 18, 1966, Ser. No. 551,024
Int. Cl. G10d *13/00*; **G10h** *1/02*
U.S. Cl. 84—1.26 **14 Claims**



A selectable percussion rhythm sound effects arrangement for use with a keyboard musical instrument includ-

ing bass, tenor, and treble keyboard sections, pedal section, a knee lever, and hand switch section. Each bass, tenor, and treble section is connectable from a voltage source by three or more switches and resistors through a differentiator, a trigger, a group of three or more transistor gates (interconnected with other groups of gates) controlled by selector switches to plural voice circuits and a crash cymbal circuit (the latter and one voice circuit being also connected to a white noise source), and thence selectably connected to plural amplifiers and speakers. Modifications provide for a foot switch, effective alone or with the keyboard. Diodes and plural switch terminals permit interconnection between the bass, tenor, and treble section.

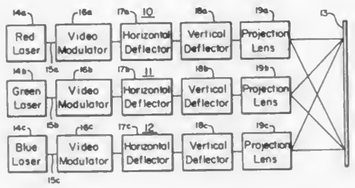
3,524,010
COMPATIBLE COLOR PHOTOPHONE
John F. Brinster, 271 Mercer St., Princeton, N.J. 08540
Filed June 13, 1966, Ser. No. 557,282
Int. Cl. H04n *1/46*
U.S. Cl. 178—5.2 **10 Claims**



A photophone set is disclosed which extends the principles of the inventor's companion application Ser. No. 526,765 to provide for the transmission and display of color pictures ancillary to a telephone conversation. The system employs a chrominance signal interspersed between side bands of a luminance signal for picture transmission at a low frame rate over restricted-band-width telephone lines and compatible with monochrome photophone, but employs frame-sequential methods for picture recording and playback. A drum memory is used to provide a high frame rate for flicker-free viewing when operated at a high speed, and a low frame rate for transmission when operated at a selected much lower speed.

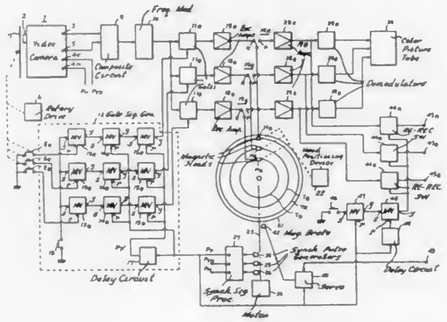
3,524,011
LASER COLOR DISPLAY UTILIZING ACOUSTICAL LIGHT MODULATORS
Adrianus Korpel, Prospect Heights, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 29, 1968, Ser. No. 717,198
Int. Cl. H04n *9/14;* **G02f** *1/34*
U.S. Cl. 178—5.4 **10 Claims**

A polychromatic display system uses three light beams of different colors such as red, green and blue. Each beam is modulated in a light-sound interaction cell by video information representing its assigned color field and the beams are deflected by similar cells to accomplish scanning. The deflected beams are projected upon a screen and are superposed to achieve image reproduction in simulated natural color. Because of the dependence of diffraction in the interaction cells upon the wavelength of the light beam, there is a tendency toward misregistration which may be compensated by adjusting the magnification power in each of the three light paths.



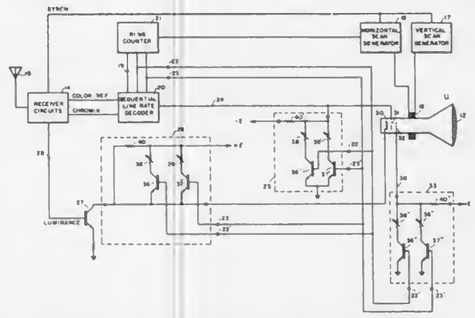
Compensation may also be achieved by arranging with the deflecting cell a separate cylinder lens of appropriate optical properties. Constructing the deflection cell in the nature of a prism or changing the acoustic propagation velocities of the deflection cells in relation to the light wavelengths also effects the necessary compensation. Where the deflection cells have the same propagating velocities, the sweep ranges of the cells may be adjusted to effect compensation.

3,524,012
SYSTEM FOR RECORDING AND REPRODUCING STILL COLOR VIDEO SIGNALS
Nobutoshi Kihara, Tokyo, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan
Filed Jan. 27, 1967, Ser. No. 612,179
Claims priority, application Japan, Jan. 31, 1966, 41/5,504, 41/5,505
Int. Cl. H04n *5/78*
U.S. Cl. 178—5.4 **7 Claims**



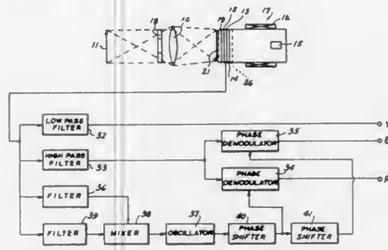
A color video signal recording and reproducing system having one image pickup tube, a rotary color filter, and a video signal recording and reproducing device, the image pickup tube producing color video signals separated by the rotary color filter, the color video signals being separately recorded and reproduced at the same time by the video signal recording and reproducing device.

3,524,013
STABLE MONOCHROME BALANCE CIRCUIT FOR SINGLE GUN DISPLAY TUBE
Kurt Hillman, Flushing, N.Y., assignor to General Telephone & Electronics Laboratories Incorporated, a corporation of Delaware
Filed May 4, 1967, Ser. No. 636,213
Int. Cl. H04n *9/22*
U.S. Cl. 178—5.4 **9 Claims**



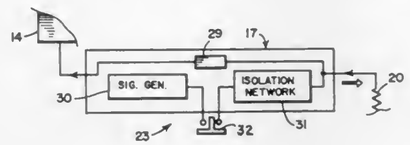
A monochrome balance circuit for single gun color tubes is described in which the cathode, control grid, and screen grid voltages are varied sequentially by attenuating networks to compensate for the different efficiencies of the luminescent materials. The attenuating networks are controlled by digital switching signals to maintain the stability of the one gun tube.

3,524,014
COLOR VIDEO SIGNAL GENERATING APPARATUS
Toshiro Watanabe, Zushi-shi, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan
Filed July 13, 1967, Ser. No. 653,252
Claims priority, application Japan, July 15, 1966 41/46,443
Int. Cl. H04n *5/26*
U.S. Cl. 178—5.4 **5 Claims**



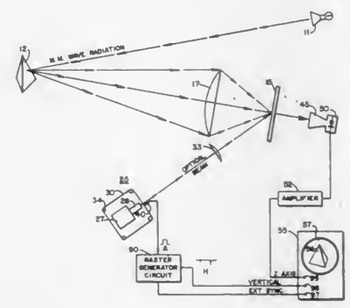
The color video signal generating apparatus described employs a single monochrome image pickup tube. A series of lenses is disposed in front of the tube and divides a real image of the object to be televised into stripe-like image elements which are projected on the photoconductive layer of the tube. A color filter is positioned in front of the separating lens assembly and has several filtering regions which pass light of different wavelengths. The composite video signal is composed of signals having the same center frequency but different phases.

3,524,015
RESPONSE SYSTEM FOR TELEVISION
John O. Campbell, 17631 Palora St., Encino, Calif. 91316
Filed Aug. 31, 1966, Ser. No. 576,394
Int. Cl. H04h *7/10*
U.S. Cl. 178—6 **15 Claims**



A plurality of television receivers are connected to a common transmission line which supplies television program signals. Associated with each receiver is a means, under control of the viewer, for enabling the viewer to respond to queries from the program announcer. The responses are transmitted to a central location over the same transmission line where they are recorded. The response signals themselves may be either pulse-coded or voice signals. They may be generated by means of a switch or voice microphone used to amplitude modulate carrier signals unique to each receiver.

3,524,016
MILLIMETER WAVE IMAGING SYSTEM
Harold Jacobs, West Long Branch, N.J., Ronald C. Hofer, West Lafayette, Ind., and George E. Morris and Edward Y. Horn, Elberon, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed July 31, 1968, Ser. No. 750,708
Int. Cl. H04n *5/30*
U.S. Cl. 178—6 **13 Claims**

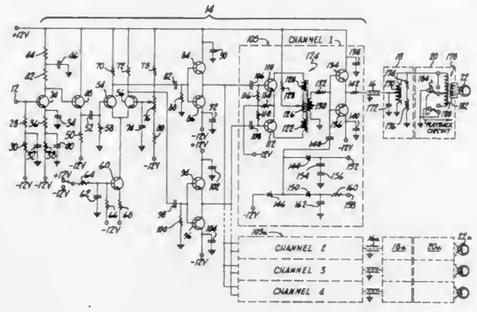


This is an improvement in a prior technique for converting millimeter wave images formed on a layer of dielectric material or a semiconductor which normally is rendered opaque to millimeter wave energy because of flooding of said layer with light energy into a visible display. This conversion is accomplished by controlling the magnitude of the millimeter wave radiation transmitted through said layer by sequentially and momentarily decreasing the conductivity of discrete regions of said layer by scanning means arranged to block off momentarily light from said discrete regions, detecting millimeter wave radiation so transmitted through said scanned regions of said layer, and applying the detected millimeter wave radiation to a visual indicating device the scanning of which is synchronized with the aforesaid scanning means.

3,524,017
RECORD AMPLIFIER-DRIVER FOR CONTINUOUSLY DRIVING ANALOG RECORDER HEADS WITH AN OPTIMUM RECORD CURRENT DURING THE LIFE OF THE HEAD

Evangelos I. Pezirtzoglou, Mountain View, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Mar. 23, 1966, Ser. No. 536,699
Int. Cl. H04n *5/78*
U.S. Cl. 178—6.6 **9 Claims**

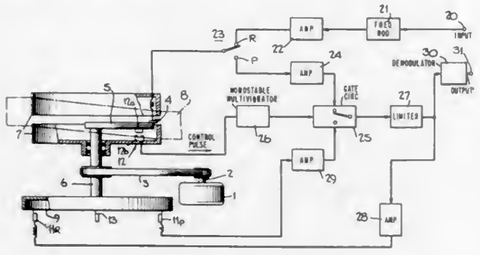


Method and apparatus for driving analog recorder heads, wherein the input from a conventional frequency modulator is applied to a non-linear record amplifier which, in turn, provides a low impedance output signal. This signal is introduced to a special network via a coaxial cable, and thence to a rotary transformer circuit and the associated recorder head. The special network is adapted to compensate for the imaginary part of the complex impedence of the recorder head and its associated circuitry, whereby the head and circuitry behaves as a frequency independent impedance over the useful range of frequencies. The head driving current is thus essentially a square wave whose amplitude is selected to provide the optimum playback output throughout the life of the head.

3,524,018
RECORDING AND REPRODUCING SYSTEM UTILIZING ONLY ALTERNATE FIELDS OR FRAMES OF THE VIDEO SIGNAL

Nobutoshi Kihara, Tokyo, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan

Filed July 14, 1966, Ser. No. 569,785
Claims priority, application Japan, July 17, 1965, 40/43,295, 40/43,296
Int. Cl. H04n *5/78*
U.S. Cl. 178—6.6 **13 Claims**

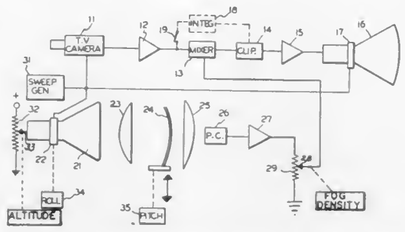


In apparatus for recording and reproducing video signals, only alternate fields or frames of the video signals are recorded on a magnetic tape or other recording medium and, upon reproduction of the video signals, each field or frame signal reproduced from the tape is supplied to an output and simultaneously recorded on a second recording medium from which the field or frame signal is reproduced and supplied to the output in the interval between successive field or frame signals reproduced from the first mentioned recording medium.

3,524,019
ELECTRONIC SYSTEM FOR VARYING FOG SIMULATION WITH CHANGES IN DIRECTION OF SIGHT

Richard T. Coen, Binghamton, N.Y., assignor to Singer-General Precision, Inc., Binghamton, N.Y., a corporation of Delaware

Filed Aug. 9, 1966, Ser. No. 571,278
Int. Cl. H04n *5/34, 7/18*
U.S. Cl. 178—6.8 **3 Claims**

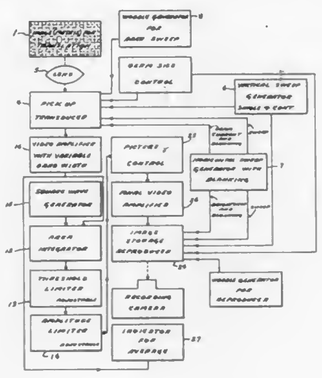


In a visual display system in which television is used to generate images being displayed, this system introduces fog effects which take into account the direction of the apparent line of sight. Fog is simulated by lightening the entire picture. However, a film having a light transmission density which varies vertically as the secant is scanned by a flying spot synchronized with the television beams. The light passed by the film controls the instantaneous lightening or fog effects. The system includes means for varying the film and flying spot scanning orientation to further simulate the effects of pitch and roll on the simulated fog.

3,524,020
APPARATUS FOR OPTO-ELECTRONIC PHOTOGRAPHIC IMAGE TRANSLATION

Radames K. H. Gebel, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Filed Mar. 28, 1968, Ser. No. 716,749
Int. Cl. H04n *3/34*
U.S. Cl. 178—6.8 **5 Claims**



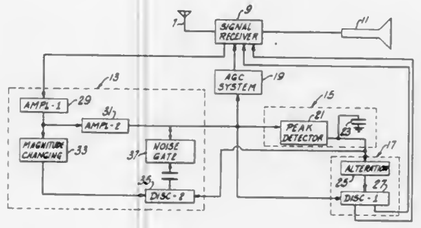
Apparatus for producing a gray scale representation of a photographic image of low density and contrast in which

a television pickup tube scans each of equal predefined square resolution elements of the image and produces a video signal which is integrated over the elemental scanning interval to produce a brightness signal proportional to the fraction of the area of the square element occupied by silver grains. The brightness signal is used to modulate the beam of a kinescope to produce the gray scale representation. Scanning of the square elements in both pickup tube and kinescope is effected by a small vertical oscillation or wobble of the scanning beam as it moves horizontally.

3,524,021
NOISE-IMMUNE SYNCHRONIZATION PULSE SEPARATION AND AUTOMATIC GAIN CONTROL CIRCUITRY

William K. Hickok, Williamsville, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Apr. 20, 1967, Ser. No. 632,397
Int. Cl. H04n *5/56*
U.S. Cl. 178—7.3 **11 Claims**



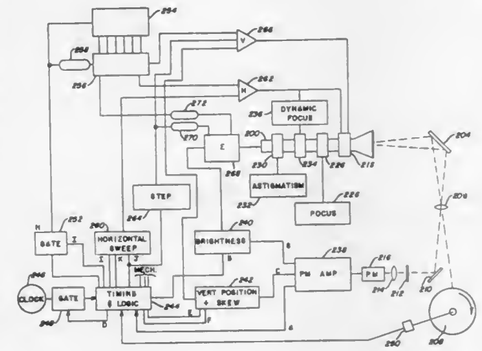
Circuitry is provided for developing noise-immune synchronization pulse and automatic gain control signals from composite video signals which include video, synchronizing pulse, and undesired noise signals. Means are provided for developing a noise-gated video signal from the composite video signal and applying the noise-gated video signal to an automatic gain control system, a D.C. voltage level development means, and to a discriminator means. The automatic gain control system develops noise-immune automatic gain control signals which are applied to and control the operation of the receiver. The D.C. voltage level development means provides a D.C. voltage level which is applied to the discriminator means wherein the magnitude of the D.C. voltage level and the noise-gated signal are compared. The discriminator means provides one level of output signals when the noise-gated video signals are of a magnitude less than the D.C. voltage level and another level of output signals when the magnitude of the noise-gated video signals are of a magnitude greater than the D.C. voltage level. These two levels of output signals are in the form of noise-immune synchronizing pulse signals which are applied to and modify the operation of the signal receiver.

3,524,022
ELECTRO-OPTICAL DISPLAY SYSTEM

Alan F. Schoenthal, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Oct. 3, 1966, Ser. No. 583,542
Int. Cl. H04l *15/34*
U.S. Cl. 178—15 **18 Claims**

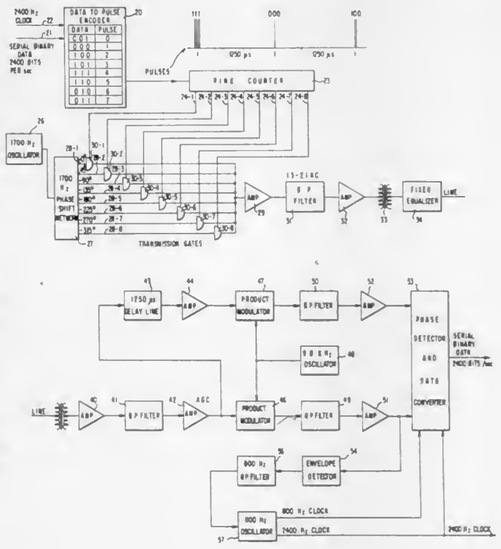
A system for accurately positioning successive characters on a cathode ray tube by referencing each character position to a corresponding slit on a stationary mask. Circuits are included whereby a single photomultiplier operating in conjunction with the stationary mask is used to control character spacing, the vertical position and alignment of each line of characters and the cathode ray tube spot brightness.



3,524,023
BAND LIMITED TELEPHONE LINE DATA COMMUNICATION SYSTEM

Sang Y. Whang, Miami, Fla., assignor to Milgo Electronic Corporation, Miami, Fla., a corporation of Florida

Filed July 14, 1966, Ser. No. 565,214
Int. Cl. H04m *11/06*
U.S. Cl. 179—2 **40 Claims**

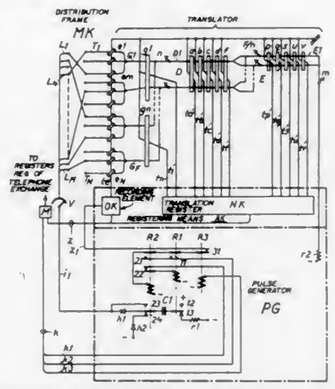


A data modem capable of transmitting digital data at high data rates over ordinary voice grade telephone lines is disclosed. A carrier frequency is modulated by a serial group of digital data signals to be transmitted. Narrow bandpass filtering with a linear phase network and a fixed equalizer makes all ordinary switched telephone lines appear similar as to amplitude and delay characteristics for the narrow passband employed in the disclosed modem.

3,524,024
TRANSLATOR FOR AUTOMATIC TELEPHONE EXCHANGES

Per-Olof Olsson, Hagersten, and Knut Johansen, Huddinge, Sweden, assignors to Telefonaktiebolaget LM Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed Aug. 12, 1966, Ser. No. 572,055
Claims priority, application Sweden, Sept. 1, 1965 11,389/65
Int. Cl. H04q *3/47*
U.S. Cl. 179—18 **2 Claims**

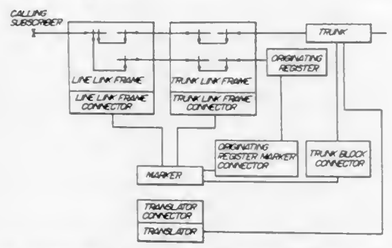


In a telephone exchange there is a number translator comprising a control device which receives a line equipment number from a register and causes a line selector to transmit a pulse to an indicated point on one side of a distribution frame. The pulse is transmitted via a jumper wire to another point on the frame to which is connected a test winding which pulses a coded combination of magnetic cores in a translator. In response thereto the translator transmits back to the register the line location number.

3,524,025
ROUTE ADVANCE CONTROL SYSTEM FOR AUTOMATIC TELEPHONE EXCHANGES

Masato Chiba, Tokyo, Yukio Ozawa, Hiratsuka-shi, Tomonori Nagura, Yokohama-shi, Yusuke Hirano, Fujisawa-shi, Mikio Twasaki, Tokyo, Tomomi Uchida, Yokohoma-shi, Takeshi Kondo, Kawasaki-shi, Shozo Nishimura, Yokohama-shi, and Tomoo Okada, Tokyo, Japan, assignors to Nippon Telegram and Telephone Public Corporation, Tokyo, Oki Electric Industry Co., Ltd., Tokyo, Nippon Electric Company, Limited, Tokyo, Fujitsu Limited, Kawasaki-shi, and Hitachi, Ltd., Tokyo, Japan, all corporation of Japan

Filed Mar. 31, 1967, Ser. No. 627,514
Claims priority, application Japan, Apr. 14, 1966, 41/23,746
Int. Cl. H04q *3/56*
U.S. Cl. 179—18 **7 Claims**

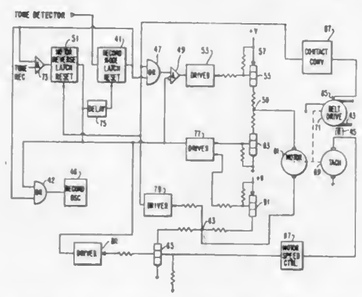


In an automatic telephone exchange of the common control type, a route advance system which is limitless in the number of advances and requires no addition of equipment for an increased number of advances, is provided by including the main part of the route advance function in equipment other than the marker, for example in the translator so that the busy/idle conditions of all trunks for each route are continuously supervised, thereby the route advance during the all-trunk-busy condition is carried out before the extraction of a route number, and if a trunk is found due to mismatch with the channel after the selection of a trunk, said trunk being temporarily blocked so as to bring the trunk to an all-busy condition and thus to effect the route advance.

3,524,026
REMOTE DICTATION APPARATUS WITH AUTOMATIC CONTROL TONE ELIMINATION

Matthew P. Langendorf, Charles L. Ridings, and William H. Sebastian, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 17, 1968, Ser. No. 737,762
Int. Cl. G11b *19/02, 27/02;* **H04m** *11/10*
U.S. Cl. 179—100.2 **6 Claims**

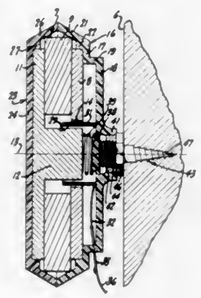


A control tone elimination system for use with a tone actuated dictation system wherein the control tones are within the audio range and are transmitted over the audio lines to the recording device. The tone elimination system effects the removal of those tones which are recorded on the record media prior to the recording of an additional audio message or the playback of a previously recorded message. The removal of the control tones from the media in no way affects the normal operation of the dictation system.

3,524,027
SOUND TRANSDUCER WITH WALL MOUNTED DIAPHRAGM

Richard E. Thurston, San Jose, and Robert M. Schamp, Los Gatos, Calif., assignors to Rolen Diversified Investors, Inc., a corporation of Nevada

Filed May 4, 1967, Ser. No. 636,150
Int. Cl. H04r *1/00*
U.S. Cl. 179—115.5 **4 Claims**

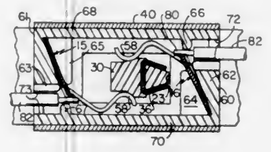


A sound transducer in a housing including a diaphragm centrally joined to a mount for supporting the transducer on a wall. The transducer comprises a toroidal magnet sandwiched between two pole pieces, said magnet having a larger outside diameter than said pole pieces thereby forming annular grooves. The diaphragm mounting means includes an annular shoulder on said diaphragm disposed within one of said grooves.

3,524,028
ELECTRIC SWITCH WITH IMPROVED CONTACT TERMINAL CONNECTION MEANS AND MOVABLE CONDUCTIVE PLUG CONTACT

Charles A. Barney, Stow, Mass., assignor to Ark-Les Switch Corporation, Watertown, Mass., a corporation of Massachusetts

Filed June 12, 1969, Ser. No. 832,643
Int. Cl. H01h *15/04, 1/58*
U.S. Cl. 200—16 **10 Claims**

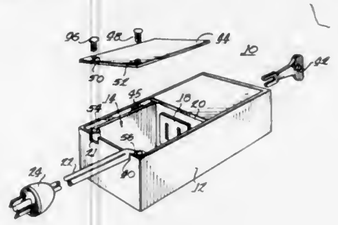


A switch comprising a housing having an internal cavity, a slide mounted on the housing and having an insulating plug extending into the cavity, and a resilient conductive element including a base portion, a wire connection portion and a contact portion mounted in the cavity, the wire connection portion being adapted for engaging a wire introduced into the housing and the contact portion being adapted for engaging the plug in a first position and electrically contacting a second conductive element when the plug is in a second position.

3,524,029
KEYLOCK FOR ELECTRICAL PLUGS

Robert M. Laff, 2844 W. Gregory St., Chicago, Ill. 60625

Filed July 22, 1968, Ser. No. 746,603
Int. Cl. H01h *9/28;* **H01r** *13/70*
U.S. Cl. 200—44 **6 Claims**

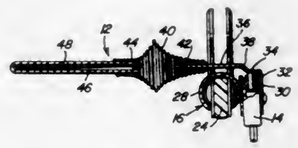


A locking device comprising a housing having a compartment for enclosing an electrical plug, such as an appliance plug. A socket is mounted in the housing adjacent the compartment and is connected to a line cord which in turn is connected to a conventional electrical power source. The socket is adapted to receive the electrical plug. A key-actuated switch is mounted in the housing and interposed between the socket and power source for opening or closing the electrical circuit. The device is provided with means for permanently sealing the electrical plug within the housing compartment after the plug is inserted into the socket.

3,524,030
ANTI-DOZE DEVICE FOR AUTOMOBILE DRIVERS

Louis A. Wiegel, Orlando, Fla., assignor of eight percent to Carol Mary Wiegel, ten percent to Doyle Doster Toles, and five percent to K. H. Harman, all of Orlando, Fla.

Filed Nov. 20, 1968, Ser. No. 777,384
Int. Cl. H01h *3/14*
U.S. Cl. 200—52 **5 Claims**

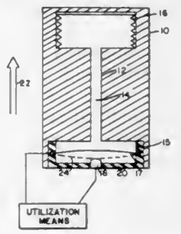


A spring-loaded feeler device is attached to a motorist's spectacles and includes a first end portion engaging the motorist's eyelid. The opposite end of the feeler device is mounted in cantilever fashion over a switch. When the motorist experiences drowsiness, and his eyelids droop, the feeler device causes enablement of the switch which in turn triggers an audible warning device to awaken the motorist. The feeler device is designed to prevent accidental set-off of the warning device when the motorist blinks normally.

3,524,031
FLUID ACCELERATION SWITCH

Leon W. Mack, Amherst, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

Filed May 22, 1968, Ser. No. 731,084
Int. Cl. H01h *35/14*
U.S. Cl. 200—61.53 **15 Claims**

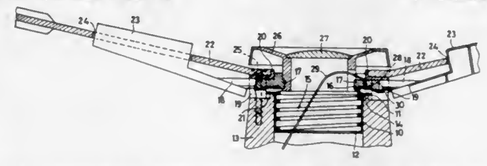


A fluid acceleration switch is provided in which a column of fluid is acted upon by an applied linear acceleration and produces a pressure on a collapsible diaphragm. Upon reaching a critical pressure, corresponding to a predetermined acceleration, the convex diaphragm collapses, causing the actuation of an electrical switch.

3,524,032
COMBINATION STEERING WHEEL AND HORN FOR MOTOR CARS

Giovanni Conterno, Vedano Olona, Italy, assignor to Personal S.a.s., Milan, Italy, a company of Italy

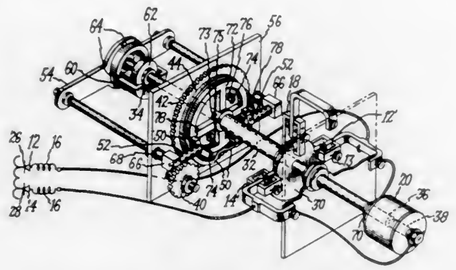
Filed Jan. 29, 1969, Ser. No. 794,992
Claims priority, application Italy, Feb. 2, 1968, 7,853/68
Int. Cl. H01h *9/00*
U.S. Cl. 200—61.54 **9 Claims**



A combination steering wheel and horn for motor vehicles is provided, in which the horn-actuating electric

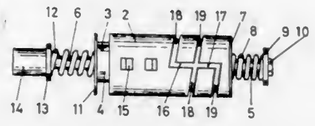
circuitry is located in the upper portion of the steering wheel hub. The lower portion of the hub contains only those component parts which are intended to fasten the hub to the steering shaft. Preferably, the size of the upper portion of the hub is standardized.

3,524,033
BYPASS SWITCH AND VACUUM INTERRUPTER
Charles W. Schoendube, Lee, Mass., assignor to General Electric Company, a corporation of New York
Filed Apr. 3, 1968, Ser. No. 718,597
Int. Cl. H01h *33/66, 3/42*
U.S. Cl. 200—144 **8 Claims**



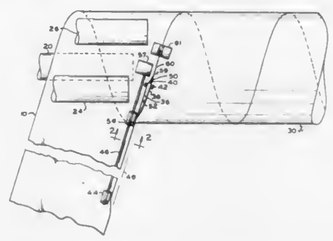
The application discloses a combined bypass switch and vacuum interrupter to be used in connection with a tap-changing mechanism for a transformer or regulator. A rotatable bypass switching cam disc alternately makes and breaks a pair of contacts which are connected to both the vacuum interrupter and the tap-changing contacts. The bypass switching cam disc is also electrically connected to the load. Two concentric cylindrical cams are mounted with the cam disc on a hollow shaft. A yoke is provided and is imparted with a reciprocating motion by two cam followers which are connected to the yoke and operated by the cylindrical cams. The yoke is adapted to transmit the reciprocating motion to a push-pull shaft which is positioned concentrically within the hollow shaft and is connected to a butt contact within the vacuum interrupter. All the cams are adapted and arranged to synchronize the bypass switching with the vacuum interrupter switch so as to provide a proper sequence of operation for safely changing tap connections on a transformer.

3,524,034
ROTARY PULSE GENERATOR
Jean Gervais, Marcinelle, Belgium, assignor to Ateliers de Constructions Electriques de Charleroi (ACEC) Societe Anonyme, Charleroi, Belgium
Filed Sept. 5, 1968, Ser. No. 757,722
Claims priority, application Belgium, Sept. 19, 1967, 48,621; July 25, 1968, P 942
Int. Cl. H01h *3/16*
U.S. Cl. 200—153 **8 Claims**



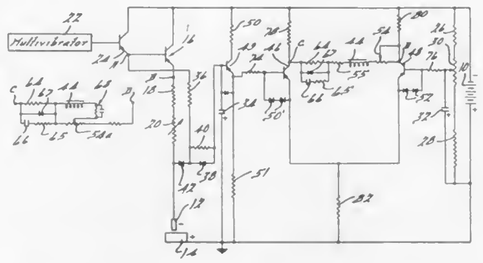
This invention relates to a rotary pulse generator comprising a position index member and a second member responsive to the passing of the index member for generating a pulse operating a control circuit. A first guide means is provided for moving the index member in a direction perpendicular to an axis of rotation so as to gradually displace the index member axially with respect to the second member. A second guide means is provided for moving the index member in a direction parallel to the axis of rotation when the index member has been rotated a predetermined number of degrees to actuate the second member.

3,524,035
METHOD AND APPARATUS FOR FORMING SPIRAL PIPE
John N. Kelley, Portland, Oreg., assignor to Beall Pipe and Tank Corporation, Portland, Oreg., a corporation of Oregon
Filed Oct. 4, 1967, Ser. No. 672,805
Int. Cl. B23k *11/08*
U.S. Cl. 219—62 **3 Claims**



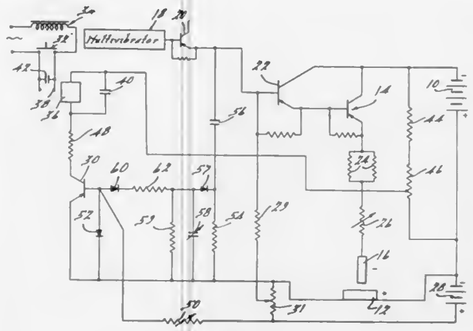
A method and apparatus for continuously producing spiral pipe from sheet material by high frequency electrical welding wherein a buckle is formed adjacent the forward edge of the infeeding sheet material prior to the same being formed into a spiral loop, the forward edge thereby being held in a spaced apart relationship with respect to the trailing edge of the loop. Pressure applied normally to the forward edge subsequent to its electrical heating moves the edge, laterally only, into parallel abutment with the trailing edge of the loop so that the welding process can occur with no nonplanar relative movement between the two edges.

3,524,036
SERVO CONTROL CIRCUIT FOR ELECTRICAL DISCHARGE MACHINING APPARATUS
Kurt H. Sennowitz, Royal Oak, Mich., assignor to Elox Inc., Troy, Mich., a corporation of Delaware
Filed Jan. 22, 1968, Ser. No. 699,443
Int. Cl. B23p *1/08*
U.S. Cl. 219—69 **5 Claims**



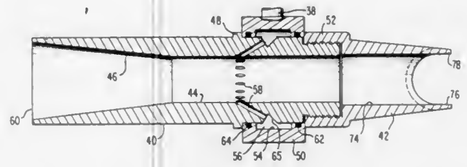
A circuit for maintaining relatively constant gap spacing between an electrical discharge machining electrode and workpiece by an electrically operated servo-motive means. The circuit employs a differential amplifier with two transistors controlled by a reference signal applied to the control electrode of one transistor and by a control signal derived from the gap and applied to the control electrode of the other transistor through an emitter-follower stage. A parallel resistor-capacitor network is connected in series with the servo-motive means to keep the servo "alive" for steady feed during slow-feed operation of the circuit.

3,524,037
FAIL TRANSISTOR PROTECTIVE CIRCUIT FOR ELECTRICAL DISCHARGE MACHINING APPARATUS
Kurt H. Sennowitz, Royal Oak, Mich., assignor to Elox Inc., Troy, Mich., a corporation of Delaware
Filed Jan. 22, 1968, Ser. No. 699,446
Int. Cl. B23p *1/04, 1/08*
U.S. Cl. 219—69 **2 Claims**



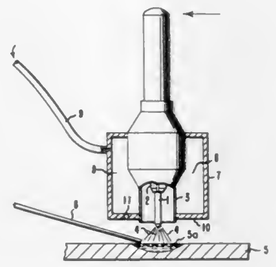
An EDM circuit with a protective circuit for preventing damage to electrode or workpiece due to any one of the following conditions occurring: output transistor failure, drive signal loss, multivibrator failure or failure of any DC supply. A multivibrator provides triggering pulses to an electronic switch connected in series with a DC power source, the EDM gap, and a cut-off relay. A detecting means responsive to a drop in the strength of the triggering pulses below a preselected value trips the cut-off relay.

3,524,038
METHOD AND APPARATUS FOR CUTTING AND GOUGING METAL EMPLOYING SUCTION TO REMOVE DEBRIS
Joseph Fred O'Kelly, Jr., La Porte, Tex., assignor, by mesne assignments, to Arcair Company, Allentown, Pa., a corporation of Delaware
Filed May 5, 1967, Ser. No. 636,521
Int. Cl. B23k *9/00*
U.S. Cl. 219—70 **1 Claim**



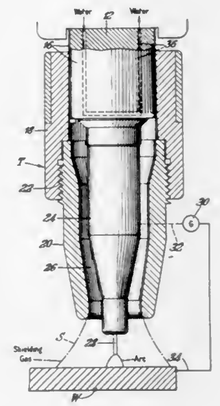
A method of and an apparatus for cutting and gouging metal from a workpiece by melting the portion of the metal to be removed with an electric arc between the workpiece and an electrode supported in a holder, and applying a suction to the molten metal while maintaining the arc. The suction is applied through a nozzle supported on the electrode holder for movement therewith.

3,524,039
COPPER WELDING PROCESS
Ransom E. Ashmore, Louisville, Ky., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 29, 1968, Ser. No. 732,951
Int. Cl. B23k *9/16, 35/38*
U.S. Cl. 219—74 **7 Claims**



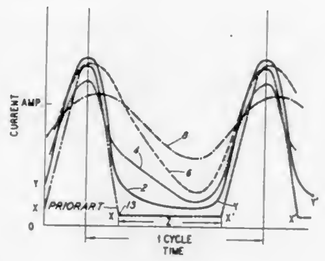
The tungsten-inert gas method of electric-arc welding of copper is improved by providing a gaseous shield containing methyl, ethyl, or isopropyl alcohol vapor or a hydrocarbon with up to four carbon atoms around the outside of the inert gas curtain, whereby the welds obtained are practically free of oxide occlusions and hence not subject to porosity in chemical usage.

3,524,040
GAS SHIELDED ARC TORCH
Robert M. Gage, Summit, N.J., assignors to Union Carbide Corporation, a corporation of New York
Filed Dec. 9, 1966, Ser. No. 600,569
Int. Cl. B23k *9/00*
U.S. Cl. 219—75 **5 Claims**



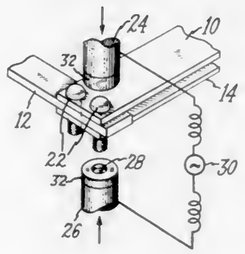
A gas shielded electric arc working torch comprising the combination of a torch body provided with a heat sink, a gas cup, and means connecting said gas cup to said heat sink comprising concentric members composed of heat conductive materials, at least one of said members being or provided with a dense but thin thermally conductive layer or coating of electrically insulating material, and the other member or members being intimately fitted thereto with such thin layer of coating physically connecting but electrically insulating said members.

3,524,041
ELECTRIC ARC PROCESS AND APPARATUS
August F. Manz, Union, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed Sept. 2, 1966, Ser. No. 577,007
Int. Cl. B23k *9/00*
U.S. Cl. 219—137 **8 Claims**



A method for electric arc working wherein continuous ripple direct current power is supplied to an arc by rectifying and filtering alternating current such that the continuous ripple direct current is supplied at the fundamental frequency of the alternating current.

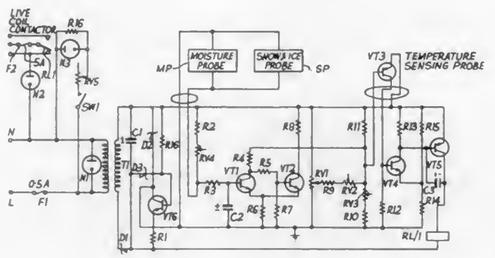
3,524,042
METHOD OF MAKING MECHANICAL AND WELDED JOINT
Moreland P. Bennett, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Feb. 17, 1967, Ser. No. 622,011
Int. Cl. B21j *5/08;* **H05b** *1/00*
U.S. Cl. 219—150 **1 Claim**



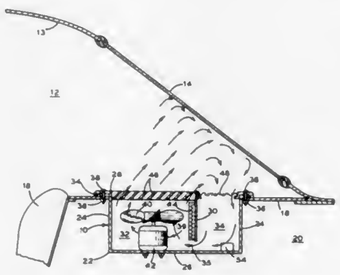
A combined mechanical and welded joint comprising three or more overlapped strips of metal. Holes are drilled or pierced through the overlapped metal and rivets set in such holes. A resistance welding electrode is brought in contact with opposite ends of the rivets with sufficient heat and pressure to upset the rivets and form rivet heads and weld the rivets to the overlapped metal.

3,524,043
TEMPERATURE-INDICATING AND CONTROL APPARATUS
John A. Irvine, Edinburgh, Scotland, assignor to Findlay, Irvine Limited, Edinburgh, Scotland
Filed Mar. 27, 1967, Ser. No. 626,105
Claims priority, application Great Britain, Apr. 7, 1966, 15,789/66
Int. Cl. H05b *1/00*
U.S. Cl. 219—200 **6 Claims**

Temperature-indicating and/or controlling apparatus embodies moisture-sensitive apparatus adapted to modify the operation of a temperature-sensitive transistor. The moisture-sensitive device or a secondary moisture-sensitive device embodies a heater to melt ice or snow that may form or fall thereon.



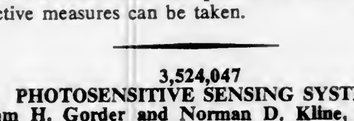
3,524,044
DEICING APPARATUS
Vincent L. Liardi, 2491 Columbus Ave., Oceanside, N.Y. 11572
Filed June 27, 1966, Ser. No. 560,600
Int. Cl. B60s *1/58*
U.S. Cl. 219—203 **4 Claims**



A deicer for the rear window of an automobile includes an electric heater and fan contained within a housing covered by a louvered grille which is set into the horizontal partition located rearwardly of the back seat in the automobile. The major portion of the housing is disposed in an upper portion of the automobile trunk space. The heating element and fan are powered by the electrical system of the automobile so that air from the trunk or passenger compartment is drawn into the housing where it is heated and propelled toward the inside surface of the rear window for heating and deicing the window. In one embodiment the heating element is embedded in a mat adhesively secured to an inside surface of the housing. Alternatively, the heating element can be molded into one or more walls of the housing adjacent the fan.

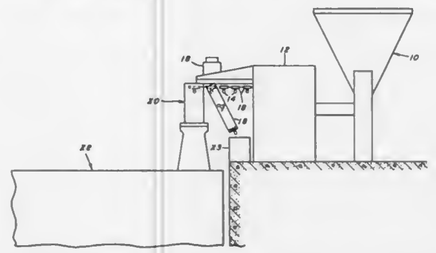
3,524,045
ELECTRICALLY HEATED TOOL WITH TIP EJECTING MEANS
Louis Siegel, 43 Gardner Road, Brookline, Mass. 02146
Filed Feb. 7, 1969, Ser. No. 797,579
Int. Cl. B23k *3/02;* **H05b** *3/00*
U.S. Cl. 219—229 **6 Claims**

An electrically heated tool includes replaceable tips characterized by a tip-ejection feature that facilitates ejection of a hot tip without burning the user while leaving the heating element and handle assembly in a condition for easily receiving a new tip and securing it firmly in place for heating. The tip ejector comprises a telescopically mounted member the tool handle assembly. The



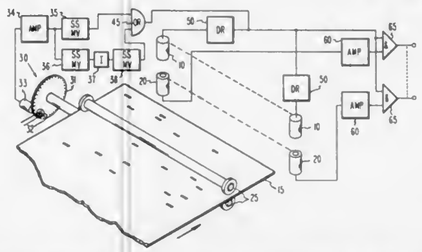
member is manually slidable into tip dislodging engagement with a tip slidably received on the end of a heating element carried at the forward end of the handle assembly.

3,524,046
APPARATUS AND METHOD FOR PIERCING HOLES IN ELASTOMERIC ARTICLES
Nicolaas L. Brouwer, Apollo, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 26, 1968, Ser. No. 724,550
Int. Cl. H05b *7/18*
U.S. Cl. 219—384 **8 Claims**



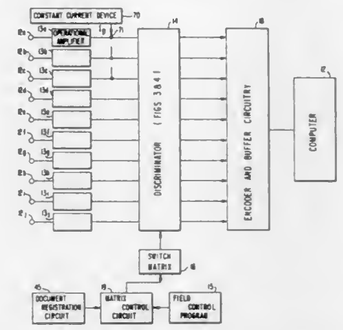
Apparatus is provided for piercing holes in elastomeric articles such as nipples wherein the articles are positioned in supports adapted to receive and seat the same, and these supports are indexed seriatim to present each article to a laser which fires a laser beam to pierce one or more holes in the elastomeric article or nipple. Sensing apparatus may also be provided for indicating whether a nipple is correctly positioned in the support, and for indicating whether the hole has been pierced so that appropriate corrective measures can be taken.

3,524,047
PHOTOSENSITIVE SENSING SYSTEM
William H. Gorder and Norman D. Kline, Rochester, Minn., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Aug. 21, 1967, Ser. No. 661,927
Int. Cl. G01n 21/30; **G06k** 7/10; **H03k** 3/21
U.S. Cl. 235—61.11 **5 Claims**



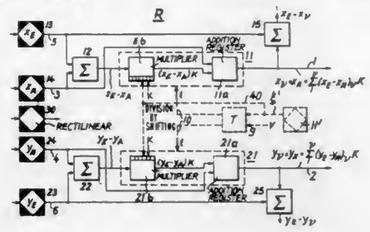
A light emitting diode and phototransistor are positioned on opposite sides of the card path. The turn-on delay time of the phototransistor is a function of light level. There are essentially two light levels. The phototransistor is at one light level when sensing a hole in a record card and is at another light level when the record card screens the phototransistor from the light emitting diode. The light emitting diode is turned on for a period of time which is substantially less than the low light level turn-on delay time of the phototransistor. The amplified output of the phototranssitor is applied to logic circuitry which determines whether or not data in the form of a hole has been sensed.

3,524,048
DOCUMENT READING DEVICE HAVING DISCRIMINATOR CIRCUITS
John V. McMillin, Iowa City, Iowa, assignor to Measurement Research Center, Inc., Iowa City, Iowa, a nonprofit corporation of Iowa
Original application Apr. 6, 1966, Ser. No. 540,700. Divided and this application Jan. 21, 1969, Ser. No. 810,892
Int. Cl. G06k *9/00*
U.S. Cl. 235—61.11 **4 Claims**



A device for reading variable marks by comparing mark densities on a relative basis. Discriminator circuits are provided, each one selecting the largest input signal from a series of input signals which may vary in amplitude. For sensing perforated records an operational amplifier is connected between each sensor and related discriminator circuit and the perforation provides a negative signal. A Zener diode is included in the emitter circuit to set the detection level.

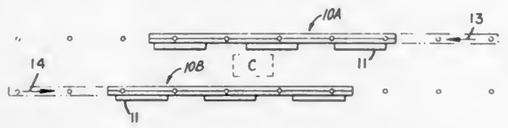
3,524,049
DIGITAL CURVE COMPUTER FOR MACHINE TOOL SYSTEMS
Elmar Götz, NEU Isenburg, and Peter Boese, Berlin-Frohnau, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Continuation-in-part of application Ser. No. 536,924, Mar. 23, 1966. This application Dec. 19, 1966, Ser. No. 607,126
Claims priority, application Germany, Apr. 25, 1961 L 38,807
Int. Cl. G06f *7/38, 15/46*
U.S. Cl. 235—156 **9 Claims**



A computer for calculating the coordinates of a curve having rectilinear and/or circular curve portions. The frequency of the clock, and/or the computer constant, is

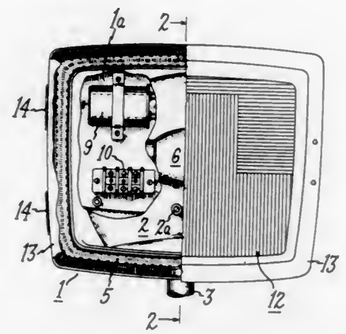
adjusted depending on the length or radius of the curve portion so that the resolution of the computer calculations is independent of the length or radius of the curve portion being calculated.

3,524,050
BUSWAY-MOUNTED MULTIPLE FIXTURE LIGHTING SYSTEM WITH READY ACCESS
Robert D. Gustine, Ann Arbor, Mich., assignor to General Electric Company, a corporation of New York
Filed Aug. 8, 1967, Ser. No. 659,207
Int. Cl. F21s *7/00*
U.S. Cl. 240—9 **5 Claims**



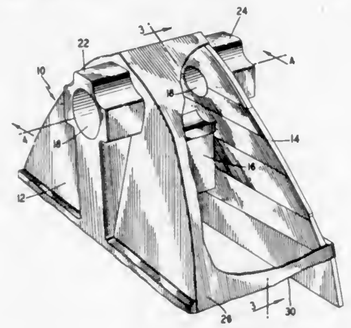
A multiple fixture lighting system using busway-mounted lighting fixtures, including two separate sections of busway, each section having lighting fixtures mounted thereon. The sections of busway are supported at opposite ends of two adjacent parallel rows of roller type busway support hangers. For cleaning and lamp replacement purposes, each section of busway is rolled to the opposite end of its row of hangers during which movement each fixture passes a single station from which maintenance may be performed.

3,524,051
LUMINAIRE
Samuel L. Baldwin, Flat Rock, and David L. Wood, Hendersonville, N.C., assignors to General Electric Company, a corporation of New York
Filed Aug. 19, 1968, Ser. No. 753,566
Int. Cl. F21s *1/10*
U.S. Cl. 240—25 **13 Claims**



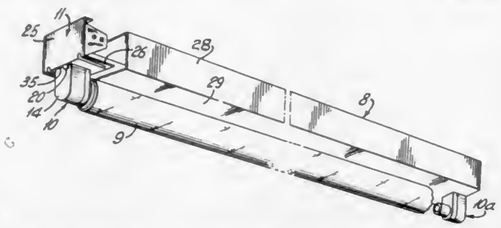
A luminaire of generally rectangular shape for mounting in either vertical or horizontal positions. The luminaire is comprised of a box-like housing providing a paraboidal reflector mounted behind a light source within the housing and an open front that is closed by a removable rectangular refractor. The refractor provides front, top, bottom and opposite side prismatic panels that redirect light incident thereon from the light source and reflector. The refractor has a front panel formed with a centrally arranged prismatic sector which extends upwardly from the bottom of the panel and is wider at the bottom than it is at the top. This centrally arranged portion has opposite inner and outer surfaces. One surface is formed with vertical refracting prisms while the opposite surface is formed with horizontal prisms. The remaining portion of this front panel is formed with horizontal refracting prisms on both opposite surfaces. The luminaire is constructed and arranged to distribute light uniformly in a rectangular pattern on the surface to be illuminated.

3,524,052
FAN-FORMING REFLECTIVE OPTICAL SYSTEM
Harden H. Troue and Richard C. Eschenbach, Indianapolis, Ind., and John R. Miles, Elk Grove Village, Ill., assignors to Union Carbide Corporation, a corporation of New York
Filed Apr. 18, 1968, Ser. No. 722,334
Int. Cl. F21v *7/00*
U.S. Cl. 240—41.35 **8 Claims**



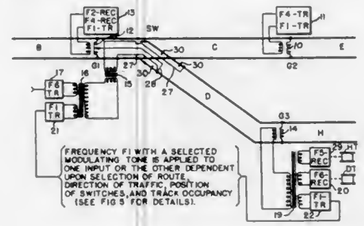
An illumination optical system for forming a fan-shaped beam of light consisting of an optical assembly having rigidly supported side reflecting surfaces and a contoured cylindrical reflecting member forming in combination a partial enclosure having a substantially rectangular opening through which the generated beam of light emerges. The surfaces provide substantially independent control of the beam divergence in two planes orthogonal to one another.

3,524,053
TILT-RESISTING FLUORESCENT LAMPHOLDER AND MOUNTING BRACKET
George E. Johnson, Bronxville, N.Y., assignor to Leviton Manufacturing Co. Inc., Brooklyn, N.Y., a corporation of New York
Filed Sept. 6, 1967, Ser. No. 665,796
Int. Cl. H05b *33/02*
U.S. Cl. 240—51.11 **3 Claims**



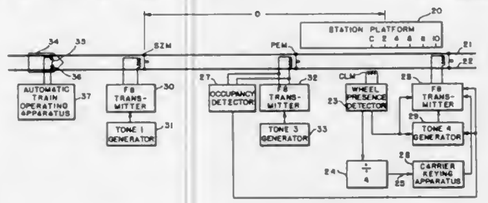
A tilt-resisting lampholder for a fluorescent lamp of the high output type which has a base and an upper housing extending upwardly therefrom through an opening in a support. The upper housing being slidable in the opening relative to the support and having a projection extending from a rear face thereof. The projection is located on one side only of the vertical center line of the upper housing and is positioned to engage with an edge of the support defining the opening therein when the lampholder is slidably moved to the rear thereof.

3,524,054
HIGH FREQUENCY TRACK CIRCUITS FOR RAILROADS INTERRELATED AT SWITCHES AND CROSSOVERS
Willis R. Smith, Rochester, N.Y., assignor to General Signal Corporation, Rochester, N.Y., a corporation of New York
Filed Jan. 8, 1968, Ser. No. 696,204
Int. Cl. B61l *23/22*
U.S. Cl. 246—37 **7 Claims**



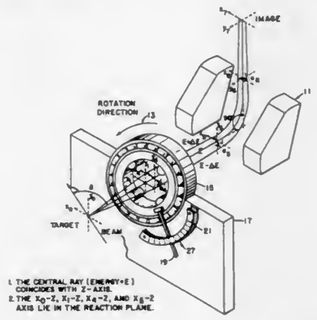
High frequency track circuits for train detection are applied to the main line tracks by the use of bonds without insulated joints, and train control codes for automatic train operation are also supplied over the same circuits by a distinctive high frequency. Separate track circuits of a distinctive high frequency are supplied for the turnout tracks without interrupting the main line track circuits and with suitable extensions to fully complete the train control or automatic operation high frequency paths through the switches and for portions of main track in a way to avoid interruption of such train control communication. The turnout track is also supplied with interconnecting circuits with the main track to assure power current return paths via the rails for the train driving motors. All of this is accomplished with a minimum of insulated joints at the switches to separate the main line track from the turnout track and by using only a single track circuit for the turnout track adjacent switches. Special selecting circuits are provided for the train control frequencies in view of the arrangement of the above mentioned track circuits.

3,524,055
TRAIN SPEED PROFILE BRAKING SYSTEM
Willis R. Smith, and Vincent P. Kovalcik, Rochester, N.Y., assignors to General Signal Corporation, Rochester, N.Y., a corporation of New York
Filed Dec. 19, 1967, Ser. No. 691,741
Int. Cl. B61l *3/06*
U.S. Cl. 246—184 **10 Claims**



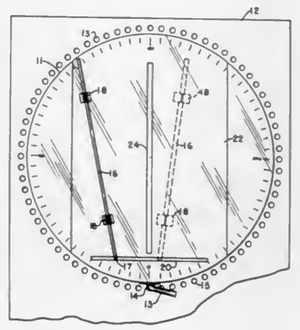
A system for generating speed profiles for stopping different length trains at a station platform which is set into operation when each train passes a control point in approach of the station platform wherein vernier and car length counters and a bias counter are preset to manifest in combination a particular distance to go to stopping point, and the vernier and car length counters are driven down incrementally as the train progresses in accordance with input to the vernier counter from an axle driven frequency generator after initiation upon the train reaching an approach marker at the wayside. The bias counter takes into account the relative lengths of the trains and controls the point of initiation of the generation of the stopping profile so that different length trains are stopped at a position substantially centered relative to the station platform.

3,524,056
DOUBLE FOCUSING SPECTROGRAPH EMPLOYING A ROTATABLE QUADRUPOLE LENS TO MINIMIZE DOPPLER BROADENING
Harald A. Enge, Winchester, Mass., and Donald L. Smith, Vero Beach, Fla., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 5, 1968, Ser. No. 695,977
Int. Cl. H01j *39/34*
U.S. Cl. 250—41.9 **4 Claims**



Large-transmission charged-particle spectrographic system having a quadrupole lens rotatable about an axis between a target and a dispersing magnet producing double-focused images corrected for Doppler broadening by selection of the proper angular position of the quadrupole about the axis.

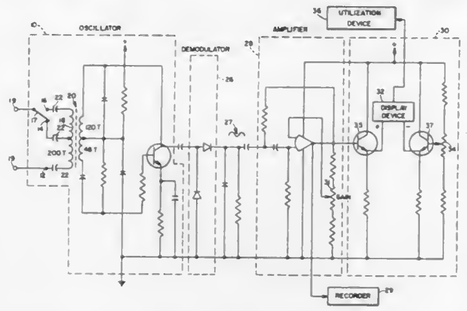
3,524,057
X-RAY STAND FOR POSING A SUBJECT'S FEET FOR A PLURALITY OF X-RAY EXPOSURES FROM DIFFERENT POSITIONS
Charles M. Hammonds, 530 Miller Ave., Mill Valley, Calif. 94941
Filed Jan. 25, 1968, Ser. No. 700,546
Int. Cl. G01n *23/00*
U.S. Cl. 250—50 **7 Claims**



An X-ray photographing stand is disclosed comprising a platform mounted for rotation and lateral translation

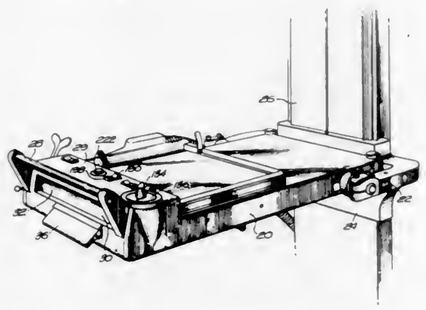
on which the patient stands in the patient's normal base stance and a vertical X-ray film holder pivotally mounted on the platform intermediate the foot positions of the patient and also mounted for lateral translation across the platform whereby various weight bearing diagnostic X-ray photographs may be obtained without changing the normal base stance of the patient.

3,524,058
RESPIRATION MONITOR HAVING MEANS FOR TRIGGERING A UTILIZATION DEVICE
Thomas L. Robertson, San Gabriel, and Earl V. Wagoner, Jr., San Pedro, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Aug. 1, 1966, Ser. No. 569,191
Int. Cl. G03b *41/16*
U.S. Cl. 250—65 **13 Claims**



This invention relates to a sensing device; and more particularly to a sensing device that detects selected changes in the body of a living animal. The range of change is shown on a display-device; and an operator can select a given level of change that is desired to produce a suitable trigger-signal. The trigger-signal may then be applied to a utilization device, such as an X-ray machine, which thereupon takes an X-ray picture of the body at the selected instant.

3,524,059
FRONT-LOADING SPOT-FILMER
James S. Bartlett, West Medford, Mass., assignor to Frank Scholz X-Ray Corp., Boston, Mass., a corporation of Massachusetts
Filed Sept. 11, 1967, Ser. No. 666,653
Int. Cl. G03b *41/16*
U.S. Cl. 250—66 **6 Claims**

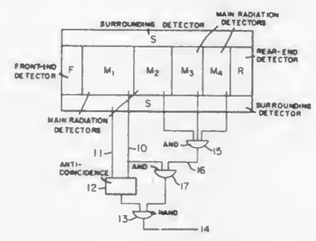


An X-ray spot-filmer is loaded by inserting a cassette through the front wall of the frame and deflecting the cassette downward to enter a carriage at a level lower than that of the entrance aperture. Under the control of a programming mechanism the carriage automatically carries the cassette to one or more positions for exposures, the movements of the carriage being executed by springs or pneumatic means. The carriage is connected mechanically to the actuating means by a telescoping switch track so that it is never disengaged from the actuating means. Various interlocks are provided to prevent malfunctioning of the apparatus when a cassette is improperly inserted or a control button is pressed at the wrong time.

3,524,060
Ge-Se-Hg GLASS COMPOSITION IN AN INFRARED DETECTION SYSTEM
Robert J. Patterson, Beaverton, Oreg., assignor to Texas Instruments Incorporated, Dallas Tex., a corporation of Delaware
Filed Oct. 18, 1967, Ser. No. 676,238
Int. Cl. C03c *3/12, 3/30*
U.S. Cl. 250—83 **2 Claims**

Disclosed is a composition of matter comprising germanium, selenium and mercury, which has been found to be glass transmitting in the infrared region of the electromagnetic spectrum. Also disclosed are methods of compounding this composition, and of obtaining viscosity data for the glass, and an illustration of the use of the glass composition of this invention as a transmitting element within an infrared detection system.

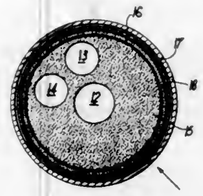
3,524,061
GILES' GAS RECOIL NEUTRON SPECTROMETER
Mitsuru Mizuho, Ibaraki-ken, Japan, assignor to Japan Atomic Energy Research Institute, Tokyo, Japan
Continuation-in-part of application Ser. No. 366,748, May 12, 1964. This application Sept. 18, 1967, Ser. No. 668,559
Claims priority, application Japan, May 21, 1963, 38/25,422
Int. Cl. G01t *3/00*
U.S. Cl. 250—83.1 **1 Claim**



A Giles' gas recoil neutron spectrometer with a main detector and a series of axial directed subsidiary detectors which provide a coincidence signal to the main detector thereby eliminating the effects of wide angle recoils.

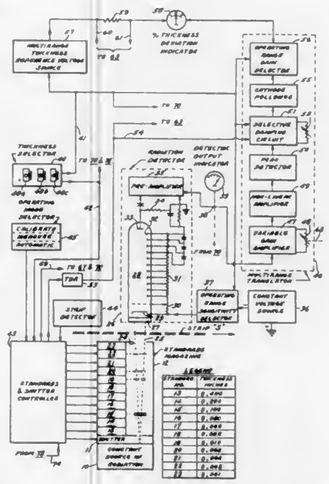
3,524,062
APPARATUS FOR MEASURING THE MOISTURE CONTENT AND DENSITY OF THE SOIL
Jean Rocoplan, Sevres, Bernard Wack, Saint-Martin D'Heres, France, assignors to Electricite de France (Service National) Paris, France
Filed Mar. 15, 1968, Ser. No. 713,447
Claims priority, application France, Mar. 23, 1969, 100,108
Int. Cl. G01v *5/00*
U.S. Cl. 250—83.1 **6 Claims**

This invention proposes a device for measuring the moisture content and density of a material, and particularly of a soil, said device comprises a source of fast neutrons and gamma rays and means for detecting neutrons and gamma rays which are transmitted through said material. Said source and said detection means are disposed on two opposite sides of the material. Said detec-



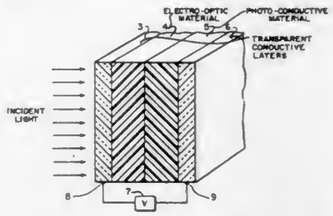
tion means comprise at least one neutron detector and one gamma-ray detector which are embedded in a same hydrogenated medium of predetermined volume.

3,524,063
MULTIRANGE RADIATION THICKNESS GAUGE
Edmund L. Mangan, Bethlehem, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed Oct. 12, 1967, Ser. No. 674,905
Int. Cl. G01t *1/16*
U.S. Cl. 250—83.3 **13 Claims**



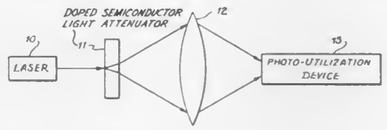
A highly accurate and responsive five-range thickness gauge directly compares material under test to digital thickness standards introduced between a constant source of radiation and a radiation detector opposite the test material. The detector operates at one of five different constant levels of sensitivity. The standards are actuated by signals from a thickness selector and programmed by an operating mode controller to complement material thickness to equal a different precalibrated thickness constant for each operating range. This produces a five-level nonlinear output voltage at the detector which is fed to a simplified multirange translator that converts it to five-level linear output voltage. This multilevel voltage is applied against a corresponding multilevel constant electrical reference in a comparison circuit which indicates percent deviation from range full scale and signals a second translator which indicates an algebraic difference as a constant decimal deviation from thickness selection. A compensator operating in a second comparison circuit with the second translator provides against output signal variations due to variations in material temperature and composition. Automatic standardization is provided in a feedback loop from the second translator to a variable gain amplifier in the first translator.

3,524,064
IMAGE INTENSIFIER USING PHOTOCONDUCTIVE AND ELECTRO-OPTIC MATERIALS
Robert W. Keyes, White Plains, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Apr. 21, 1967, Ser. No. 634,051
Int. Cl. H01l *17/00*
U.S. Cl. 250—213 **3 Claims**



A laminated solid-state light intensifying system capable of reproducing and amplifying an optical image projected on the surface of a solid-state device. The intensifier comprises essentially a layer of electro-optic material exhibiting a variable optical index of refraction in response to an applied electric field, a layer of photo-sensitive material having good insulating properties in the dark, and two electrodes which embrace therebetween the two layers. The photo-sensitive material serves to alter the magnitude of the electric field applied to the electro-optic layer in response to and corresponding to the intensity of a ray of light projected onto the photo-sensitive layer.

3,524,065
SEMICONDUCTOR LIGHT ATTENUATOR AND UTILIZATION DEVICE
Nicholas N. Winogradoff, Rockville, and Herbert K. Kessler, Bethesda, Md., assignors to the United States of America as represented by the Secretary of Commerce
Filed Feb. 1, 1967, Ser. No. 613,976
Int. Cl. G01b *1/02*
U.S. Cl. 250—216 **4 Claims**

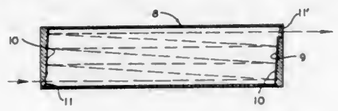


Light falling on an attenuator is reduced in intensity by means of a reradiation process and is then applied to a photo-utilization device. The attenuator comprises semiconductor material doped in a substantially uniform manner with donors or acceptors. The material has a band-gap that is smaller than the photon energy of the light applied thereto and is preferably of an indirect band-gap type.

3,524,066
FLUID MEASUREMENT SYSTEM HAVING SAMPLE CHAMBER WITH OPPOSED REFLECTING MEMBERS FOR CAUSING MULTIPLE REFLECTIONS
Bruce D. Blakkan, Ferguson, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Aug. 22, 1966, Ser. No. 574,136
Int. Cl. G01n *21/24*
U.S. Cl. 250—218 **3 Claims**

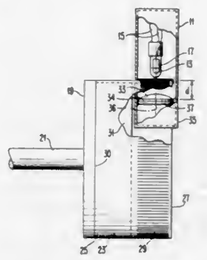
A method and apparatus for measuring the amount of a substance present in a fluid. The method and the apparatus employ semiconductor light source, preferably

in the form of a laser, which emits a spectral distribution having an emissivity compatible with the principal absorp-



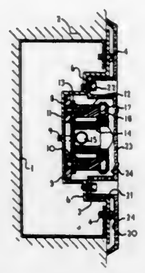
tion band of the substance in the fluid. Process control can also be provided by using this system.

3,524,067
COMPACT LINE GRATING POSITION SENSING DEVICE
Donald Lee West, Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 26, 1968, Ser. No. 740,346
Int. Cl. G01d 5/34; G01n 21/30; H01j 39/12
U.S. Cl. 250—219 1 Claim



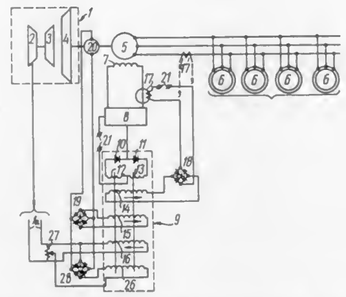
An optical position sensing device utilizes a photocell to detect pulses of light which are generated by reflecting the image of a moving grating back upon the grating to create an alternate light-dark interference pattern. The signal generated by the photocell is transmitted to a control system which can be used to initiate various operations when a controlled object, which is adapted to move with the grating, reaches a certain position by counting the pulses received from the photocell.

3,524,068
MOUNTING ASSEMBLY FOR LAMP AND PHOTOCELL UNITS
Eugene K. Zorn, Cornwall, Ontario, Canada, assignor to Palleon Electronics Limited, Cornwall, Ontario, Canada, a corporation of Canada
Filed Sept. 25, 1967, Ser. No. 670,316
Int. Cl. H01j 5/02; F21v 33/00
U.S. Cl. 250—239 7 Claims



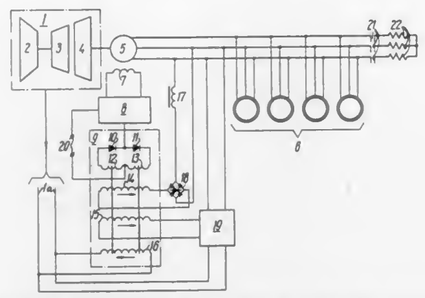
A mounting assembly for a photocell operator unit that will allow either lamp or cell unit to be rotatably adjusted on separate horizontal and vertical axis for accurate focusing. This assembly is supported on an adapter bracket flush mounted in a standard electric switch box and the whole is enclosed by an inconspicuous and durable cover member that is independently attached also to the adapter bracket in a novel tamper resistant manner.

3,524,069
DEVICE FOR CONTROLLING THE CURRENT OF THE ELECTRIC TRACTION MOTORS OF AN A.C. THERMAL-ELECTRIC DRIVE
Alexandr Dmitrievich Stepanov, 11 Parkovaya ulitsa, 44, korpus 1, kv. 182, Vitaly Ivanovich Anders, Tverskaya-Yamskaya ulitsa, 2/11, kv. 60, and Anatoly Vladimirovich Prokopovich, Aviamotornaya ulitsa, 4, korpus 5, kv. 355, all of Moscow, U.S.S.R.
Filed Feb. 28, 1967, Ser. No. 619,404
Int. Cl. B60l 11/08; B61c 9/38
U.S. Cl. 290—14 3 Claims



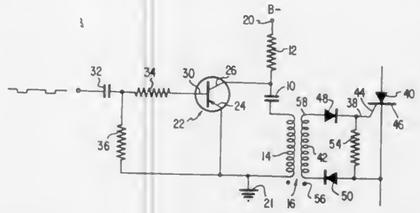
Devices for controlling the current of electrical traction motors of A.C. thermal-electrical drives such as motors in gas-turbine-electric locomotives, diesel-electric trains, tractors or the like in which is employed an electrical drive includng a synchronous generator and A.C. power traction electrical motors. Such devices are for controlling the current of the A.C. power traction electrical motors due to the mode of the thermal motor and electrical motors in the traction operation and provides for a maximum efficiency factor together with a maximum power factor of the electrical traction motors.

3,524,070
DEVICE FOR VOLTAGE CONTROL OF THE ELECTRIC TRACTION MOTORS OF A.C. THERMAL-ELECTRIC VALVE DRIVE
Alexandr Dmitrievich Stepanov, 11 Parkovaya ulitsa 44, korpus 1, kv. 182; Vitaly Ivanovich Anders, Tverskaya-Yamskaya ulitsa 2/11, kv. 60; and Nikolai Lavrentievich Kostev, Kuzminskaya ulitsa 22, kv. 19, all of Moscow, U.S.S.R.
Filed Feb. 28, 1967, Ser. No. 619,289
Int. Cl. B60l 11/08; B61c 9/38
U.S. Cl. 290—14 7 Claims



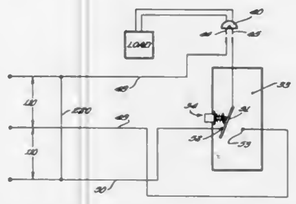
Devices for providing an adequate voltage control of the electric traction motors of A.C. thermal-electric drives such as employed in gas-turbine-electric locomotives, diesel-electric locomotives, diesel-electric trains, tractors or the like in which an electric drive embodying a synchronous generator and A.C. traction motors is used. The device serves for voltage control of a synchronous generator according to the operation regime of the thermal prime mover and A.C. electric motors in traction and braking conditions for ensuring a maximum efficiency and a maxium power factor of the traction motors at various current frequencies in the traction regime and for torque control of the electric motors in braking regimes. In braking regimes, the device ensures the limiting of the power of traction electric motors, the limiting of the excitation current of the synchronous generator, and the limiting of the braking torque of the electric motors.

3,524,071
OSCILLATORY PULSE FORMING CIRCUIT
Paul R. Kintzinger and Lester J. Smith, Tulsa, Okla., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 3, 1966, Ser. No. 591,773
Int. Cl. H03k 3/00
U.S. Cl. 307—108 3 Claims



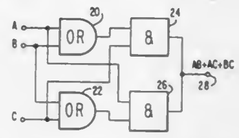
A pulse forming circuit comprising voltage storage means; a non-oscillatory circuit path for charging the voltage storage means; unidirectional switching means connected to the non-oscillatory circuit path to provide, when activated, an oscillatory circuit path for discharging the voltage storage means, the unidirectional switching means being connected to block all current flow in the oscillatory circuit path subsequent to the initial discharge half cycle from the voltage storage means; output means responsive to the discharge of the voltage storage means to produce a pulse upon an output terminal; and unidirectional current passage means connected to the output means to prevent the charging of the voltage storage means via the non-oscillatory circuit path from producing a pulse upon the output terminal.

3,524,072
ELECTRICAL SOCKET FOR SELECTIVELY SUPPLYING DIFFERENT VOLTAGES
Athanase N. Tsergas, Des Plaines, Ill., assignor to Ram Tool Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 3, 1967, Ser. No. 680,494
Int. Cl. H02j 9/06
U.S. Cl. 307—112 3 Claims



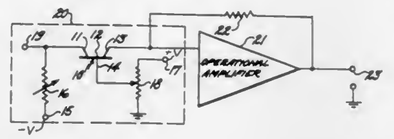
An electrical socket which includes a switch that may be selectively actuated by a plug is disclosed.

3,524,073
REDUNDANT MAJORITY VOTER
William B. Tobin, Littleton, Colo., assignor to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland
Filed Oct. 18, 1965, Ser. No. 497,352
Int. Cl. H03k 19/42
U.S. Cl. 307—211 1 Claim



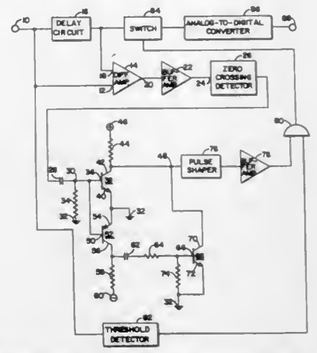
A three input majority voter is disclosed having "and," "or" logic elements arranged to provide redundant circuit paths for the three inputs thereby providing operation even if any one of the logic elements fails.

3,524,074
WIDE BAND LOGARITHMIC AMPLIFIER
Lester E. Pratt, Jr., San Antonio, Tex., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Jan. 6, 1967, Ser. No. 607,860
Int. Cl. G06g 7/24
U.S. Cl. 307—230 3 Claims



An apparatus for compressing an electrical signal by utilizing a field effect transistor in conjunction with an operational amplifier with the field effect transistor biased to operate in the prepinch off region of its characteristic curve in a manner which provides logarithmic compression of an input signal over a frequency range in the order of DC to 500 kc.

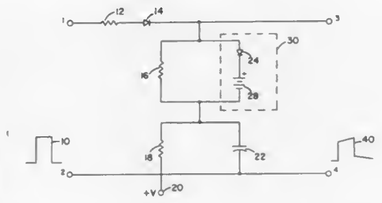
3,524,075
CONTROL APPARATUS
John L. Matthews and Paul W. Rice, Clearwater, Fla., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Aug. 2, 1967, Ser. No. 657,966
Int. Cl. H03k 5/20
U.S. Cl. 307—235 4 Claims



A circuit for detecting and sampling the extremities of an input signal. A delayed replica of the input signal is compared with the input signal, producing a third signal

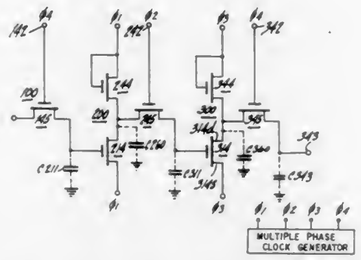
which changes polarity when the input signal passes through an extremity. The third signal is shaped (squared), differentiated, processed, and shaped again; the resulting pulses are applied to a sampling switch which then closes and applies the input signal to an analog-digital converter. The pulses are applied to the sampling switch only if the input signal is greater than some predetermined magnitude.

3,524,076
PULSE AMPLITUDE REGULATOR FOR PRODUCING INCREASING RAMP ON PULSE APPLIED TO INPUT
John H. McKenna, Melville, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed June 27, 1968, Ser. No. 740,613
Int. Cl. H03k *5/08*
U.S. Cl. 307—237 **6 Claims**



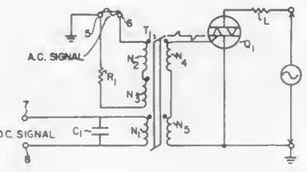
A passive automatic pulse amplitude regulator for producing an increasing ramp pulse at its output when a rectangular pulse is applied at its input. A clipper network in series with a capacitor are positioned across the output such that the rectangular pulse charges the capacitor positively in a ramp function.

3,524,077
TRANSLATING INFORMATION WITH MULTI-PHASE CLOCK SIGNALS
Melvin M. Kaufman, Willingboro, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Feb. 28, 1968, Ser. No. 709,037
Int. Cl. H03k *17/60*
U.S. Cl. 307—246 **29 Claims**



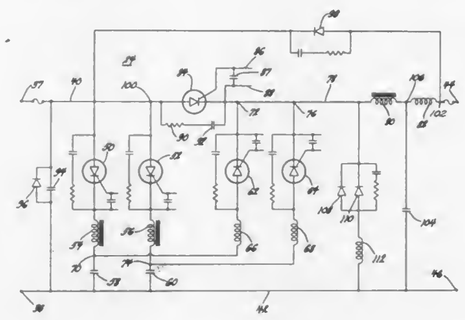
Multi-phase clock systems which employ field-effect transistor circuits operable under the control of three and four phase clock signals are described. Building block circuits, such as the T, the 2-H and the 3-H types of circuits are employed in various combinations with the three and four phase clock signals. In particular, the illustrated systems describe an all T-circuit shift register or bit of delay and a mixed T and 2-H circuit shift register or bit of delay.

3,524,078
POWER CONTROL CIRCUITS
John R. Harris, Jr., Irving, Tex., assignor to Hunt Electronics Corporation, Dallas, Tex., a corporation of Texas
Filed July 7, 1967, Ser. No. 651,803
Int. Cl. H03k *17/56, 17/72*
U.S. Cl. 307—252 **21 Claims**



There is disclosed as the preferred embodiment of the present invention a magnetic device in combination with a thyristor type device having a gate electrode to which a signal is applied for switching the device from a normally high impedance state to a low impedance state. The magnetic device is one having a primary winding, a secondary winding and a control winding arranged on a core such that the flow of current in either the primary or secondary winding will not induce a current in the control winding. The secondary winding is connected to the gate electrode of the thyristor device. When the core is not saturated and an input signal is applied to the primary winding, a control signal is applied to the thyristor type device causing it to switch from the high impedance state to a low impedance state. The control winding is adapted for connection to a source unidirectional current for selectively producing pre-saturation of the core to prevent the flow of current in the primary winding inducing a control signal in the secondary winding. Static switching is obtained as current will flow only when current is not applied to the control winding. Control of power applied to a load can be obtained by controlling the number of cycles of current applied to the load.

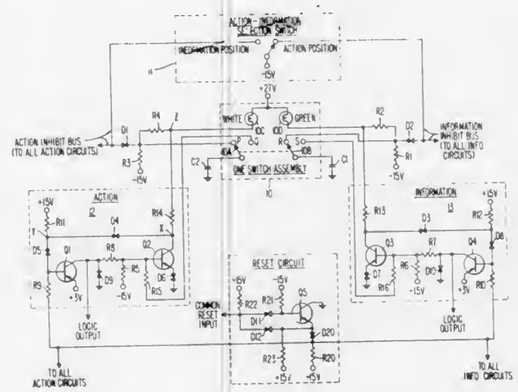
3,524,079
PULSE MODULATOR
Jalal T. Salihi, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application May 20, 1965, Ser. No. 457,374. Divided and this application Nov. 20, 1967, Ser. No. 684,116
Int. Cl. H03k *17/00*
U.S. Cl. 307—252 **8 Claims**



This invention relates to a pulse modulator for controlling the average direct current voltage applied to a load

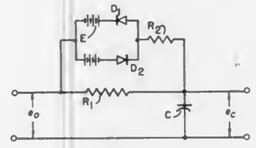
from a source of direct current having a substantially fixed terminal voltage. The modulator includes a first controlled rectifier connected in series in one line that connects the source of direct current and the load. The first controlled rectifier is periodically turned off by a pulse forming network comprised of a plurality of capacitors and controlled rectifiers that shunt the first controlled rectifier. The pulse forming network can feed energy to the load even when the first controlled rectifier is maintained off and includes a double branch circuit of controlled rectifiers and capacitors.

3,524,080
COMPLEMENTARY STORAGE AND DRIVER FLIP-FLOP CIRCUITS
Stanley J. Savinese, Ridley Park, and Gilbert B. Gerhart, Plymouth Meeting, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 26, 1966, Ser. No. 581,778
Int. Cl. H03k *3/26*
U.S. Cl. 307—291 **21 Claims**



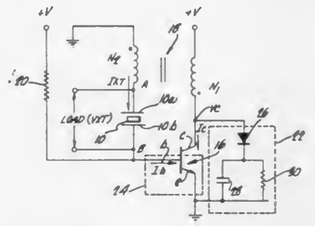
Complementary storage and driver flip-flop circuits connected for signalling action and information function modes in a display system and being coupled to an action-information selection switch, indicator devices and switching apparatus responsive to succeeding opeartions of a trigger input and to the state of the flip-flops to shift selected ones of them from one state to another.

3,524,081
S-FILTER
Samuel Joseph Campanella, Springfield, Va., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Apr. 4, 1968, Ser. No. 718,793
Int. Cl. H03k *5/08*
U.S. Cl. 307—317 **9 Claims**



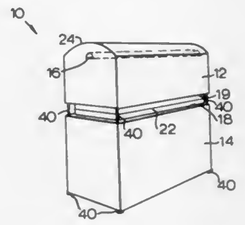
An electrical filter made up of a standard RC or LC filter in which the resistor or inductor is shunted by a pair of back biased, oppositely poled diodes, each associated with a power source, in series with a resistor or an inductor respectively.

3,524,082
OSCILLATORY ENERGY GENERATING APPARATUS
Hal C. Mettler, 680 Westbridge Place, Pasadena, Calif. 91105
Filed Dec. 1, 1967, Ser. No. 687,325
Int. Cl. H01v *7/00*
U.S. Cl. 310—8.1 **8 Claims**



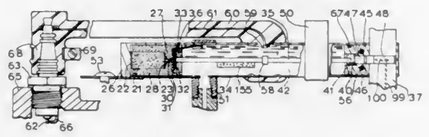
An ultrasonic cleaner having a piezoelectric crystal attached to a metallic tank for generating mechanical vibratory energy in the tank. An electrical circuit having a transistor and transformer in combination with the crystal generates the electrical signals for energizing the crystal.

3,524,083
DEVICE FOR THE CONCENTRATION OF VIBRATIONAL ENERGY
Anthony J. Last, Oakville, Ontario, and Michael Kisly, Toronto, Ontario, Canada, assignors to Ontario Research Foundation, Toronto, Ontario, Canada
Filed Dec. 16, 1968, Ser. No. 783,942
Int. Cl. H01v *7/00*
U.S. Cl. 310—8.1 **14 Claims**



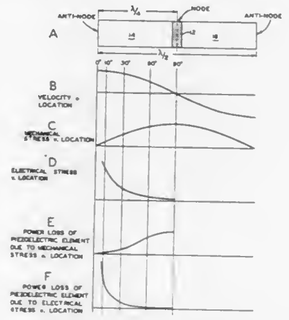
A device which utilizes a parabolic interface to concentrate initially parallel vibrations at a single point or line, corresponding to the focus of the parabolic interface. A transducer sandwiched between two solid elements is used to generate vibrations emanating in opposite directions through the two solid elements, and the solid elements are dimensioned such that any portion of the vibrations reflected back to the transducer arrives in phase with the transducer's motion. A passageway is provided in one of the solid elements through the focus of the parabolic surface, such that, for example, two liquids can be passed through the passageway and emulsified or mixed by the concentrated vibrations.

3,524,084
VOLTAGE GENERATION AND IGNITION TIMING SYSTEMS
John J. Horan, 420 Quigley Ave., Willow Grove, Pa. 19090
Continuation-in-part of applications Ser. No. 498,549, Oct. 20, 1965, and Ser. No. 659,095, Aug. 8, 1967. This application Dec. 17, 1968, Ser. No. 784,457
Int. Cl. H01v *7/00*
U.S. Cl. 310—8.1 **33 Claims**



This invention includes advanced means for generation, via piezoelectrics, of high-voltage impulses and of timing their discharge, the means being oriented toward engine ignition systems in unitary detachable assemblies.

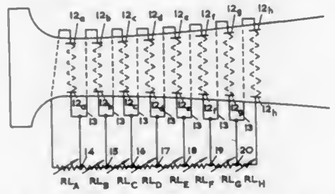
3,524,085
SONIC TRANSDUCER
Andrew Shoh, Ridgefield, Conn., assignor to Branson Instruments, Incorporated, Stamford, Conn., a corporation of Delaware
Filed May 9, 1968, Ser. No. 727,905
Int. Cl. H01v *7/00*
U.S. Cl. 310—8.2 **6 Claims**



An improved high performance electromechanical half-wave resonator of the clamped transducer sandwich construction is arranged in such a manner that when the transducer is operated at high motional amplitude the piezoelectric material is placed at a location where the power loss responsive to mechanical stress substantially equals that responsive to electrical stress.

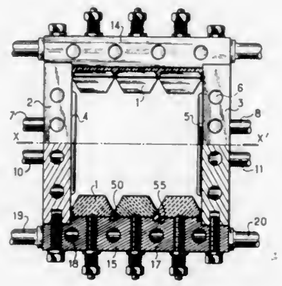
3,524,086
MAGNETOHYDRODYNAMIC APPARATUS
Bryan Charles Lindley, Newcastle-upon-Tyne, England, assignor to C. A. Parson & Company Limited, Newcastle-upon-Tyne, England, a British company
Filed Apr. 26, 1967, Ser. No. 633,976
Claims priority, application Great Britain, Apr. 28, 1966, 18,742/66
Int. Cl. H02n *4/02*
U.S. Cl. 310—11 **3 Claims**

Magnetohydrodynamic apparatus which includes means for inducing the flow of an electrically conductive seeded fluid through a duct, means for producing a desired initial level of electrical conductivity in the fluid, and means for externally controlling, continuously or at intervals along the duct, the electrical conductivity of the fluid independently of the bulk fluid temperature so as to



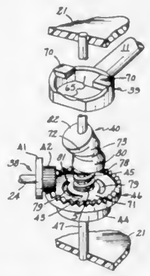
maintain the electrical conductivity over the effective working portion of the duct at a predetermined level.

3,524,087
NOZZLE WALL CONSTRUCTION FOR THERMOELECTRIC MACHINE
André Dubois, 33 Boulevard de Mondetour, 91 Orsay, France, and Daniel Parizot, 94 Avenue Jean-Jaures, Paris 19, France
Filed Oct. 24, 1967, Ser. No. 677,559
Claims priority, application France, Oct. 26, 1966, 81,702
Int. Cl. H02n *4/02*
U.S. Cl. 310—11 **15 Claims**



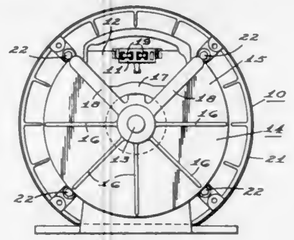
A nozzle for a thermoelectric generator wherein the walls extending between the electrode carrying walls are formed of a metallic portion on which is disposed on the inside surface thereof refractory elements of truncated pyramidal shape positioned in contiguous relationship.

3,524,088
DRIVE MECHANISM FOR SELECTIVE OUTPUT MOTIONS
William D. Ryckman, Jr., Asheboro, N.C., assignor to General Electric Company, a corporation of New York
Filed May 19, 1969, Ser. No. 825,534
Int. Cl. H02k *7/14*
U.S. Cl. 310—50 **11 Claims**



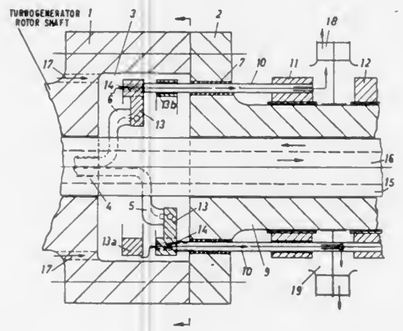
A drive mechanism to provide at least two different selective output motions for power units, such as an electric toothbrush, that includes a rotatable cam with multiple cam regions and a cam follower that engages different cam regions to provide different motions and means for shifting the cam and cam follower relative to each other to select the desired output motion.

3,524,089
DYNAMOELECTRIC MACHINE WITH EASY ACCESS TO CIRCUIT CONTROL TERMINALS
Glenn D. Willits, Auburn, Ind., assignor to General Electric Company, a corporation of New York
Filed Jan. 31, 1969, Ser. No. 795,592
Int. Cl. H02k *9/06*
U.S. Cl. 310—60 **6 Claims**



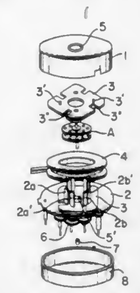
Access to internally positioned winding control terminals through the fan of a totally enclosed fan-cooled dynamoelectric machine such as an induction motor is provided by an open segment of the fan which may be rotated into alignment with the control terminals. The fan is balanced by making the blades on each side of the open segment heavier than the rest of the blades.

3,524,090
SHAFT COUPLINGS FOR MECHANICALLY AND ELECTRICALLY CONNECTING THE ROTOR SHAFT OF A TURBOGENERATOR WITH A SEPARATE SHAFT
Werner Sark, Birr, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Nov. 16, 1967, Ser. No. 683,659
Claims priority, application Switzerland, Dec. 7, 1966, 17,459/66
Int. Cl. H02k *11/00*
U.S. Cl. 310—71 **7 Claims**



A shaft coupling for forming the necessary mechanical and electrical connections between the shaft of a liquid-cooled rotor element of a turbogenerator and a separate shaft carrying the electrical supply components such as, for example, slip rings, diodes, unipolar machine etc., for the rotor winding features location of the electrical leads from the supply component and the electrical leads to the rotor winding outside of the center bore of the coupled shafts which is used to convey liquid coolant to and from the rotor winding, the leads correlated to the supply component being located exteriorly of the associated shaft.

3,524,091
SMALL MULTIPOLAR HYSTERESIS SYNCHRONOUS MOTOR
Yasuo Suzuki and Yasuyoshi Kameyama, Osaka, Japan, assignors to Matsushita Electric Works, Ltd., Osaka, Japan, a corporation of Japan
Filed May 17, 1967, Ser. No. 639,182
Claims priority, application Japan, May 18, 1966, 41/31,899
Int. Cl. H02k *19/06*
U.S. Cl. 310—162 **6 Claims**



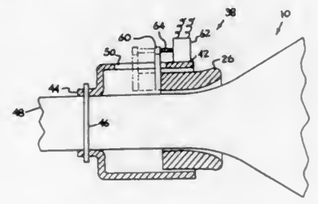
This invention relates to a small multipolar hysteresis motor wherein a rotor formed of disk-shaped hysteresis members or a drum-shaped hysteresis member each provided with as many through holes as the poles of the motor is rotatably borne in a rotary magnetic field so that the rotation at a synchronous velocity may be improved and a high output may be obtained.

3,524,092
SYNCHRONOUS MOTOR
Takeshi Miyazaki, Shinsaku Kajita, and Tatsunosuke Inoue, Hitachi-shi, Japan, assignors to Hitachi, Ltd., Tokyo-to, Japan
Continuation-in-part of application Ser. No. 567,493, July 25, 1966. This application July 20, 1967, Ser. No. 654,921
Claims priority, application Japan, July 23, 1965, 40/44,124
Int. Cl. H02k *1/22, 21/04*
U.S. Cl. 310—163 **11 Claims**



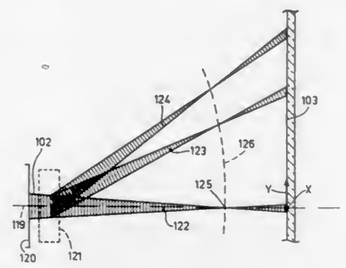
A synchronous motor having a smooth rotor of magnetic material which is provided, by means of magnetic annealing treatment, with the particular arrangement of easy magnetization axes of magnetic domains of magnetic anisotropy to produce such magnetic saliency in the rotor as comparable to salient poles in a reluctance motor whereby the motor has a combined torque characteristic of a hysteresis motor and a reluctance motor.

3,524,093
TIME DEPENDENT COLOR PURITY CORRECTION FOR A COLOR CATHODE RAY TUBE
Glen A. Burdick, Waterloo, N.Y., and Paul Haas, deceased, late of Seneca Falls, N.Y., by Helen C. Haas, executrix, Seneca Falls, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Apr. 24, 1968, Ser. No. 724,682
Int. Cl. H01j 29/06, 29/76
U.S. Cl. 313—75 3 Claims



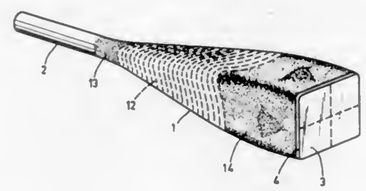
Continuous color purity correction is provided by means of temperature responsive deflection yoke which is capable of changing the apparent center of deflection in a color tube to compensate for temperature-caused expansion of the shadow mask. The means comprises generally a fixed housing having a deflection yoke slidably mounted therein and a temperature or time dependent element connected thereto for moving the yoke.

3,524,094
WIDE DEFLECTION ANGLE CATHODE-RAY TUBE WITH A LENS FOR FOCUSSING THE ELECTRON-BEAM AT AN ELONGATE SPOT ON A SCREEN AND AN ASTIGMATIC CORRECTING LENS
Jan Hasker and Johannes Kaashoek, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 27, 1968; Ser. No. 779,475
Claims priority, application Netherlands, Dec. 2, 1967 6717635
Int. Cl. H01j 29/56
U.S. Cl. 313—76 15 Claims



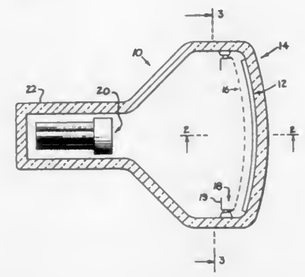
A cathode-ray tube especially with a wide deflection angle having a focussing lens for focussing an electron beam produced by an electron gun at an elongate spot on a screen which extends transversely to the longitudinal axis of tube. Deflection means are provided for deflecting the electron beam in the transverse as well as longitudinal directions of the spot. An astigmatic lens is provided for obtaining an electron beam structure in which the electron beam is focussed with respect to rays lying in a plane parallel to the transverse direction substantially on the screen and with respect to rays lying in a plane parallel to the longitudinal direction at a point located in front of the screen on the side facing the electron gun.

3,524,095
RECTANGULAR CATHODE RAY TUBE HAVING POST ACCELERATION HELIX CURVED TO COMPENSATE FOR ORTHOGONALITY ERRORS
Erich Eduard Himmelbauer, Jan Peper, and Eric Charles Little, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 14, 1967, Ser. No. 682,948
Claims priority, application Netherlands, Nov. 19, 1966, 6616320
Int. Cl. H01j 29/46, 29/80
U.S. Cl. 313—83 1 Claim



A cathode ray tube having a conductive helical coating in the conical portion of the envelope for producing a post acceleration field. In order to correct orthogonality errors due to asymmetrical deflections of the electron beam, the helix is provided with curvatures extending in the directions of the electron gun and the screen.

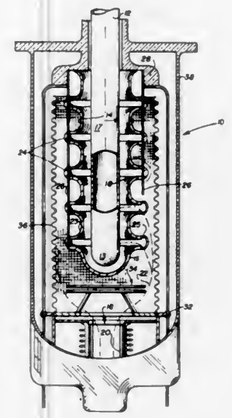
3,524,096
COLOR CATHODE RAY TUBE HAVING SHADOW MASK FRAME FORMED TO ACCOMMODATE A SUPPORT SYSTEM
Alan T. Kuryla, Geneva, N.Y., and Paul Haas, deceased, late of Seneca Falls, N.Y., by Helen C. Haas, executrix, Seneca Falls, N.Y., assignors to Sylvania Electric Products, Inc., a corporation of Delaware
Filed Apr. 24, 1968, Ser. No. 723,830
Int. Cl. H01j 19/46, 29/46
U.S. Cl. 313—85 5 Claims



A mask support frame formed with rectangular slots in a plurality of the upstanding walls thereof to accommodate movement amplifying hinges of the frame support system and allow utilization of a planar instanding flange around the rim of the frame.

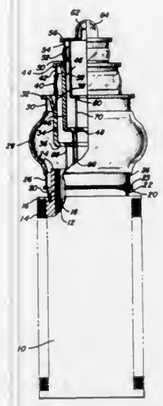
3,524,097
HIGH POWER HYDROGEN THYRATRON
Lloyd Mancebo, Livermore, Calif., assignor to United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 19, 1968, Ser. No. 722,753
Int. Cl. H01j 17/12
U.S. Cl. 313—193 9 Claims
A thyratron type tube having a new grid-anode structure to achieve standoff voltages over 50 kilovolts in which

the grid is coaxially spaced on the order of a gas atom mean-free-path from an elongated anode and between which very intense electric fields exist without sparking. Grid shells, some of which are cross sectionally concave



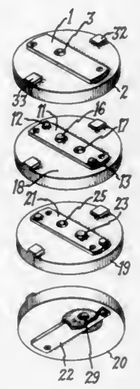
and others convex about the anode, distribute the electric field over wide areas to deter field emission. The anode similarly reduces electric field stress with rounded contours over the whole anode surface.

3,524,098
ALUMINUM ANODE POWER TUBE
Thomas D. Kirkendall, Darien, and Peter F. Varadi, Stamford, Conn., assignors to The Machlett Laboratories, Incorporated, Springdale, Conn., a corporation of Connecticut
Filed May 13, 1968, Ser. No. 728,390
Int. Cl. H01j 1/05, 1/14, 1/38
U.S. Cl. 313—311 4 Claims



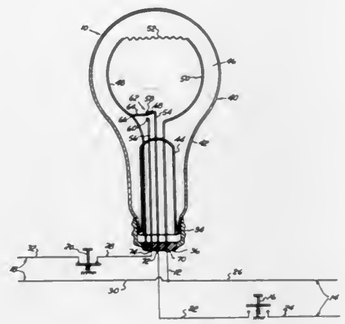
An electron tube comprising a gas-tight envelope closed at one end by an aluminum anode cup and having electrodes therein attached to support structures, which may be aluminum, that terminate in annular disc-type terminals, which also may be aluminum, and form a part of the gas-tight envelope.

3,524,099
SPARK GAP ASSEMBLY FOR LIGHTNING ARRESTERS
Earl W. Stetson, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed June 13, 1968, Ser. No. 736,770
Int. Cl. H02h 7/24, 9/06
U.S. Cl. 315—36 7 Claims



A spark gap assembly having a plurality of stacked, substantially flat, disc-shaped insulating plate members with apertures therethrough, and a plurality of elongated metallic electrodes with raised portions thereon, which project into said apertures to define a spark gap therein between adjacent electrodes. The electrodes and insulating plate members are formed and arranged to afford capacitance grading of the spark gaps, and maximum concentration of arc-moving magnetic flux when the gaps of the assembly are sparked over.

3,524,100
DUAL-VOLTAGE AUTOMATIC-SWITCHING ELECTRIC LAMP HAVING A TWO-POSITION THERMAL SWITCH DISPOSED WITHIN THE ENVELOPE
Johnny E. Blair, Box 3, Van, W. Va. 25206
Filed May 20, 1968, Ser. No. 730,407
Int. Cl. H01j 7/44, 19/78
U.S. Cl. 315—73 8 Claims



This electric lamp is started with low voltage starting current and automatically switched to higher voltage oper-

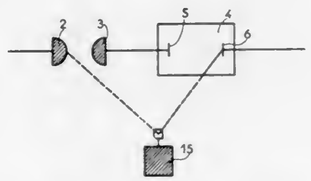
acting current by a signal-pole double-throw thermostatic-switch positioned inside the lamp bulb adjacent the filament so as to receive heat therefrom. This thermostatic switch is normally closed on a contact in a low voltage starting current circuit containing a normally-open start switch which when closed, initially energizes the filament with low voltage starting current sufficiently to heat the thermostatic switch element adequately to cause it to open the starting current circuit and to close a higher voltage operating current circuit containing a normally-closed stop switch. The stop switch when opened, de-energizes the filament so that it ceases to momentarily emit heat, whereupon the thermostatic switch element shifts back to close on its starting voltage contact, ready to re-energize the filament when the normally open start switch is again closed. The starting current may conveniently be of much lower voltage, such as 25 volts, than the voltage of the operating current which is usually 110 volts, thereby enhancing safety and increasing the operating life of the lower-voltage switch contacts. Momentary-contact switches, such as pushbutton switches, may conveniently be used.

3,524,101

TRIGGERING DEVICE FOR SPARK-GAP

Spartacus Barbini, Chaville, France, assignor to Compagnie Generale D'Electricite, Paris, France, a corporation of France

Continuation of application Ser. No. 406,866, Oct. 27, 1964. This application Mar. 2, 1967, Ser. No. 635,635
Claims priority, application France, Oct. 28, 1963, 952,065, 952,066, 952,067; June 4, 1964, 977,058
Int. Cl. H05b *37/02*
U.S. Cl. 315—150 **14 Claims**



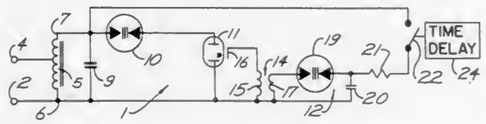
A device for quick closing of high voltage circuits under conditions of precise timing and extremely short time lag by triggering a power spark-gap defined by spaced electrodes with the direct application of a focused or nonfocused laser beam. The beam may be directed to one of the electrodes, a counter-electrode isolated from the spark-gap electrodes, or directed to the space between the electrodes.

3,524,102

SOLID STATE MEANS FOR GAS DISCHARGE LAMP

Maksymilian A. Michalski, Woodside, N.Y., and Robert A. Flieder, Fords, N.J., assignors to Berkey Photo, Inc., New York, N.Y.

Filed Feb. 10, 1966, Ser. No. 526,440
Int. Cl. H05b *37/00, 39/00*
U.S. Cl. 315—238 **16 Claims**



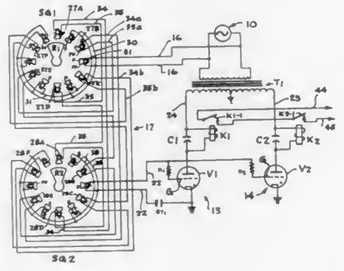
Gas discharge lamp operated by solid state switching means connecting capacitor to the discharge lamp in series with impedance to alternating current line.

3,524,103

CIRCUIT FOR DETECTING ANGULAR VELOCITY VARIATIONS BETWEEN TWO ROTATING MEMBERS

Robert B. McCune, Allendale, N.J., assignor to Abex Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 7, 1967, Ser. No. 666,022
Int. Cl. H02p
U.S. Cl. 317—6 **4 Claims**



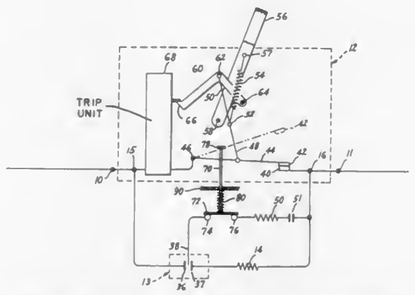
Apparatus for detecting variations in angular velocity between two wheels or other rotating members comprising a constant-frequency A.C. reference signal generator, first and second variable transformers and a phase rate detector. Each transformer includes a plurality of primary windings disposed in an annular array, a corresponding plurality of secondary windings interspersed equally in the array, and a coupling rotor rotated around the array by one of the wheels to field-couple each primary winding, successively, to the adjacent secondary windings. The primary windings of the first transformer are energized with the reference signal, the secondary windings of the first transformer are connected to the primary windings of the second transformer, and the secondary windings of the second transformer are connected together to an output circuit in turn connected to the phase rate detector, which compares the output of the second transformer with the reference signal to detect excessive changes in the relative rotational speeds of the two wheels.

3,524,104

PARALLEL ASSISTED CIRCUIT INTERRUPTION DEVICE WITH INTERLOCK

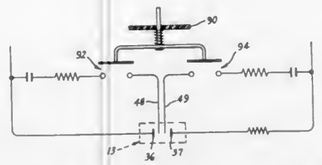
Henry G. Willard, Wethersfield, Conn., assignor to General Electric Company, a corporation of New York

Filed June 20, 1967, Ser. No. 647,505
Int. Cl. H02h *7/22*
U.S. Cl. 317—11 **1 Claim**



A circuit interrupter has a controlled-breakdown gap device (such as a "triggered vacuum gap" device) connected in parallel with it in such a way that as its contacts

open, the arc voltage appears as "triggering" voltage to cause breakdown of the parallel connected device; continued opening movement of the interrupter contact arm



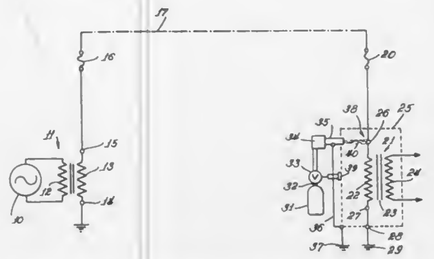
opens contacts in series with the breakdown device "trigger" so that triggering is not caused by line voltage in the open condition of the interrupter.

3,524,105

TEMPERATURE RESPONSIVE FAULT MAKING SYSTEM FOR SINGLE PHASE OR POLYPHASE TRANSFORMERS

Robert H. Harner, Park Ridge, and William R. Goldbach, Des Plaines, Ill., assignors to S & C Electric Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 28, 1968, Ser. No. 771,176
Int. Cl. H02h *5/04, 7/04*
U.S. Cl. 317—15 **18 Claims**



An arc gap between a high voltage terminal of a single phase protected transformer and ground is bridged by a conductive fluid causing the protective interrupting device to operate, when the transformer temperature rises to a predetermined value due to a fault in the transformer or an excessive overload. Certain types of transformer faults are accompanied by insufficient current flow to operate a protective device. For a polyphase protected transformer an arc gap for each phase is bridged by the conductive fluid to cause the respective interrupting device to operate.

3,524,106

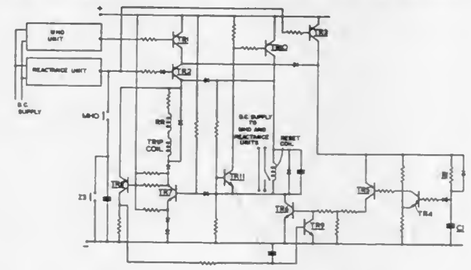
ELECTRICAL PROTECTIVE RELAY CIRCUITS

Eric Paddison, John McGill Gillies, David Clegg, and Anthony Williams, Stafford, England, assignors to The English Electric Company Limited, London, England, a British company

Filed Oct. 16, 1967, Ser. No. 675,669
Int. Cl. H02h *7/26, 3/28*
U.S. Cl. 317—27 **8 Claims**

The object of this invention is to prevent malfunction, under certain conditions, of relays having a composite operating characteristic. These conditions are those which give rise to a "race" between, for example, two relay units having two different operating characteristics, e.g., mho and reactance, resetting and operating, since in some circumstances one unit may have had insufficient time to reset before the other unit has operated and vice versa.

The relay circuit has a number of inputs for respectively receiving signals dependent on different operating characteristics, e.g., mho and reactance. In particular, it includes a like number of switching devices connected to corresponding ones of these inputs and operable upon the signals being received within a predetermined time period to actuate a circuit breaker. This period is determined by a timer and is initiated on receipt of the first one of these signals, the timer being operable to inhibit the operation of the breaker in the absence of any one of the remaining signals within this period. A reset coil temporarily interrupts all the signals applied to the inputs upon receipt of any one of these signals after the period having elapsed.



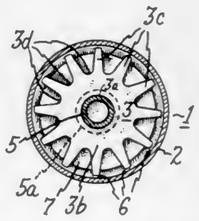
The receipt of all the signals within the said period may be indicative of a fault in the first zone of protection and one of the input signals representative, for example, of a mho operating characteristic, may actuate a further timer (not shown) to cover the second zone, the period covered by this latter timer being greater than the "predetermined" time period.

3,524,107

LOW VOLTAGE LIGHTNING ARRESTER SPARK GAP

Roderick Reitz, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

Filed Apr. 23, 1968, Ser. No. 723,370
Int. Cl. H02h *3/22, 9/06*
U.S. Cl. 317—61 **14 Claims**



A low voltage lightning arrester characterized by having a star-shaped electrode mounted on a spacing insulator that is retained in fixed relation to a cup-shaped electrode and a block of material adapted to be ionized by an electric field. Due to its unique configuration, the star-shaped electrode affords an economical means for manufacturing a spark gap having accurate spacing dimensions and simplified reliable preionizing means adjacent to the gap.

3,524,108

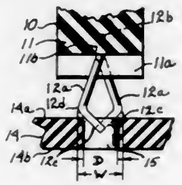
BOARD MOUNTED MODULAR CIRCUIT COMPONENT AND IMPROVEMENT THEREIN

Jack A. English, Elkhart, Ind., assignor to CTS Corporation, Elkhart, Ind., a corporation of Indiana

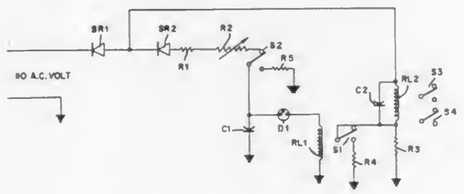
Filed Dec. 26, 1967, Ser. No. 693,302
Int. Cl. H05k *7/06, 7/12*
U.S. Cl. 317—101 **11 Claims**

Multi-termination modular circuit component resiliently urged against the top surface of a circuit board by terminations anchored in the circuit component and extending through apertures in the circuit board. The terminations are self-locking against the circuit board and

eliminate the need for clinching, crimping or otherwise forming the terminations against the bottom surface of the circuit board. During assembly of the circuit component with the circuit board, energy is stored in outwardly diverging cams provided on the terminations. A portion of this stored energy is expended in snapping the components against the upper surface of the circuit board and the remainder of the stored energy is available for resiliently urging the component against the circuit board. The outwardly diverging cams provide means for retaining the modular circuit components in a materials handling chute or trackway and also form stressed resilient spans between the body of the modular component and the bottom surface of the circuit board so as to be self-compensating for variations in circuit board thicknesses. Inwardly converging cam surfaces facilitate assembly of the component to the board by coacting with the apices of the outwardly diverging cams as the ends of the terminations are inserted into the apertures in the circuit board.



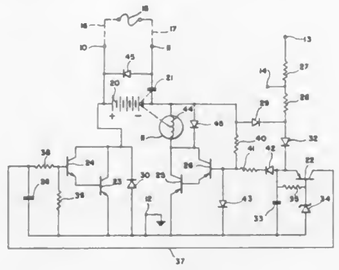
3,524,109
TIME DELAY RELAY
Mike Craddock, P.O. Box 1068, Big Spring, Tex. 79720
Filed Jan. 29, 1968, Ser. No. 701,232
Int. Cl. H01h *47/18*
U.S. Cl. 317—141 **1 Claim**



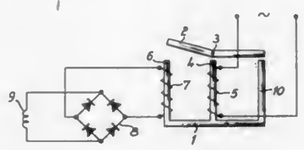
This invention relates to a time delay relay wherein the timing portion of the circuit consists of a silicon diode providing direct current to charge a capacitor, slowly, through a resistance. Once the charge has built up on the capacitor, it is discharged through a gas diode to a small sensitive relay coil which operates its contacts to close an electrically latched 3PDT power relay.

3,524,110
ELECTRONIC ACTUATOR FOR AN ENGINE PROTECTIVE SYSTEM
Ralph B. Johnson, Jr., and Joe E. Goodwin, Houston, Tex., assignors to Sentinel Distributors, Inc., Denver, Colo., a corporation of Delaware
Original application Oct. 11, 1966, Ser. No. 585,798, now Patent No. 3,385,278, dated May 28, 1968. Divided and this application Dec. 29, 1967, Ser. No. 716,251
Int. Cl. H01h *47/32;* **H02j** *7/14;* **H02p** *3/00*
U.S. Cl. 317—148.5 **11 Claims**

The flow of fuel to an internal combustion engine is controlled to provide a safety shut down of the engine in response to a malfunction of the engine or an accessory device driven by the engine. A solenoid operated valve is connected in the fuel supply system and has its operating coil adapted to be energized by an electronic sensing circuit which monitors the operation of the engine or the accessory device.



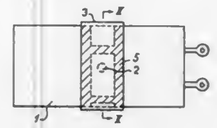
3,524,111
CONTACTLESS LIMIT SWITCH FOR MACHINE CONTROLS, ESPECIALLY MACHINE TOOLS
Kurt Maecker, Oststrasse 119, Dusseldorf, and Wolfgang Kniel, Stuttgart, Germany, said Kniel assignor to said Maecker
Continuation-in-part of application Ser. No. 862,426, Dec. 28, 1959. This application Nov. 30, 1965, Ser. No. 522,804
Claims priority, application Germany, Dec. 29, 1958 M 40,070
Int. Cl. H01h *47/00*
U.S. Cl. 317—155.5 **15 Claims**



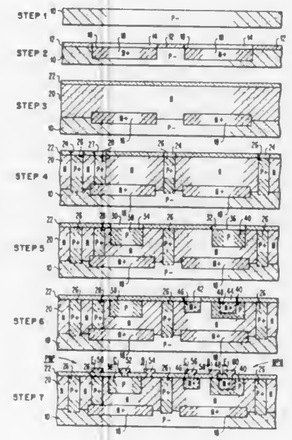
A contactless limit switch for machine controls, especially machine tools, which includes a transformer core with two legs, each having a coil thereon, and with a third leg without a coil, a movable actuating member for establishing a connection of two of said three legs, and having two end positions while being operable by an outer mechanical drive, the actuating member including a tiltable member operable in one position to close the transformer-iron path while in another end position closing the shunt-iron path while always producing a magnetic closing circuit between the central leg carrying the primary winding and one of the other legs, whereby an instantaneous increase and drop in the voltage produced in the secondary winding will be effected.

3,524,112
GAS EMITTING STRUCTURE FOR AN ELECTROLYTIC CIRCUIT COMPONENT
Adam Ruttkay, Copenhagen, and Niels Hvidtfeldt, Virum, Denmark, assignors to A/S Wicon Kondensatorfabrik, Copenhagen, Denmark, a corporation of Denmark
Filed Feb. 14, 1968, Ser. No. 705,338
Claims priority, application Denmark, Feb. 14, 1967 798/67
Int. Cl. H01g *9/12*
U.S. Cl. 317—230 **2 Claims**

To permit the escape of gases from electrolytic capacitors or other electrical circuit components containing electrolytes, while preventing the escape of electrolyte, the cylindrical casing of a capacitor or other component is provided with a plurality of vent openings covered by a material impervious to fluid electrolyte but permitting gas to escape by diffusion or other form of migration, the openings being so located that in any position of the capacitor or other component at least one opening will always be free from electrolyte. Preferably the material covering the openings is constituted by an extremely thin plastic tape adhering to the circumferential surface of the casing at a distance from the openings.



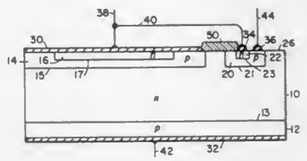
3,524,113
COMPLEMENTARY PNP-NPN TRANSISTORS AND FABRICATION METHOD THEREFOR
Benjamin Agusta and Neil D. Lubart, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 15, 1967, Ser. No. 646,245
Int. Cl. H01l *19/00*
U.S. Cl. 317—235 **9 Claims**



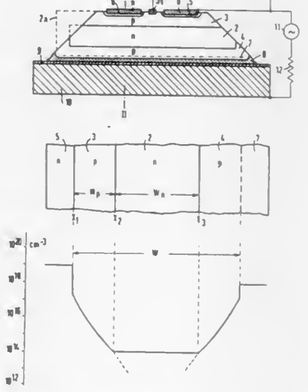
This disclosure is primarily directed to the fabrication and construction of complementary PNP-NPN semiconductor devices in a monolithic integrated form. The devices of this disclosure use an isolation-type diffused region to form at least an emitter region thereby permitting the formation of complementary devices with both emitters having a high injection efficiency.

3,524,114
THYRISTOR HAVING SENSITIVE GATE TURN-ON CHARACTERISTICS
Jearld L. Hutson, 907 Newberry, Richardson, Tex. 75080
Filed Feb. 29, 1968, Ser. No. 709,374
Int. Cl. H01l *11/10*
U.S. Cl. 317—235 **13 Claims**

A thyristor comprises a semiconductor body having a plurality of successively contiguous regions of alternate electrical conductivity types with rectifying junctions formed between contiguous regions; conduction electrodes connected to a pair of non-contiguous regions; a gate electrode connected to another of the regions; and one or more inversion layers for shunting leakage currents around surface exposed junctions.



3,524,115
THYRISTOR WITH PARTICULAR DOPING GRADIENT IN A REGION ADJACENT THE MIDDLE P-N JUNCTION
Adolf Herlet, Pretzfeld, Germany, assignor to Siemens Aktiengesellschaft, Erlangen, Germany, a corporation of Germany
Continuation of application Ser. No. 478,314, Aug. 9, 1965, which is a continuation of application Ser. No. 698,052, Jan. 15, 1968. This application Aug. 1, 1968, Ser. No. 754,120
The portion of the term of the patent subsequent to May 19, 1987, has been disclaimed
Claims priority, application Germany, Aug. 12, 1964 S 92,591
Int. Cl. H01l *9/00, 9/12*
U.S. Cl. 317—235 **10 Claims**

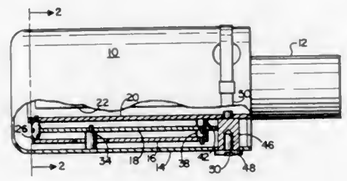


Disclosed is a controllable semiconductor rectifier member for high voltage current with a monocrystalline silicon body containing four successive regions of alternating conductivity. In this rectifier member are a constant conductively central region of between 100 and 200μ thick and possessing a doping concentration between 2.5×10^{14} and 1.0×10^{14} cm.$^{-3}$, and a second central region of opposite conductivity adjacent said constant conductivity central region, the doping concentration in said opposite conductivity region increasing normally substantially according to the exponential function

$$C_x = C_0 e^{x/\lambda}$$

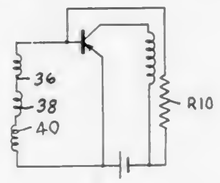
wherein λ has a value of between 7 and 13μ, across a partial distance close to said central region and increasing across another partial distance remote therefrom at a faster rate than exponential until the doping concentration is about two to four powers of ten higher than that of the central region.

3,524,116
FLUID LEVEL CAPACITOR
William O. Bray, Minneapolis, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed June 27, 1968, Ser. No. 740,744
Int. Cl. H01g *7/00*
U.S. Cl. 317—246 **4 Claims**



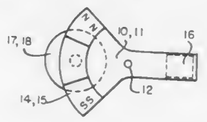
A capacitor unit of three concentric tubes, two of which function as the plate of a capacitor, the third tube functioning as an electrical ground and an electrostatic shield.

3,524,117
TRANSISTORIZED AMPLIFIER FOR ELECTRONIC CLOCKWORK MOTOR
Robert Walter Reich, Merzhauserstr. 143, Freiburg im Breisgau, Germany
Continuation-in-part of application Ser. No. 373,294, June 8, 1964. This application Nov. 2, 1967, Ser. No. 680,135
Int. Cl. H02k *33/02*
U.S. Cl. 318—128 **6 Claims**



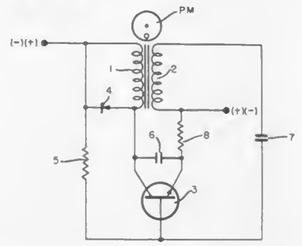
Transistorized amplifier circuit for an electronic clockwork motor in which a silicon transistor is provided with a driving coil in the collector-emitter circuit thereof in series with a battery and with exciter coil means in the base emitter circuit of the transistor and including means for amplifying the voltage induced in the exciter coil means by movement of the oscillatory member of the clockwork.

3,524,118
ELECTRONIC OSCILLATING MOTOR TIMEPIECE DRIVE
Robert Walter Reich, Merzhauserstr. 143, Freiburg im Breisgau, Germany
Filed Sept. 21, 1967, Ser. No. 669,455
Int. Cl. H02k *33/00*
U.S. Cl. 318—128 **5 Claims**



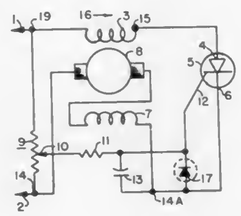
A balance wheel or vibrator assembly is mounted for oscillation about an axis, and consists of iron vanes having permanent magnets disposed thereon for oscillatory motion with said vanes past an exciter coil/driving coil assembly. The magnets are bipolarly magnetized in an axial direction, and are so disposed relative to the exciter and driving coils that, in the null position of the vibrator assembly, a maximum amount of magnetic flux passes through the exciter coil.

3,524,119
ELECTRICAL SELF-STARTING TIME KEEPING APPARATUS
Robert Walter Reich, Merzhauserstr. 143, Freiburg im Breisgau, Germany
Continuation of application Ser. No. 616,865, Feb. 17, 1967. This application Oct. 23, 1969, Ser. No. 868,948
Claims priority, application Germany, Mar. 22, 1966 R 42,906
Int. Cl. H02k *33/06*
U.S. Cl. 318—128 **2 Claims**



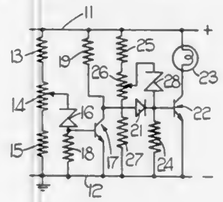
An electrical time keeping apparatus utilizing a transistor blocking oscillator circuit having a driving coil connected to the collector of the transistor and a series connection of an exciter coil and capacitor means between the emitter and base, associated with a rocking or oscillating permanent magnet, characterized by a resistor between the transistor base and one side of the voltage source, and a further capacitor between the emitter and collector of the transistor, for causing the blocking oscillator to commence oscillations operative to initiate motion of the rocking magnet. The circuit also includes means for effecting voltage and temperature stabilization.

3,524,120
CONTROL SYSTEM FOR SERIES WOUND ELECTRIC MOTOR USING A CONTROLLED RECTIFIER AND VOLTAGE STORAGE MEANS THEREFOR
Walter J. Brown, 71 Gurley Road, Stamford, Conn. 06902
Filed Sept. 15, 1966, Ser. No. 579,756
Int. Cl. H02p *7/06*
U.S. Cl. 318—249 **18 Claims**



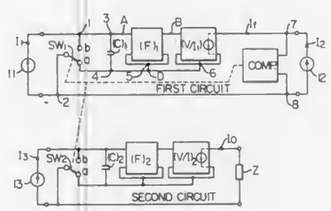
A control system for a series wound motor to be energized from an alternating current supply includes a potential divider for providing a variable alternating current potential to a controlled rectifier coupled to the motor for regulating speed. A capacitor of sufficient capacitance is coupled between the control electrode and cathode of the rectifier to smoothen ripple, suppress transients, cause phase shift, and provide a memory of voltage level between two successive cycles of the A.C. supply.

3,524,121
BATTERY CHARGING SYSTEMS FOR USE IN ROAD VEHICLES
Roger William Nolan, Redditch, and George Coleman, Sparkhill, Birmingham, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed June 20, 1968, Ser. No. 738,581
Claims priority, application Great Britain, July 14, 1967, 32,553/67
Int. Cl. H02j *7/04;* **G08b** *21/00*
U.S. Cl. 320—48 **1 Claim**



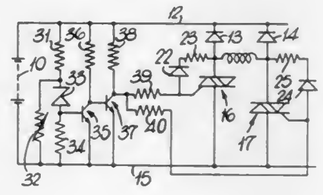
In a battery charging system for a road vehicle a generator charges the battery, and a semi-conductor device is provided which is biased to conduction and supplies current to a warning lamp. A first circuit turns the device off when the battery voltage attains a first predetermined value/ and a second circuit turns the device on again when the battery voltage attains a second high predetermined value.

3,524,122
ELECTRIC CURRENT OPERATIONAL DEVICE
Shinichiro Ogawa and Toshiyuki Matsuda, Tokyo, Japan, assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Sept. 23, 1968, Ser. No. 761,622
Claims priority, application Japan, Sept. 22, 1967, 42/60,556
Int. Cl. H02j *7/00;* **H02m** *7/00*
U.S. Cl. 321—15 **1 Claim**



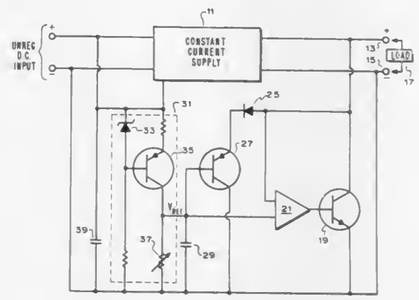
A first circuit comprises two direct current sources, a changeover switch, a differential electric charge detecting capacitor, a filter, a voltage-current converter and a current comparator. A second circuit comprises a direct current source, a changeover switch, a differential electric charge detecting capacitor, a filter and a voltage-current converter. By changing the changeover switches stated above over synchronously an operation is performed between the currents of the direct current sources stated above.

3,524,123
VOLTAGE REGULATOR EMPLOYING TRIACS AND DIODES IN A FULL WAVE RECTIFIER
Malcolm Williams, Solihull, and Duncan Barry Hodgson, Whitnash, Leamington Spa, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed Mar. 27, 1969, Ser. No. 811,097
Claims priority, application Great Britain, Apr. 1, 1968 15,508/68
Int. Cl. H02p *9/00*
U.S. Cl. 322—28 **2 Claims**



In an electrical supply system using a permanent magnet alternator to supply power to a pair of supply lines through a full wave rectifier, one set of diodes in the full wave rectifier is replaced by triacs, which are devices similar to thyristors except that they can be turned on by positive or negative pulses at the gate, and can conduct current in either direction. The gates of the triacs are coupled to the alternator so that in normal use voltage is induced by the alternator to turn the trics on and cause them to act as diodes. When the voltage between the supply lines reaches a predetermined value, a further circuit supplies gate current to all the triacs so that no power is supplied by the alternator.

3,524,124
OUTPUT VOLTAGE LIMITING CIRCUIT FOR A CONSTANT CURRENT POWER SUPPLY
Joseph C. Perkinson, Somerville, N.J., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Dec. 26, 1968, Ser. No. 786,894
Int. Cl. G05f *1/50*
U.S. Cl. 323—1 **6 Claims**

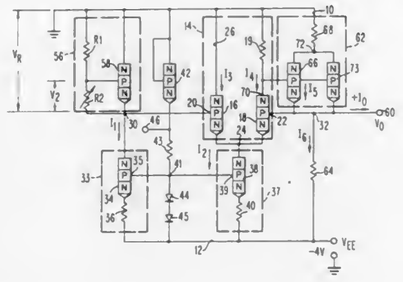


A power supply has an unregulated D.C. input and a regulated D.C. output which supplies a constant current to a load. A first transistor shunts the output and is controlled by a feedback loop to maintain the output voltage less than a predetermined reference voltage. The series combination of a second transistor and a diode also shunts the output and serves to clamp the output voltage near the reference voltage whenever there is a tendency for the output voltage to increase rapidly, due to disconnection of the load, for example.

3,524,125
MONOLITHIC STABILIZED REFERENCE VOLTAGE SOURCE

Horst H. Berger, Stuttgart-Feuerbach, Germany, Norman M. Callaghan, Jr., Rhinebeck, N.Y., Knut K. Najmann, Boblingen, Germany, and Louis J. Ruggeri, Exton, Pa., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 24, 1968, Ser. No. 762,066
Int. Cl. G05f *1/58*
U.S. Cl. 323—22 **6 Claims**

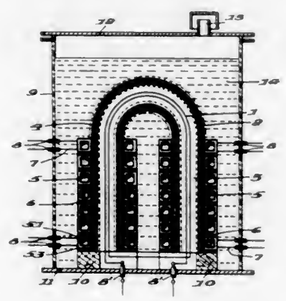


A reference voltage source circuit which comprises a differential type amplifier means having first and second semiconductor devices, each having first electrodes commonly coupled; an input node is connected to a second electrode of the first semiconductor device, and also to a constant voltage level setting semiconductor circuit and to a constant current source. An output node is connected to a second electrode on the second device, to an output current regulating semiconductor circuit which current regulating semiconductor circuit is connected between the output node and a third electrode on the second device. The output node provides a constant reference voltage under varying output current load conditions.

3,524,126
TRANSFORMER FOR TRANSMITTING PULSES OR POWER AT STEPPED HIGH-VOLTAGE POTENTIAL

Hans Hartmann, Ennetbaden, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company

Filed Apr. 1, 1968, Ser. No. 717,659
Claims priority, application Switzerland, Apr. 21 1967, 5,756/67
Int. Cl. G05f *5/00;* **H01f** *15/14, 31/04*
U.S. Cl. 323—61 **7 Claims**

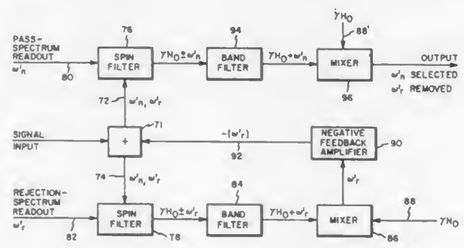


An electrical transformer comprises an inverted U-shaped insulative tube, a loop-shaped primary winding passed through the tube, and a plurality of annular secondary units mounted upon the limbs of the U-tube, each secondary unit comprising an annular core on which a secondary winding is wound. These transformer components are housed within a container filled with an insulating medium or the components may be cast within a block of synthetic resin material. Also, potential control capacitors are connected between the windings of adjacent secondary units.

3,524,127
ADJUSTABLE FILTER NETWORKS UTILIZING THE EFFECTS OF MAGNETIC RESONANCE

Glenn E. Conklin, Katonah, N.Y., and Ivan A. Greenwood, Jr., Stamford, Conn., assignors to Singer-General Precision, Inc., a corporation of Delaware

Filed Feb. 7, 1968, Ser. No. 703,586
Int. Cl. G01n *27/78*
U.S. Cl. 324—.5 **2 Claims**



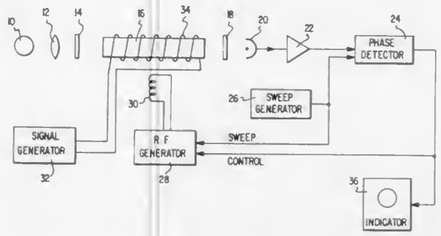
NMR apparatus including a low density sample of ^{199}Hg vapor utilizes optical pumping and monitoring by 2537 A. ultraviolet resonant radiation obtained from a ^{204}Hg lamp source. The H_0 or static magnetic field is modulated by a source of locally generated frequencies to generate sideband spin-precessional frequency components in satellite positions to the usual Larmor frequency while the H_1 or varynig magnetic field serves as the input for a spectral signal to be filtered. When the input signal includes frequency components coincidental with any one of the sideband frequencies, all of the sidebands are excited and all sideband frequencies appear as A.C. modulations in the readout or monitoring beam.

3,524,128
MAGNETOMETER OPTIMIZATION METHOD AND APPARATUS

Daniel P. Hearn, Tulsa, Okla., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 3, 1967, Ser. No. 680,426
Int. Cl. G01r *33/08*
U.S. Cl. 324—.5 **8 Claims**

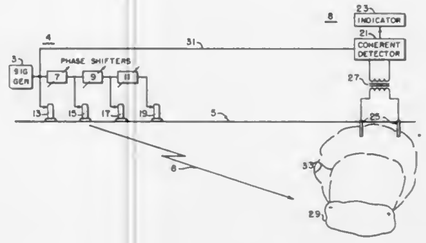
An apparatus for and a method of optimizing the operation of an optically pumped magnetometer. An optically pumped magnetometer, comprising a radiation source, a radiation absorption cell, a radiation detector, a phase detector, and a radio frequency oscillator driving a coil coupled to the radiation cell, further includes a low frequency signal generator coupled to another coil, the field of which impinges upon the absorption cell. This signal generator causes modulation of the magnetic field within the absorption cell. The modulated magnetic field has a frequency so high that the magnetometer electronic feedback control system cannot respond to it completely. As a result, an error voltage component is developed in the magnetometer output at this modulation frequency. The error signal component amplitude is proportional to the sensitivity of the magnetometer. An indicator monitors the error signal component at the phase detector output. Adjustments of the various electrical and optical components within the magnetometer system are then made to maximize the error signal component, resulting in optimum magnetometer sensitivity.



3,524,129
DETECTION OF SUBSURFACE MINERAL DEPOSITS BY COHERENTLY DETECTING THE MODULATION PRODUCED BY A DIRECTIONAL SEISMIC BEAM

Kurt Ikrath, Elberon, and Wilhelm A. Schneider, Fair Haven, N.J., assignors to the United States of America as represented by the Secretary of the Army

Continuation of application Ser. No. 590,137, Oct. 26, 1966. This application June 19, 1969, Ser. No. 836,218
Int. Cl. G01v *11/00*
U.S. Cl. 324—6 **2 Claims**



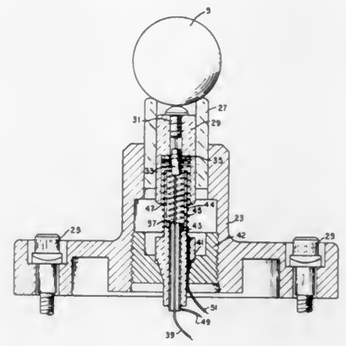
Underground mineral deposits are detected by scanning the subsurface with a directional seismic beam of a single frequency. Upon striking a deposit the beam will modulate the electrical or magnetic properties of the deposit and the modulation of these properties is coherently detected at the surface, to provide an indication of the presence of the deposit within the seismic beam.

3,524,130
NON-CONTACT SPARK-GAP CURRENT TOOL-SETTING DEVICE

Charles Asmanes, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Sept. 10, 1968, Ser. No. 758,879
Int. Cl. G01n *27/00;* **G08b** *21/00;* **G01b** *7/00*
U.S. Cl. 324—71 **3 Claims**

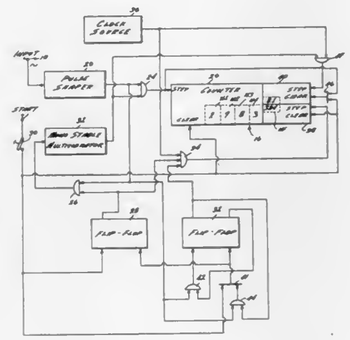
A non-contact tool-setting device has been provided for use on lathes or the like. The position of the tool relative to the workpiece is determined by measuring the current through an arc established between the tool and a reference electrode. The reference electrode is in the form of a precisely formed spherical ball seated on a special mount thereby providing certain advantages which facilitate highly accurate positioning of the tool relative to the workpiece.



3,524,131
HIGH SPEED FREQUENCY COMPUTING APPARATUS

John A. McWaid, 211 S. Larchmont Blvd., Los Angeles, Calif. 90004

Filed Sept. 25, 1967, Ser. No. 670,068
Int. Cl. G01r *23/02*
U.S. Cl. 324—78 **5 Claims**

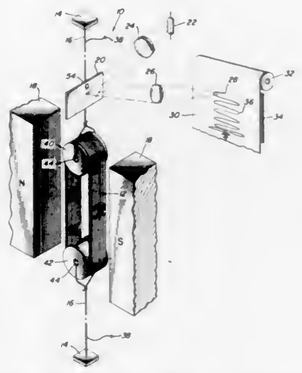


The system senses and registers the number of full cycles occurring in an electrical signal during a predetermined interval. The fragment of a cycle otherwise unaccounted for is also sensed and utilized to extend the significant digits of observation. One exemplary system manifests the fragment of a cycle as a fraction while another illustrative system provides additional digits in the observed value. In the latter system a cyclic operation is employed to sequentially develop the decimal digits in an inverse order of significance, which digits manifest the cycles of the observed signal occurring during given intervals of time.

3,524,132
GALVANOMETER HAVING A WIDE REFLECTIVE MIRROR WITH LOW INERTIA

Harry R. Allen, Jr., Littleton, Colo., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed July 6, 1967, Ser. No. 651,446
Int. Cl. G01r *13/38*
U.S. Cl. 324—97 12 Claims

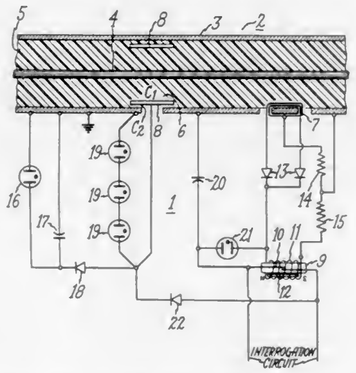


A galvanometer is shown having a mirror attached to a suspension system which reflects a beam of light from a light source for providing an indication of an input signal applied thereto. The mirror is constructed from a silicon chip which has been lapped to a required flatness, etched to the desired thickness, and cut to its final area dimensions to provide a wide mirror having a low inertia.

3,524,133
STATIC STATE VOLTAGE AND CURRENT MONITORING DEVICE FOR ELECTRIC POWER CABLE TERMINATIONS

Richard H. Arndt, Lenox, Mass., assignor to General Electric Company, a corporation of New York

Filed Sept. 9, 1966, Ser. No. 578,196
Int. Cl. G01r *19/16*
U.S. Cl. 324—102 10 Claims

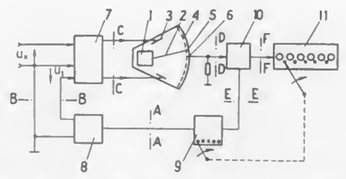


A static state voltage and current monitoring device is provided for electric power cable terminations. The monitoring device is characterized by having visual indicating means that produce a signal proportional to the level of voltage carried on the termination, in combination with a fault current indicating means that is automatically reset in response to return of normal power conditions to the termination.

3,524,134
CATHODE RAY TUBE MEANS FOR DIGITAL MEASUREMENT OF CONTINUOUS QUANTITIES

Libura Lech Andrzej, Wiejska 9/122, Warsaw, Poland

Filed May 2, 1967, Ser. No. 635,420
Claims priority, application Poland, May 2, 1966, P 114,377
Int. Cl. G01r *13/20, 13/22*
U.S. Cl. 324—121 1 Claim

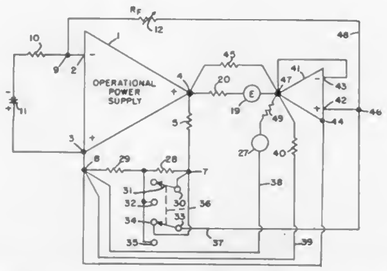


A cathode ray tube known as a convertron, having an electrode which when swept by the beam generates a series of pulses, is used for digital measurements. The beam is deflected by an analog voltage corresponding to the quantity to be measured. Periodic sweeps are provided by subtracting from the analog voltage a periodic signal such as a sawtooth wave. Each sweep generates a series of pulses, a sum of which is averaged by a decade counter.

3,524,135
ERROR REDUCING METERING FOR A CONSTANT CURRENT REGULATED POWER SUPPLY

Sarkis Nercessian, Long Island City, N.Y., assignor to Forbro Design Corp., New York, N.Y., a corporation of New York

Filed Jan. 8, 1968, Ser. No. 702,153
Int. Cl. G01r *1/30*
U.S. Cl. 324—123 1 Claim



The present invention is a combination of a single amplifier so connected as to provide simultaneous current and voltage metering of the load current and voltage provided by a current regulated power supply with substantially no error due to spurious loading of the power supply by either meter.

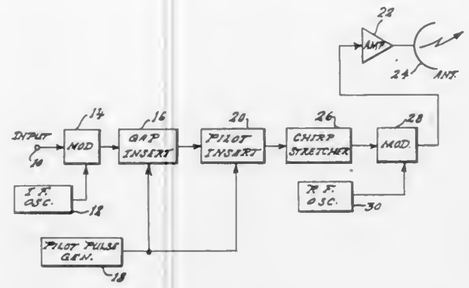
3,524,136
METHOD FOR INCREASED DATA RATE IN TRANSMISSION OVER TIME-VARYING MULTIPLE PATHS

Walter J. Albersheim, Newton, Mass., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Feb. 6, 1967, Ser. No. 614,780
Int. Cl. H04b *1/00*
U.S. Cl. 325—65 1 Claim

The method minimizes the time spread limitation on the speed of data transmission over the time-varying multiple paths by interspersing evenly-spaced pilot pulse signals in

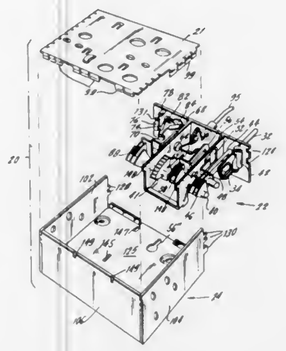
isolation gaps between successive message signals and analyzing the complex frequency characteristics of the received pilot pulses. The observed path distortion is corrected by a gate-controlled pulse compression network, thus reducing time gaps with resultant gain in transmission rate.



3,524,137
TWO-PIECE CONSTRUCTION FOR UHF TELEVISION TUNER

Robert H. Redfield, Evanston, and John L. Franke, Chicago, Ill., assignors to Standard Kollsman Industries, Inc., Melrose Park, Ill., a corporation of Illinois

Filed May 26, 1967, Ser. No. 641,654
Int. Cl. H03j *3/02*; H04b *1/08*
U.S. Cl. 325—357 9 Claims



UHF tuner sub-assembly constructions in which all the electrical circuit components are mounted to accessible regions of a single sub-assembly which is then interconnected in nested engagement with a cooperating sub-assembly, devoid of electrical circuit components, the two principal sub-assemblies cooperatively providing compartmentalized or isolated circuit sections.

3,524,138
ELECTRONIC COMMUTATOR EMPLOYING ANALOG GATES

James M. Kasson, Palo Alto, Calif., assignor to Santa Rita Technology, Inc., Menlo Park, Calif. a corporation of Arizona

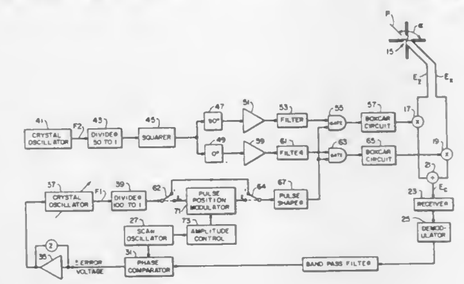
Filed Apr. 24, 1967, Ser. No. 633,233
Int. Cl. H03k *17/76*
U.S. Cl. 328—104 1 Claim

A plurality of analog gates have first linear input terminals connected to the various analog voltages that are to be sampled and their second control input terminals connected to logic circuitry. The logic circuitry provides a combinational pattern of control signals which activate the gates in a desired sequence so that successive output signals are provided. To avoid objectionable switching transients, an additional analog gate is provided that is activated to pass signals only when the logic circuitry is not being switched.

3,524,139
ELECTRONIC CIRCUIT FOR SIMULATING SERVO SYSTEM AND PHASE CONTROL THEREFOR

Gottfried F. Vogt, Lincroft, N.J., assignor to the United States of America as represented by the Secretary of the Army

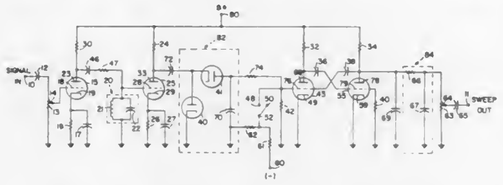
Original application Feb. 1, 1968, Ser. No. 702,422, now Patent No. 3,435,454. Divided and this application Oct. 30, 1968, Ser. No. 816,424
Int. Cl. H03b *3/04*
U.S. Cl. 328—155 4 Claims



An electronic servo system adapted for use in a polarization follower system. An error voltage is generated when the incident phase system angle of a target differs from the polarization angle. The error signal is applied as a control voltage to a variable oscillator whose output frequency is controlled thereby. A standard oscillator is also provided whose frequency is fixed such that at zero error signal the frequency outputs of the variable oscillator and the standard oscillator are equal. The standard crystal oscillator frequency is divided 50:1 and further divided by 2 to 1 in a manner such that there is produced two digital signals at the same frequency but differing in phase by 90°. The two digital signals are converted to two sine wave signals 90° out of phase to effectively provide a sine and cosine signal. The variable oscillator output is divided 100:1 and digitized so that this submultiple frequency differs from that derived from the standard oscillator by a relatively low frequency which is a function of the magnitude of the error signal. The submultiple sine and cosine signals are applied to respective gating circuits

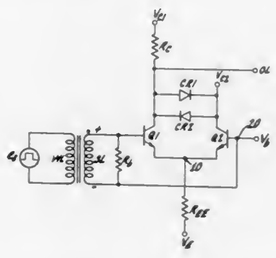
which are activated at prescribed times by the digitized submultiple frequency output of the variable oscillator. This signal is modulated by a reference signal which also is the reference signal to which the demodulated output of the system receiver is phase compared to produce the error signal. The instantaneous amplitude of the respective gated sine and cosine signals allowed to pass through the gating circuits are converted to respective DC voltages which are combined in a manner at the receiver of the system to decrease the error signal towards zero.

3,524,140
SIGNAL CONTROLLED SWEEP CIRCUIT
Edgar L. Potter, Jr., Delmar, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Nov. 30, 1966, Ser. No. 598,126
Int. Cl. H03b *3/04;* **H03k** *4/10*
U.S. Cl. 328—181 **1 Claim**



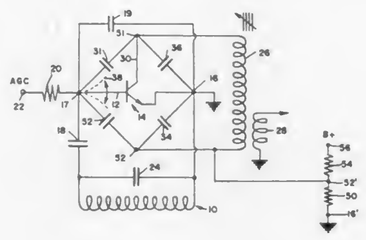
A device for regaining the correct intermediate frequency signal in an automatic frequency control receiver when this signal has been lost. The receiver local oscillator is swept by a saw-tooth voltage, automatically produced in the device when the intermediate frequency has been lost, to assure that the incoming radio frequency signal will again be received and centered in the pass band of the receiver. The device includes a normally inoperative saw-tooth voltage generator. This generator is made operative when the intermediate frequency signal drifts or is lost. The generator includes a normally inoperative free running multivibrator and an integrator, and is made operative by a control circuit responsive to the loss of the intermediate frequency signal.

3,524,141
TRANSISTOR AMPLIFIER HAVING EMITTER BYPASS THROUGH AN AUXILIARY TRANSISTOR
Donald H. Montgomery, Woodbury, and Joel R. Oberman, Cinnaminson, N.J., assignors to RCA Corporation, a corporation of Delaware
Filed Aug. 26, 1968, Ser. No. 755,048
Int. Cl. H03f *3/04*
U.S. Cl. 330—22 **8 Claims**



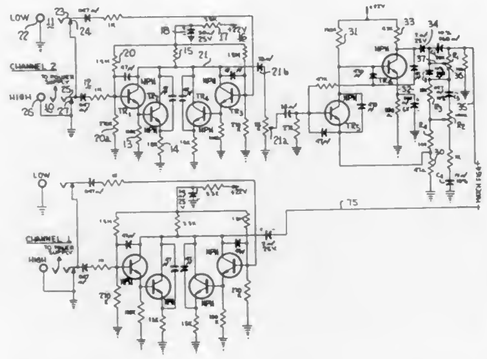
High gain, wide band, single-ended amplifier having no bypass capacitor. The amplifier includes a pair of emitter coupled transistors with input signals applied across their base leads. Operating power means provide A.C. ground conditions at the base and collector leads of one of the transistors and the output is taken from the collector of the other transistor. The emitter-to-base junction and the emitter-to-collector path of the one transistor provide a low impedance path to ground for signals well as degenerate feedback for A.C. stability.

3,524,142
AMPLIFIER NEUTRALIZATION DEVICE
Alarico A. Valdettaro, Bloomington, Ind., assignor to Sarkes Tarzian, Inc., Bloomington, Ind., a corporation of Indiana
Filed May 15, 1968, Ser. No. 729,264
Int. Cl. H03f *1/14*
U.S. Cl. 330—27 **8 Claims**



A bridge neutralized radio frequency amplifier is improved by the addition of a neutralizing adjustment gimmick wire that is fastened to one electrode of the amplifying device and can be positioned adjacent either one of two adjoining arms of the bridge.

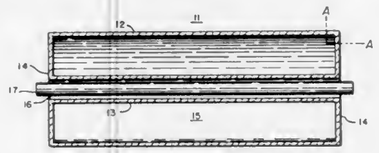
3,524,143
AMPLIFIER SYSTEMS FOR ELECTRIC GUITARS AND THE LIKE
Walter Munch, Jr., Covington, Ky., assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 15, 1965, Ser. No. 513,955
Int. Cl. H03f *3/68*
U.S. Cl. 330—30 **5 Claims**



An amplifier system having first and second sections which are connected to a common load. Each of the amplifier sections has an individual input circuit which may

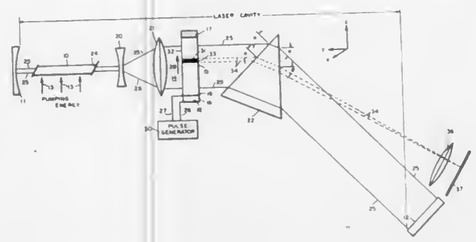
be connected through a jack operable switch to a signal source. The switches are interconnected to provide grounding of one amplifier section if a jack is inserted in the switch of the other.

3,524,144
LASER GENERATOR HAVING A SHOCK-INDUCED NARROW BAND ILLUMINATOR
Rudolf G. Buser, Manasquan, Johann J. Kainz, Allenhurst, and John J. Sullivan, Neptune, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed July 13, 1965, Ser. No. 471,776
H01s *3/09*
U.S. Cl. 331—94.5 **4 Claims**



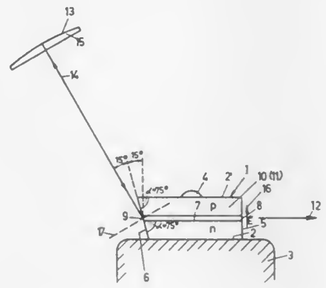
A relatively narrow band light source for illuminating laser mediums includes a sealed glass envelope forming a chamber which surrounds a major portion of the laser medium. An ionizable gas is contained in the chamber which includes a transparent wall adjacent the laser medium. Also, included in the chamber is an impurity gas containing a substantial number of atoms capable of being excited to higher energy states and capable of emitting light in a narrow band which matches the absorption band of the laser medium. The interior surfaces of the chamber wall carry atoms which will emit light in this narrow band when boiled off by shock waves induced in the chamber by magnetic fields. The magnetic field is produced by coils surrounding the chamber.

3,524,145
BEAM DEFLECTION APPARATUS
Vernon J. Fowler, East Meadow, N.Y., assignor to General Telephone & Electronics Incorporated, a corporation of Delaware
Filed June 29, 1966, Ser. No. 561,563
Int. Cl. H01s *3/00*
U.S. Cl. 331—94.5 **11 Claims**



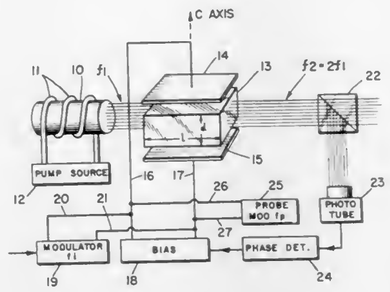
An apparatus for generating a moving beam of light which includes a piezoelectric delay line positioned within the resonant cavity of a laser oscillator in the path of the laser beam. Means are provided for establishing a shear wave in the delay line. The portion of the laser beam passing through the sheared portion of the delay line is perturbed. Means are then provided for removing the perturbed portion of the beam from the laser cavity.

3,524,146
SEMICONDUCTOR LASER HAVING A BREWSTER ANGLE FACE AND A REMOTE REFLECTOR
Eugen Mohn, Bern, Switzerland, assignor to Institut fur angewandte Physik der Universitat Bern, Bern, Switzerland
Filed Mar. 25, 1968, Ser. No. 715,687
Claims priority, application Switzerland, May 11, 1967, 6,667/67
Int. Cl. H01s *3/00*
U.S. Cl. 331—94.5 **6 Claims**



A laser oscillator provided with a laser diode wherein light rays are reflected back and forth and amplified in a pn-transition zone and at least one of the oscillator reflectors is at a distance from the laser diode. Reflection losses at the lateral surface of the diode facing the distant reflector are averted by inclining that surface at the Brewster angle relative to the direction of the light rays passing through the pn-transition zone.

3,524,147
METHOD AND APPARATUS FOR THE ELECTRO-OPTIC CONTROL AND MODULATION OF LIGHT
Bernard H. Soffer and Theodore H. Maiman, Pacific Palisades, Calif., assignors to Union Carbide Corporation, a corporation of New York
Filed Mar. 29, 1967, Ser. No. 626,731
Int. Cl. G02f *1/28*
U.S. Cl. 332—7.51 **6 Claims**

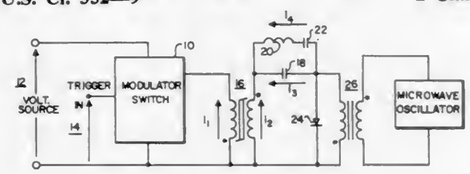


A system is provided for the control and modulation of light by utilizing a controlled electric field passed through a frequency doubling crystal of lithium niobate. The controlled light is in the form of the output of doubled frequency radiation derived from laser radiation of the fundamental frequency passed into the crystal. The electric field is directed at right angles to the radiation path through the crystal and by careful control of the field strength, the difference in the indices of

refraction for the ordinary fundamental and extraordinary second harmonic propagations in the crystal can be equalized such that the output of doubled frequency radiation is maximized. Modulation of the electric field affects the crystal material such as to vary these indices of refraction resulting in a change in the amplitude of the output of the doubled frequency. radiation.

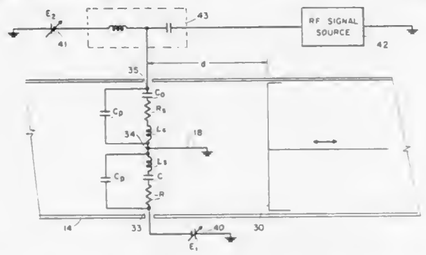
The apparatus includes a biasing electric field which may be automatically adjusted by a feedback means to maintain the electric field at a value at which the doubled frequency output radiation is maintained at its maximum value or at a pre-selected value. Automatic correction for temperature effects on the crystal can thus be provided by the electric field. Further, the field may be modulated by information signals to modulate the output about its maximum or selected output value.

3,524,148
DOUBLE PULSE MODULATOR
Merlin D. Bjorke, Minneapolis, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Oct. 30, 1968, Ser. No. 771,820
Int. Cl. H03k *7/00, 17/20*
U.S. Cl. 332—9 **2 Claims**



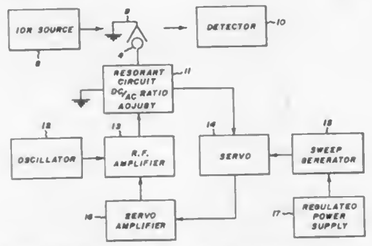
A double pulse modulator having a pair of pulse forming networks that are charged simultaneously in response to a single trigger pulse and discharge at different times to develop a double pulse.

3,524,149
FREQUENCY MODULATED OSCILLATOR CIRCUIT UTILIZING AVALANCHE DIODE
Robert J. Socci, Yonkers, Westchester, N.Y., assignor to General Telephone & Electronics Laboratories, Incorporated, a corporation of Delaware
Filed Feb. 23, 1968, Ser. No. 707,583
Int. Cl. H03c *3/22;* **H03b** *7/14*
U.S. Cl. 332—16 **5 Claims**



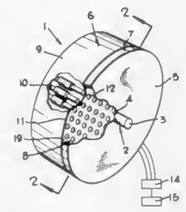
An oscillator circuit which provides frequency modulation of the high frequency signal emitted by an avalanche diode is described. The circuit utilizes first and second avalanche diodes mounted in a transverse plane of a waveguide, and tuned to resonance. The first diode is heavily reverse-biased to provide avalanche oscillations. The second diode is reverse-biased to a lesser degree and operates as a variable reactance. The application of an r-f modulating signal to the second diode results in a variation of the reactance in the plane of the first diode and the frequency modulation of the signal emitted by the first diode.

3,524,150
MASS ANALYZER INCLUDING A BROAD RANGE MODULATOR
Robert L. Watters, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 19, 1967, Ser. No. 646,947
Int. Cl. H03c *1/00*
U.S. Cl. 332—31 **10 Claims**



In accordance with the present invention I provide an electronic voltage source for monopole mass filter or analyzer which is capable of rapidly sweeping through a mass range as from mass 600 to mass 1 with great stability and accuracy, and including a high voltage, high frequency voltage generator that is amplitude modulated and which includes means for providing a unidirectional component to the alternating voltage, means for accurately regulating the unidirectional voltage to a preselected fraction which conveniently may be one-tenth of the peak amplitude of the alternating current voltage, sweep means for changing the absolute values of both voltages without changing their relative magnitude, and means for regulating the voltage of said sweeping means.

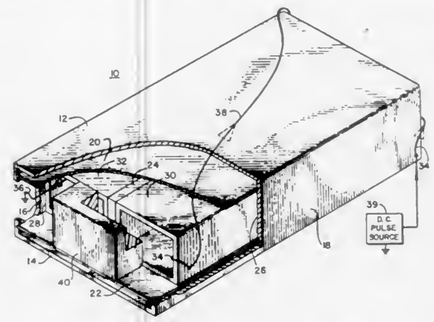
3,524,151
PHASED ARRAY TRANSMISSION LENS FEED SYSTEM
Paul Safran, Chesterfield, Mo., assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
Filed Jan. 9, 1968, Ser. No. 696,559
Int. Cl. H01p *5/12;* **H01q** *3/26*
U.S. Cl. 333—6 **13 Claims**



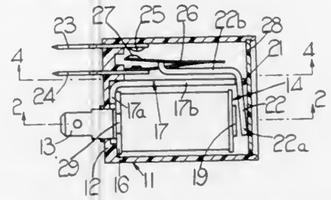
A phased array transmission lens fed by a parallel plate section spaced from the lens to form a wave guide. Couplers attached to phase shifters in the lens extend into the wave guide. Multiple inputs are provided for monopulsing.

3,524,152
NON-RECIPROCAL WAVEGUIDE PHASE SHIFTER HAVING SIDE-BY-SIDE FERRITE TOROIDS
John P. Agrios, Long Branch, and Richard A. Stern, Manasquan, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed Sept. 16, 1968, Ser. No. 759,975
Int. Cl. H01p *1/32*
U.S. Cl. 333—24.1 **8 Claims**

A non-reciprocal phase shifter utilizing two toroid ferrites positioned in spaced relationship longitudinally within a section of waveguide. The toroid ferrites are spaced from the top and bottom walls of the waveguide but the distal toroid ferrite surfaces are in intimate contact with the narrow waveguide side walls. A biasing magnetic means including a latching current produces magnetization in opposite directions in the respective spaced proximal toroid ferrite surfaces.



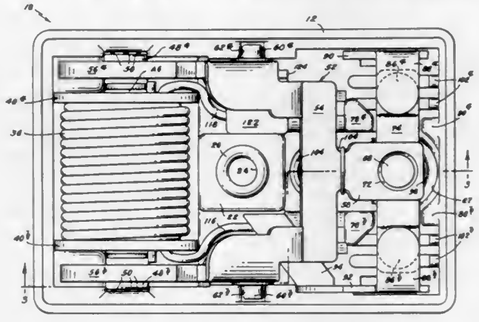
3,524,153
ELECTROMAGNETIC RELAYS AND METHODS OF MANUFACTURING
Phillip Vernon Little, Broxbourne, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed Dec. 16, 1968, Ser. No. 785,450
Claims priority, application Great Britain, Dec. 20, 1967, 57,864/67
Int. Cl. H01h *45/02*
U.S. Cl. 335—202 **12 Claims**



An electromagnetic relay and method of manufacturing said relay including the steps of inserting a pair of L-shaped terminal blades through respective slots in the base of a hollow casing, so that parts of the blades project from the exterior of the base where further parts of the blades lie in contact with the base. Inserting a hollow former having a solenoid winding wound thereon, into the casing so that one axial end of the former traps the further parts of the blades against the base. Inserting a solenoid pole piece having an enlarged end portion through the former and through a hole in the base so that the enlarged end portion of the pole piece engages the end of the former remote from the base, and finally deforming the end of the pole piece remote from the enlarged portion so that the deformed portion of the pole piece engages the outer surface of the base, so that the pole piece maintains the former and therefore the blades in position.

3,524,154
ELECTROMAGNETIC SWITCH INSENSITIVE TO POSITION ORIENTATION
Aimé J. Grenier, North Attleboro, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed July 22, 1968, Ser. No. 746,521
Int. Cl. H01h *1/22*
U.S. Cl. 335—200 **14 Claims**

A switch useful for starting motors comprising a housing mounting a solenoid, a pivotally mounted balanced armature assembly having three legs, two of which form with the solenoid core and armature body the magnetic circuit of the switch. The third leg mounts a variable rate spring and a bridging contact plate which in turn mounts a pair of movable contacts. A second spring, mounted on a calibration screw accessible outside the housing, biases the armature in a contacts open direction.



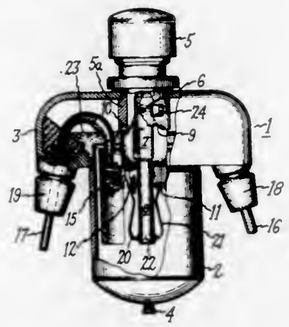
dip soldering of the terminals without damaging the board portion. The bobbin is of resilient thermoplastic material to permit snapping into the terminal board portion in an interlocked relation.

3,524,157
ELECTRIC CURRENT-LIMITING FUSE
Erwin Salzer, Waban, Mass., assignor to The Chase-Shawmut Company, Newburyport, Mass.
Original application Aug. 7, 1967, Ser. No. 658,856, now Patent No. 3,413,586, dated Nov. 26, 1968. Divided and this application July 30, 1968, Ser. No. 748,679
Int. Cl. H01h *85/08, 85/10*
U.S. Cl. 337—159 **2 Claims**



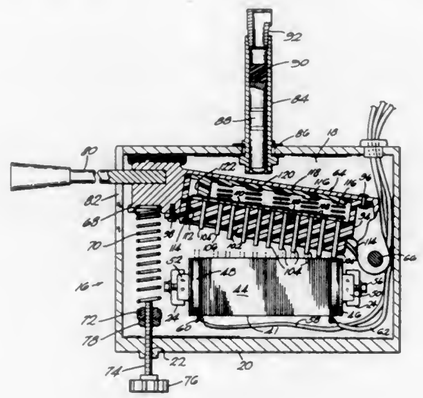
Electric current-limiting fuses include a ribbon fuse link, or ribbon fuse links, having a plurality of points of reduced cross-sectional area established by groove-like recesses and a local reduction of the thickness of the ribbon fuse link, or links, at the points where the groove-like recesses are located. The fuse link, or links, have such recesses on both surfaces thereof. The recesses form points of large bending compliance. The fuse link, or links, are bent at said points of large bending compliance to form an undulated fuse link structure.

3,524,158
LIQUID-FILLED FUSE CUTOUT HAVING A FUSE CARRIER WITH UNIQUE MOUNTING AND SUPPORT FEATURES
Edward A. Vrabel, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed May 16, 1969, Ser. No. 825,136
Int. Cl. H01h *85/14*
U.S. Cl. 337—204 **10 Claims**



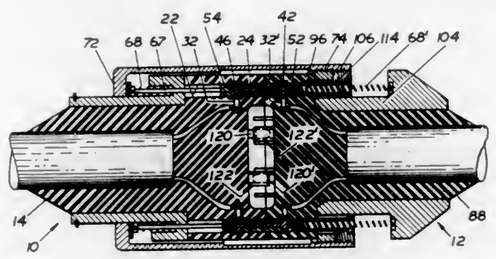
A fluid filled circuit interrupter having a fuse supported by a fuse carrier which is characterized by having structural features that protect the fuse carrier from damage due to rapid circulation of liquid in the interrupter in response to fusion of the fuse. These unique structural features include a glass sleeve embedded in the fuse carrier adjacent its support, and liquid flow control means that deflect high-pressure circulating liquid away from critical contact-supporting portions of the fuse carrier.

3,524,159
ELECTRIC BRAKE CONTROL
Eugene L. Kilbourn, Marshall, Mich., assignor to Tekonsha Engineering Company, Tekonsha, Mich., a corporation of Michigan
Filed Jan. 8, 1968, Ser. No. 696,176
Int. Cl. H01c *3/00*
U.S. Cl. 338—92 **8 Claims**



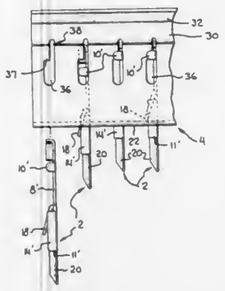
A control for vehicles having electric brakes wherein the control consists of an elongated resistor element engaged at various longitudinal positions having different resistance characteristics by contacts of relatively limited area producing an efficient electrical connection between the contacts and resistor element. A plurality of contacts are employed which are biased toward the resistor element to permit the contacts to be sequentially and progressively established in conducting relationship to the element.

3,524,160
UNDERWATER OPERABLE CONNECTOR
Donald B. Robinson, 538 Iron Ave., Dover, Ohio 44622
Filed Sept. 17, 1968, Ser. No. 760,319
Int. Cl. H01r *13/44, 33/36*
U.S. Cl. 339—34 **10 Claims**



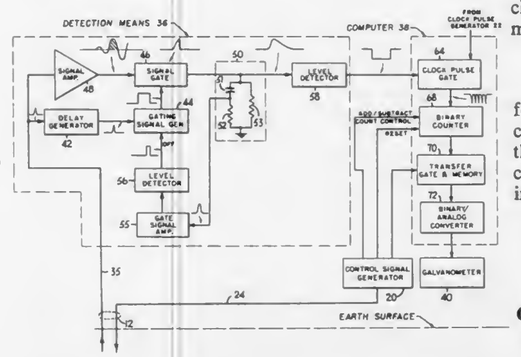
An electrical connector having mating housings formed to establish and/or break an electrical circuit while immersed in an electrolytic fluid.

3,524,161
ELECTRICAL CONNECTORS FOR PRINTED CIRCUIT BOARDS
Robert Houston Frantz and Homer Ernst Henschen, Carlisle, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Jan. 29, 1968, Ser. No. 701,365
Int. Cl. HO5h *1/18;* **H01r** *9/16*
U.S. Cl. 339—176 **15 Claims**



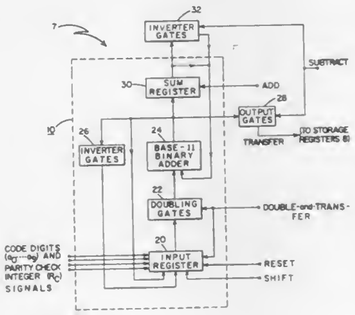
Multi-contact electrical connector for printed circuit board comprises thin-walled channel-shaped housing of insulating material having spaced-apart contact terminals therein. Housing comprises web and sidewalls, the sidewalls being relatively flexible towards and away from each other by virtue of the thinness of the material. Contact terminals have portions extending through openings in the web of the housing and have means on their sides which interengage with the housing sidewalls. Housing sidewalls are supported and held in position by the contact terminals and terminals, in turn, are supported in the spaced-apart parallel relationship by the housing.

3,524,162
MULTIPLE ACOUSTIC RECEIVER AND TRANSMITTER SYSTEM FOR MEASURING SONIC ATTENUATION RATIO IN EARTH FORMATIONS
Fred W. Zill, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Continuation of application Ser. No. 551,177, May 13, 1966. This application Jan. 5, 1968, Ser. No. 696,087
Int. Cl. G01v *1/28, 1/40;* **H03k** *5/00*
U.S. Cl. 340—15.5 **5 Claims**



A system for acoustically logging formations surrounding a well bore including first and second acoustic transmitters spaced apart vertically in a sonde for transmitting acoustic energy into the formations. First and second acoustic receivers spaced apart and spaced from the transmitters are similarly carried by the sonde to produce electrical signals representing the intensity of the transmitted acoustic energy received. An electronic detector connected to receive those electrical signals generates pulses of which the duration is proportional to the logarithm of the respective electrical signals from the receivers. Those logarithmic signals are employed to control a binary counter receiving clock pulses in such a manner that a binary-to-analog converter produces an output signal representing the product of the ratios of the signal amplitudes received at each receiver from a respective transmitter. The output signal offers an acoustic attenuation indication free from errors due to the acoustic transfer coefficients between any transmitter and the receivers.

3,524,163
PARITY-CHECKING APPARATUS FOR CODED-VEHICLE IDENTIFICATION SYSTEMS
Henry N. Weiss, Waltham, Mass., assignor to Sylvania Electric Products, Inc., a corporation of Delaware
Filed Dec. 4, 1967, Ser. No. 687,774
Int. Cl. G06f *11/10;* **G06k** *5/00*
U.S. Cl. 340—146.1 **15 Claims**



Parity-checking apparatus for use in coded-vehicle identification systems. A retroreflective label, coded to represent a plurality of digits $a_0 \ldots a_n$ and a parity check integer R_C, is affixed to a vehicle. As the vehicle passes a scanning station, the coded label is scanned and signals are produced representative of the label information. The parity of the signals representative of the digits $a_0 \ldots a_n$ is calculated by a parity calculator included in the parity-checking apparatus in accordance with a powers-of-two modulo-eleven system of parity by solving for R in

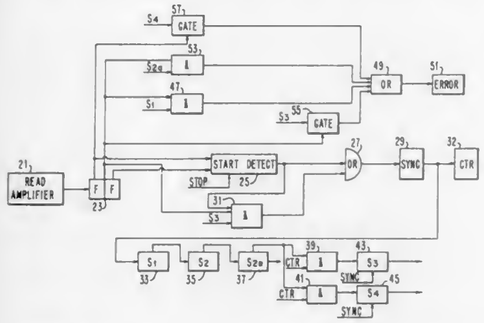
$$\frac{a_0 2^0 + a_1 2^1 + \ldots a_n 2^n}{11} = I + \frac{R}{11}$$

for the particular values of $a_0 \ldots a_n$. To determine the correctness of the code information derived from the label, the value of the calculated parity is checked in the parity-checking apparatus against the value of the parity check integer R_C of the label.

3,524,164
DETECTION AND ERROR CHECKING SYSTEM FOR BINARY DATA
Cecil Wayne Cox and Frederick T. May, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 15, 1968, Ser. No. 697,717
Int. Cl. H03k *13/34*
U.S. Cl. 340—146.1 **5 Claims**

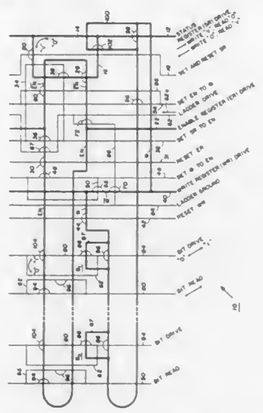
A phase encoded data recording and error checking system wherein each serially recorded data character is checked to determine that it has the proper number of data flux reversals. By checking the direction of the last

data flux reversal, the proper number of corrective flux reversals is ascertained. Additionally, the presence of noise signals of the same polarity as the next subsequent data signal causes the noise signal to be correctly sensed as data while rejecting the data signal provided the noise



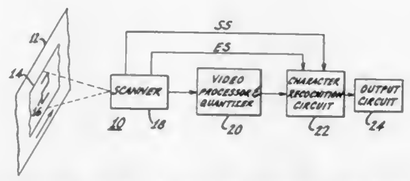
signal is within the self-clocking tolerance and causes an error indication if the noise signal is without the self-clocking tolerance. The presence of noise signals of opposite polarity from data signals remain undetected and do not affect information content.

3,524,165
DYNAMIC FAULT TOLERANT INFORMATION PROCESSING SYSTEM
John P. Pritchard, Jr., and Buford G. Slay, Jr., Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed June 13, 1968, Ser. No. 736,630
Int. Cl. G06f *11/00, 13/08*
U.S. Cl. 340—146.1 **5 Claims**



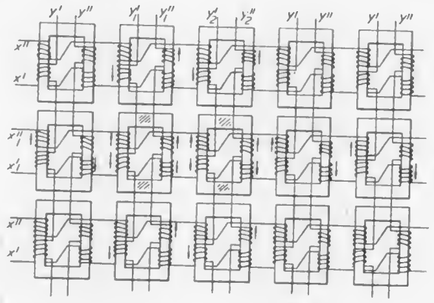
An associatively organized cryogenic information processing system having a plurality of identical words, each word having a predetermined number of storage bits and a plurality of controlled registers, each register having one bit for each word. Each bit of one of the control registers, termed the status register, has three stable states. One of the states is a ground state which exists in the event of failure of that bit in the status register so that the status register will detect failure of its own bit. The failure modes of the remainder of the system are controlled such that the failure of any part of any word results in the corresponding bit of the status register reverting to the ground state. During operation, those words identified by the status register as being failed are excluded from use.

3,524,166
CHARACTER READER
Harold Burtis Currie, Gibbsboro, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Dec. 23, 1966, Ser. No. 604,466
Int. Cl. G06k *9/00*
U.S. Cl. 340—146.3 **6 Claims**



A character reader recognizes distorted characters by detecting their reliable features such as the long vertical stroke that occurs in many characters and the middle horizontal stroke that occurs in some characters. A long vertical stroke is extracted from the distorted characters by detecing the highest and lowest video signals in each scan line. When these reference signals are a prescribed distance apart from each other, the presence of white background therebetween is detected to see if a long vertical stroke can be present. If the amount of white background is below a predetermined minimum, then a long vertical stroke is recorded as present. Middle horizontal strokes are extracted from a character by detecting both the topmost and bottommost video signals throughout the entire character to provide overall reference points and then determining if a horizontal stroke falls intermediate of the two reference points.

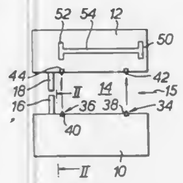
3,524,167
MAGNETIC MEMORY SWITCH AND ARRAY
Albert Regnier, Issy-les-Moulineaux, and Fernand Silerme, Creteil, France, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 4, 1965, Ser. No. 423,226
Claims priority, application France, Jan. 7, 1964, 959,566
Int. Cl. H01h *47/00;* **H04q** *9/00*
U.S. Cl. 340—166 **7 Claims**



A plurality of magnetic core and glass reed contact crosspoint structures are arranged in rows and columns. Equal and opposite flux producing windings on adjacent crosspoint structures are serially and orthogonally coupled together to define such rows and columns. A long and a short pulse are simultaneously applied to the windings of a selected row and column. While the short pulse persists, the cores are magnetized to a remanent condition which causes the contacts to assume an unoperated condition. After the short pulse ends and while the long pulse

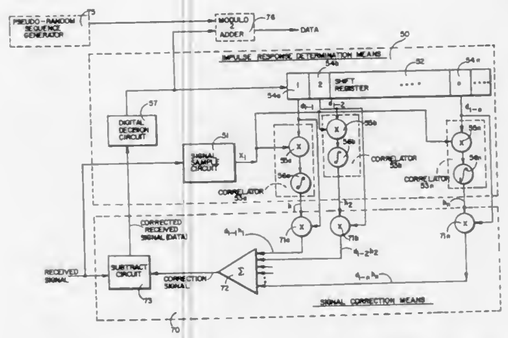
persists, core flux is driven so that the flux in the core at the intersection of the energized row and column operates and latches the associated contacts. Thereafter, the contacts remain magnetically latched until the next simultaneous occurrence of a long and a short pulse, when they release.

3,524,168
TIMER CONTROLLED AUTOMATIC TICKET GATE
Toshio Tanaka, Kyoto, Japan, assignor to Omron Tateisi Electronics Co., Ukyo-ku, Kyoto, Japan
Filed Aug. 2, 1967, Ser. No. 657,942
Claims priority, application Japan, Aug. 8, 1966, 41/52,001
Int. Cl. H04q *3/00*
U.S. Cl. 340—149 **7 Claims**



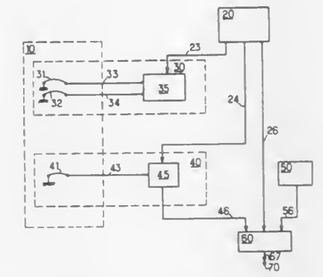
A normally open automatic ticket gate is disclosed. The gate is closed when no person comes in for a predetermined period of time. The gate is automatically opened a predetermined time after being closed.

3,524,169
IMPULSE RESPONSE CORRECTION SYSTEM
Gerald K. McAuliffe, Orange, and David M. Motley, Santa Ana, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed June 5, 1967, Ser. No. 643,517
Int. Cl. G06f *11/00*
U.S. Cl. 340—172.5 **16 Claims**



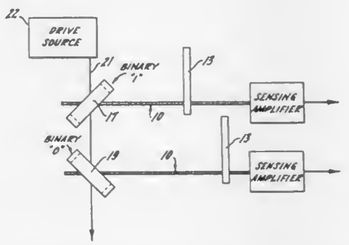
A device which corrects distortion of digital data sent over a transmission channel. The apparatus stores previously received data bits and cross-correlates these with the signal being received, thereby obtaining the impulse response of the transmission channel. Cross-correlation is achieved by digitally multiplying each of the *n* most recently received data bits by the sampled received signal and integrating the products over time. A correction signal then is derived by digitally multiplying the measured impulse response values by the stored data and summing the products. Another embodiment of the invention also compensates for cross-channel distortion arising in a quadrature modulation system.

3,524,170
SENSING SYSTEM FOR AN ARRAY OF PERSISTENT CURRENT STORAGE ELEMENTS
Henri Gerard Feissel, Paris, France, assignor to Societe Industrielle Bull-General Electric (Societe-Anonyme), Paris, France
Filed June 23, 1967, Ser. No. 648,324
Claims priority, application France, June 30, 1966, 67,639
Int. Cl. G11c *7/00, 11/44*
U.S. Cl. 340—173.1 **6 Claims**



In superconductor storage matrices, the threshold level of appearance of a ZERO reading signal is lower than the partial selection reading threshold level. A read operation makes use of selection currents whose maximum value is limited only by the partial selection reading threshold level, a signal representing the integral of the electromotive force induced in a sense conductor at the application of the selection currents is generated, and the signal thus formed is compared with a given reference level during a final portion of a read period in order to determine the value of the binary data element previously stored in the form of a persistent current in the selected memory element.

3,524,171
MAGNETIC DATA STORAGE DEVICE
George H. Guttroff, Norristown, and Donald K. Hanson, Center Square, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 25, 1965, Ser. No. 458,797
Int. Cl. G11c *11/14*
U.S. Cl. 340—174 **1 Claim**

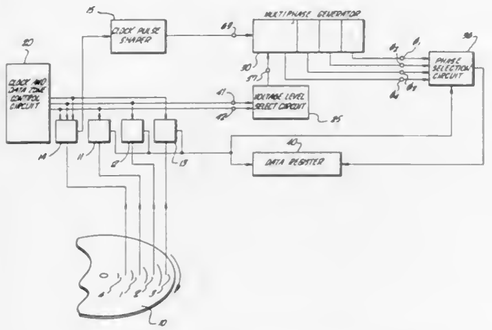


A magnetic data storage system having a plurality of first and second types of memory devices, said first type of memory device each having a plated-wire for storing data and each of the second type of memory device being comprised of an annular core having first and second windings of a transformer threaded therewith, with a different plated-wire from said first type of memory device serving as the secondary winding for each different transformer.

3,524,172
TIMING ARRANGEMENT FOR GENERATING PLURAL PHASES

John A. Hibner, Sierra Madre, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Sept. 29, 1966, Ser. No. 584,049
Int. Cl. G11b *5/02, 27/22, 27/32*
U.S. Cl. 340—174.1 9 Claims

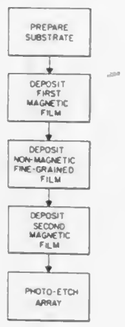


A phase generator for recovering data from a magnetic disc file system has a plurality of stages connected in tandem. Different items of data stored on the disc file are recovered with different bit periods. Clock pulses separated by the bit period of the data are applied as trigger pulses to the first stage. The end of the pulse produced by each stage triggers the next stage in the tandem arrangement. The duration of the pulses produced by the stages is controlled by a single externally applied signal as the period of the clock pulses changes. Thus, responsive to each clock pulse, the stages produce in succession a plurality of pulses of variable duration for use as phase pulses to recover data.

3,524,173
PROCESS FOR ELECTRODEPOSITION OF ANISOTROPIC MAGNETIC FILMS AND A PRODUCT FORMED BY THE PROCESS

Irving W. Wolf, Palo Alto, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California.

Filed May 22, 1967, Ser. No. 639,953
Int. Cl. G11c *11/14*
U.S. Cl. 340—174 6 Claims

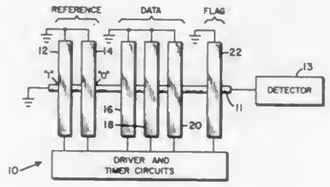


A process for improving the quality of a magnetic film formed on a thick conductive substrate wherein a fine grain, nonmagnetic material is first deposited on the substrate and then the magnetic film is formed on the nonmagnetic material. The product formed comprises two magnetic films containing therebetween the fine grain, nonmagnetic material, which defines thus a sandwich structure wherein the film deposited on the nonmagnetic material is a high quality, thin magnetic film having low dispersion properties and which is acceptable for use in large, fast memory systems.

3,524,174
SEARCH MEMORY

Carlos F. Chong, Woodstock, N.Y., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 29, 1967, Ser. No. 671,645
Int. Cl. G11c *7/00, 11/14, 15/00*
U.S. Cl. 340—174 8 Claims



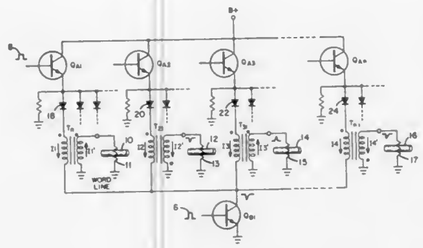
This invention relates to a search memory technique using thin film magnetic storage elements wherein only one crossover per storage bit is required to store the data and only one crossover is required for the flag bit. This is accomplished by energizing the flag bit at a period of time which encompasses the leading pulse edges of the word line current and a reference line current when a "1" search is made. By way of example, if a "1" is searched for and a "1" bit is found, no current is generated to alter the condition of the flag bit (i.e., where the results of the search is stored) which is pre-set to the "1" state. However, when a "0" is found, a current is generated which changes the information in the flag bit from a "1" to a "0," thereby indicating a mismatch. The resulting mismatch current is in the direction to change the flag bit due to the encompassing of the leading edges of the data and reference line energizing currents with the energizing current applied to the flag line. When a "0" search is made, the flag bit is energized at a period of time which encompasses the trailing edge of the data line and reference line current pulses. When a search is made for a "0" and a "0" is found no current is generated to alter the condition of the flag bit which is in a "1" state. On the other hand, when searching for a "0" and a "1" is found, current is again generated in a direction so that the "1" in the flag position is altered to a "0," thereby indicating a mismatch condition. The mismatch current *is again in the proper* direction to change the flag bit due to the encompassing of the trailing edges of the energizing currents applied to the data and reference lines by the energizing current applied to the flag line.

3,524,175
MEMORY WORD DRIVE SYSTEM FOR NOISE REDUCTION

Robert Mosenkis, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 4, 1968, Ser. No. 718,783
Int. Cl. G11c *7/02*
U.S. Cl. 340—174 5 Claims

The invention relates to an arrangement for minimizing noise coupled into a wire memory from unselected word lines. Small currents produced in these unselected lines when the desired line is energized induces opposite polarity noise signals in the wire memory so that they are effectively cancelled.



3,524,176
MAGNETIC INFORMATION STORAGE CARRIER WITH INDIVIDUAL STORAGE ELEMENTS

Ugo Buzzi, Zug, and Bruno Gemperle, Steinhausen, Switzerland, assignors to Anstalt Europaische Handelsgesellschaft, Vaduz, Liechtenstein

Filed Dec. 6, 1967, Ser. No. 688,383
Claims priority, application Switzerland, Jan. 25, 1967, 1,107/67
Int. Cl. G11b *5/02, 5/76;* G11c *11/02*
U.S. Cl. 340—174.1 7 Claims

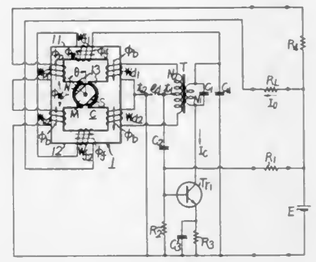
This information storage device comprises a number of distinct magnetizable storage elements on an element carrier and one or several read-out and read-in places, the element carrier and the reading places being movable relatively to each other. Control members are associated with the read-out places and are directly operable magnetically by the storage elements, without picking up the stored information by the detour of inducing electric pulses which are to be amplified to actuate the control members. The read-in places comprise a coil acting on the storage elements and energized by a pulse generator. The element carrier is formed by a rotatable annular member having storage elements inserted into its inner or outer cylindrical wall or into its plane end faces. The control members are formed by reed switches or by magnetic valves.

3,524,177
ELECTROMECHANICAL TRANSDUCER

Isamu Ohno, Musashino-shi, Tokyo, Japan, assignor to Kabushikikaisha Yokogawa Denki Seisakusho (Yokogawa Electric Works, Ltd.) Tokyo, Japan

Filed Feb. 27, 1967, Ser. No. 618,953
Claims priority, application Japan, Mar. 2, 1966, 41/12,679
Int. Cl. G08c *19/06;* H03b *5/12*
U.S. Cl. 340—186 8 Claims

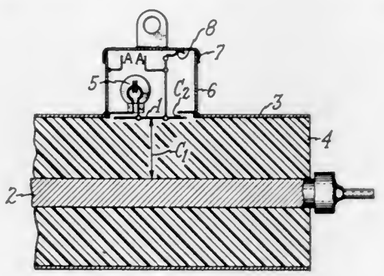
An electromechanical transducer having a saturable magnetic core the magnetic permeability of which varies in accordance with displacement of a movable magnet disposed in the gap of the saturable magnetic core, an oscillation circuit controlled in response to the variations in the magnetic permeability of the saturable magnetic core and means for feeding back a DC current corresponding to the output of the oscillation circuit to the saturable magnetic core for balancing the magnetic flux produced by the feedback current with the magnetic flux produced by the movable magnet.



3,524,178
VOLTAGE INDICATOR AND TEST DEVICE

Jerry L. Stratton, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Continuation of application Ser. No. 515,499, Dec. 21, 1965. This application Dec. 18, 1968, Ser. No. 786,827
Int. Cl. G08b *21/00;* G01r *13/26*
U.S. Cl. 340—248 10 Claims



A removable protective cover for a capacitance tap and lamp connected thereto on a power cable or cable termination housing, characterized by having means for short circuiting the capacitance tap and lamp when the cover is in place on the termination housing or cable.

3,524,179
AUDIBLE MULTISWITCH TRANSITION DETECTOR

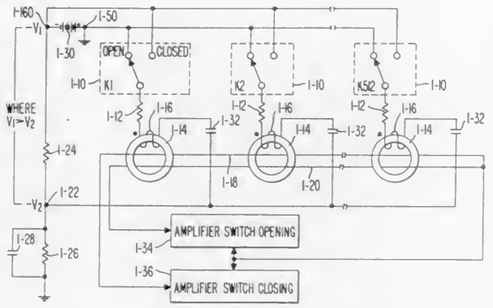
Edgar O. Morgenson, Norristown, and William A. Lacher, North Wales, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Nov. 13, 1967, Ser. No. 682,444
Int. Cl. G08b *19/00*
U.S. Cl. 340—253 7 Claims

The present disclosure relates to a multiswitch transition detector which provides an output signal when any one of a plurality of switches is either opened or closed.

In the present embodiment the output is of one audio frequency if the switch transition is from opened to closed

condition and of a second audio frequency if the transition is reversed. A timing apparatus is included with each

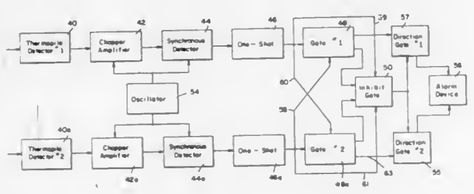


output signal oscillator to provide the audio signal for a predetermined duration.

3,524,180
PASSIVE INTRUSION DETECTING SYSTEM

Philip M. Cruse, Santa Barbara, Calif., assignor to Santa Barbara Research Center, Goleta, Calif., a corporation of California

Filed Jan. 27, 1967, Ser. No. 612,210
Int. Cl. G08b *13/18*
U.S. Cl. 340—258 **6 Claims**



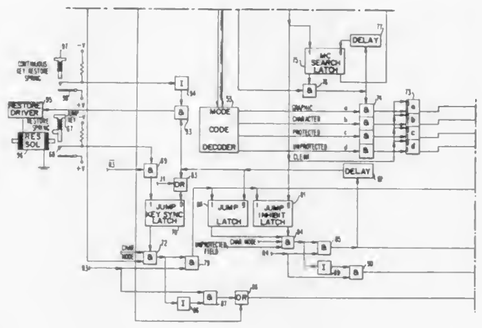
A pair of thermopile infrared radiation detectors are focused upon parallel fields of view in relatively close relation to each other. A radiation-emitting object passing through the fields of view normally sequentially cuts the fields of view in a determined time pattern. The time pattern results in the initiation of sequential signals at determined intervals which actuate an appropriate alarm. The interruption of both fields of view by the infrared-emitting object in less than the determined time interval creates an inhibit situation which prevents alarm actuation.

3,524,181
DISPLAY SYSTEM

Tony N. Criscimagna, Woodstock, and Theodore G. Floros, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 13, 1966, Ser. No. 557,048
Int. Cl. G08b *11/00*
U.S. Cl. 340—324 **6 Claims**

A keyboard-CRT display system for operation under the control of a data processor has circuits for receiving and decoding commands for inserting and utilizing a cursor which operates as a tag associated with data in the display buffer. Operation of a jump key detects and removes the cursor code from the buffer address in which it resides and inserts it in the next appropriate data field. Regeneration of the display image continues and the buffer is cyclicly read during search for an unprotected field. A code inserted by the processor at the beginning of each new field identifies the nature of the field. If the field is not appropriate for insertion of the cursor code, the search for an appropriate field is continued. A continuous jump key provides multiple jumps until it is released.

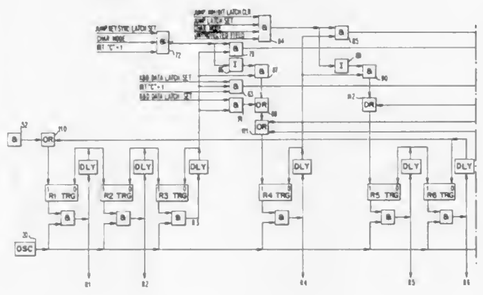


When the display is used in conversational mode, the processor inserts the cursor at an address in the buffer corresponding to the start of the data field reserved for an answer from the operator. The operator enters the data requested starting with the cursor location. The cursor is advanced by and during the entry of the answer, so that the initial and final positions of the cursor establish the boundaries of the answer, which boundaries can then be utilized for non-destructive reading only the pertinent data from the buffer.

3,524,182
DISPLAY SYSTEM

Tony N. Criscimagna, Woodstock, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 13, 1966, Ser. No. 557,049
Int. Cl. G08b *11/00*
U.S. Cl. 340—324 **7 Claims**



A keyboard-CRT display system for operation under the control of a data processor has circuits for receiving and decoding commands for inserting and utilizing a cursor which operates a tag associated with data in

the display buffer. Operation of a jump key detects and removes the cursor code from the buffer address in which it resides and inserts it in the next appropriate data field. Regeneration of the display image continues and the buffer is cyclicly read during search for an unprotected field. A code inserted by the processor at the beginning of each new field identifies the nature of the field. If the field is not appropriate for insertion of the cursor code, the search for an appropriate field is continued. A continuous jump key provides multiple jumps until it is released. When the display is used in conversational mode, the processor inserts the cursor at an address in the buffer corresponding to the start of the data field reserved for an answer from the operator. The operator enters the data requested starting with the cursor location. The cursor which operates as a tag associated with dat in so that the initial and final positions of the cursor establish the boundaries of the answer, which boundaries can then be utilized for non-destructive reading only the pertinent data from the buffer.

3,524,183
RESONANT CIRCUIT ENCODER

Henry R. Chope, Columbus, Ohio, assignor to The Industrial Nucleonics Corporation, a corporation of Ohio

Continuation-in-part of application Ser. No. 231,912, Oct. 22, 1962. This application Dec. 21, 1964, Ser. No. 421,750
Int. Cl. H03k *13/20*
U.S. Cl. 340—347 **31 Claims**

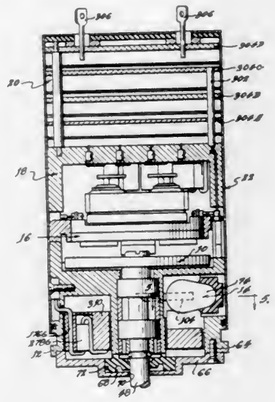
The invention relates to an apparatus for producing a digital signal which is a function of the magnitude of a quantity to be measured, whereby energy is stored in a resonant circuit during a first time interval and released as sinusoidal oscillations which can be counted during a second time interval. A characteristic such as the time duration of the second interval or the resonant frequency of the resonant circuit varies with the measurable quantity so that the number of oscillations counted is a function of the measurable quantity.

3,524,184
OPTICAL ENCODER

John Brean, Cincinnati, Ohio, assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio

Continuation-in-part of application Ser. No. 343,245, Feb. 7, 1964. This application Oct. 21, 1966, Ser. No. 589,192
Int. Cl. G08c *9/06*
U.S. Cl. 340—347 **15 Claims**

A digital shaft angle encoder comprising a code disc having a plurality of concentric code tracks made up of alternate transparent and opaque segments, a continuous light source disposed on one side of the disc, a plurality of photo-voltaic cells disposed on the opposite side of

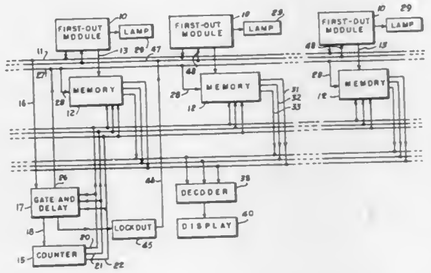


the disc, one such cell confronting each track of the disc, and circuitry for periodically interrogating each of the photo-voltaic cells in sequence.

3,524,185
ANNUNCIATOR SYSTEM WITH SEQUENCE INDICATION

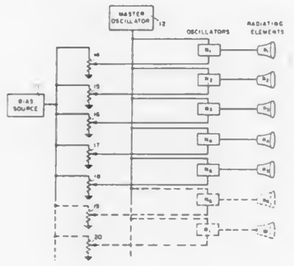
George J. Ehni III, Dallas, Tex., assignor to Beta Corporation, Dallas, Tex., a corporation of Texas

Filed Oct. 24, 1966, Ser. No 588,817
Int. Cl. G08b *21/00*
U.S. Cl. 340—415 **7 Claims**



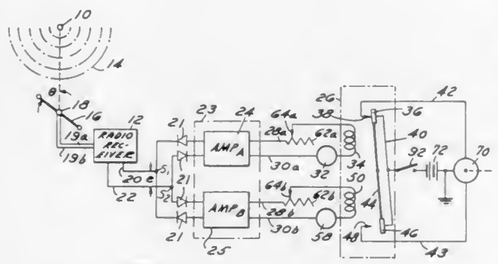
An annunciator system including a plurality of field contacts with each field contact having associated therewith an indicator module for providing an indication of a malfunction and a memory element. A counter and a means for producing a set output a predetermined time interval following application of a pulse to the counter advancing the count stored in the counter. Each time one of the field contacts becomes abnormal a pulse is applied to advance the count in the counter. When the set output is produced, the count stored in the counter will be stored in the memory element whose associated field contact is abnormal and which does not have an existing count stored therein. After a predetermined number of the field contacts become abnormal, a lock-up out pulse is applied to the indicator modules to cause indication provided responsive to additional ones of the field contacts becoming normal to be different and to prevent storage of the counter count in the memory.

3,524,186
ARRAY ANTENNA UTILIZING A PLURALITY OF ACTIVE SEMICONDUCTOR ELEMENTS
Dominic A. Fleri, Malba, and Robert J. Socci, Yonkers, N.Y., assignors to General Telephone & Electronics Laboratories Incorporated, a corporation of Delaware
Filed July 16, 1968, Ser. No. 745,231
Int. Cl. H01q *3/26;* **H03b** *7/06;* **H04b** *7/04*
U.S. Cl. 343—100 **12 Claims**



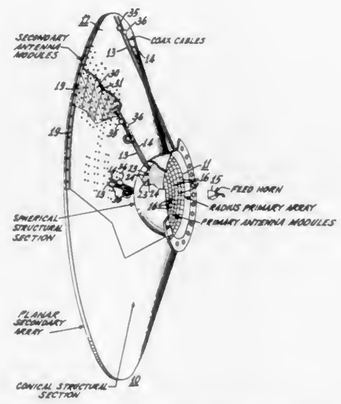
An array antenna is described wherein the individual radiating elements are each coupled to a corresponding avalanche oscillator. Each oscillator contains an avalanche diode which exhibits a negative resistance upon the application of a DC bias signal. The individual oscillators are locked in frequency by the injection of a signal from a master oscillator. The relative phase of the oscillations of the frequency locked oscillators is varied by changing the magnitudes of the applied DC bias signals. The variation in relative phase permits the beam of radiation emitted by the array antenna to be steered.

3,524,187
RADIO DIRECTIONAL CONTROL SYSTEM
George M. Holley, Jr., 510 Shelden Road, Grosse Pointe, Mich. 48236
Filed May 17, 1968, Ser. No. 730,204
Int. Cl. G01s *3/42*
U.S. Cl. 343—117 **13 Claims**



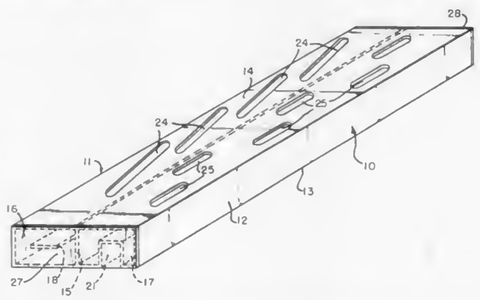
This disclosure relates to a radio directional control system having particular utility for marine vessel navigation applications and utilizing a directional antenna and radio receiver, which has an output signal characteristic that varies in accordance with the angular or rotated position of the antenna relative to a distant radio transmitter. The system includes a reversible motor for positioning a mechanism used in navigating the vessel and compares the output of the receiver against a derived reference signal to actuate the motor in one direction or the other in accordance with the relative intensities of the signals.

3,524,188
ANTENNA ARRAYS WITH ELEMENTS APERIODICALLY ARRANGED TO REDUCE GRATING LOBES
David F. Bowman, Wayne, Pa., assignor to RCA Corporation, a corporation of Delaware
Filed Aug. 24, 1967, Ser. No. 663,095
Int. Cl. H01q *3/26, 19/06*
U.S. Cl. 343—754 **9 Claims**



A transfer array antenna made up of a primary array, a secondary array, and a plurality of transmission lines coupled therebetween to form a transfer array is described in this disclosure. The primary array is made up of a plurality of antenna modules with each antenna module being further divided into orthogonal dipole elements. Likewise, the secondary array is made up of a plurality of antenna modules which are further divided into orthogonal dipole elements. A separate pair of transmission lines is coupled between each one of the antenna modules of the primary array and a corresponding antenna module of the secondary planar array. The transmission lines include phase shifters which, when appropriately phased, control the beam of the array antenna. The antenna is fed by means of a feed horn which directs the RF signal energy toward and receives the RF signal energy from the primary array.

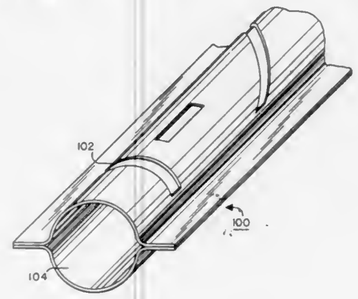
3,524,189
SLOTTED WAVEGUIDE ANTENNA ARRAY PROVIDING DUAL FREQUENCY OPERATION
Howard S. Jones, Jr., Washington, D.C., assignor to the United States of America as represented by the Secretary of the Army
Filed Nov. 9, 1966, Ser. No. 594,334
Int. Cl. H01q *1/28, 13/20*
U.S. Cl. 343—771 **8 Claims**



An improved slotted waveguide antenna capable of operating in two frequency bands. The antenna structure

comprises a one-piece metal extrusion providing separate antenna sections arranged so as to achieve good isolation between signals in the two bands.

3,524,190
EXTENDABLE RADIO FREQUENCY TRANSMISSION LINE AND ANTENNA STRUCTURE
Derling G. Killion and Floyd B. Shacklock, San Diego, Calif., assignors to The Ryan Aeronautical Co., San Diego, Calif., a corporation of California
Filed Nov. 20, 1967, Ser. No. 684,907
Int. Cl. H01q *1/12, 1/08, 13/22*
U.S. Cl. 343—771 **22 Claims**



A tubular transmission line and antenna for coaxial or wave guide radio frequency energy transmission that may be collapsed into a coil shape and selectively extended to a rigid structure and that forms an antenna array.

3,524,191
ENDFIRE ANTENNA ARRAY IN WHICH THE ELEMENTS OF ARRAY ARE BENT AND HAVE PORTIONS RUNNING ALONG LENGTH OF ARRAY
Hermann W. Ehrenspeck, 94 Farnham St., Belmont, Mass. 02178
Filed Apr. 12, 1968, Ser. No. 720,863
Int. Cl. H01g *19/30*
U.S. Cl. 343—819 **3 Claims**



The invention relates to a directional antenna of the endfire type which uses a wave directing structure with segments having especially small dimensions transverse to the longitudinal axis, and with additional segments in parallel relation to said axis.

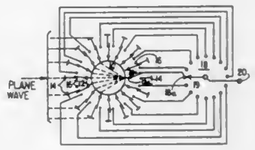
ERRATA

For Classes 250—219 thru 343—6.8 see:
Patent Nos. 3,529,195 thru 3,524,201

3,524,192
SCANNING APPARATUS FOR ANTENNA ARRAYS
Nicholas G. Sakiotis and Ben H. Auten, Phoenix, Ariz., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Dec. 9, 1963, Ser. No. 328,868
Int. Cl. H01q *3/24*
U.S. Cl. 343—854 **12 Claims**

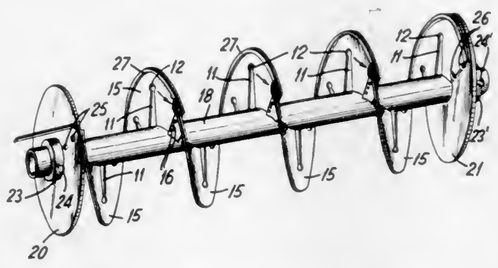
A scanning system having a circular array of antennas and a coupling network comprising a two dimensional microwave lens with a plurality of feed points about its

periphery, and a switching network to selectively connect a predetermined number of antennas to corresponding



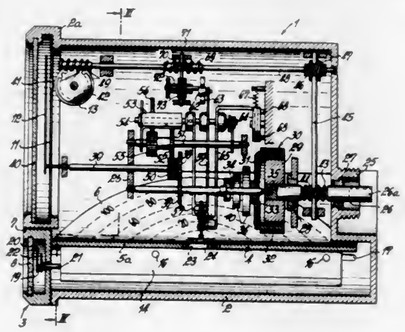
feed points. The wave energy is focused at a single diagonally opposite feed point that acts as the output port.

3,524,193
COLLAPSIBLE HELICAL ANTENNA
Don J. Auletta, Largo, Fla., assignor to Electronic Communications, Inc.
Filed Aug. 24, 1967, Ser. No. 663,108
Int. Cl. H01q *1/36*
U.S. Cl. 343—895 **5 Claims**



A collapsible helical antenna formed of a plurality of insulating discs notched to permit torsional motion and lap-joined to produce a helix upon axial separation of the ends. A circumferential conductor, which defines the helical antenna, is carried on the insulating discs.

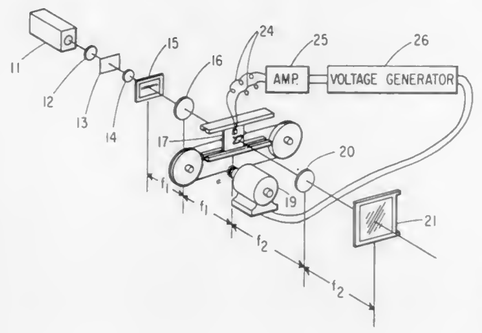
3,524,194
COMPACT RECORDING INSTRUMENT
Karl Vögtlin, Villingen, Germany, assignor to Kienzle Apparate G.m.b.H., Villingen, Black Forest, Germany
Filed June 4, 1968, Ser. No. 734,263
Claims priority, application Germany, June 6, 1967, 1,268,889
Int. Cl. G01d *15/32*
U.S. Cl. 346—123 **12 Claims**



Recordings are made on a flexible circular recording sheet while the same is rotated by a clockwork on a curved support in a curved condition in which two diametrical

peripheral points thereof are spaced a distance smaller than its diameter so that the transverse width of the support and its housing are smaller than the diameter of a standard recording sheet.

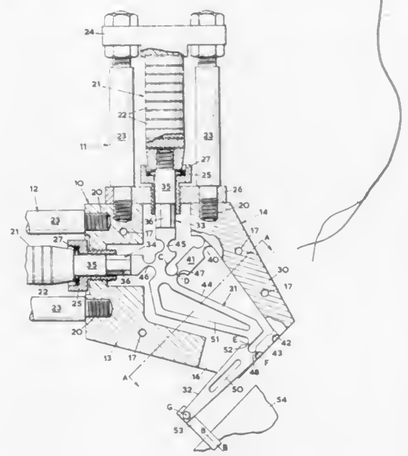
3,524,195
DECONVOLUTION OF VARIABLE OPTICAL DENSITY RECORDS
Daniel Silverman, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Nov. 4, 1968, Ser. No. 773,218
Int. Cl. G01n *21/30*
U.S. Cl. 250—219 **11 Claims**



A first strip of variable optical density comprising a multifrequency time function may contain frequency components, the amplitudes of which are excessive or deficient compared to that of other frequency components. A second variable optical density strip can be generated in which the range of amplitude with frequency has been decreased by forming a one-dimensional Fourier transform of the first strip in an optical processing device. Differences in amplitude with frequency on the first strip are represented on the transform by variation in intensity of illumination at distances corresponding to frequency along a line from the center of this plane. A mask with a narrow opening is moved at varying speed along the frequency axis of the transform plane. This speed is related to the light intensity passing through the narrow opening. Accordingly, the light passing through this opening ultimately generates the second record with more uniform amplitude-frequency relationship than was present on the first strip.

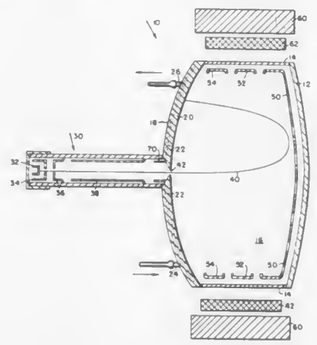
3,524,196
PIEZOELECTRIC ACTUATORS
Peter Dudley Church and Chris Stavros Sideras, London, England, assignors to English Electric Computers Limited, London, England, a British company
Filed Mar. 11, 1968, Ser. No. 711,983
Claims priority, application Great Britain, Mar. 10, 1967, 11,305/67
Int. Cl. H01v *7/00*
U.S. Cl. 310—8 **4 Claims**

An actuator of particular application to data storage apparatus, in which the desired relative movement between the actuator output member and the actuator body structure is produced by piezoelectric elements in response to an electrical signal. Preferably the actuator includes a stack of piezoelectric elements arranged longitudinally of one another for acting cumulatively in series, within the stack alternate elements being piezoelectrically oppositely orientated and connected in opposite senses between two input terminals. The actuator may include two or more such stacks in parallel and preferably arranged so that the actuator is substantially unaffected by the changes in ambient temperature. Where levers are provided for amplifying the movement produced by the elements, the



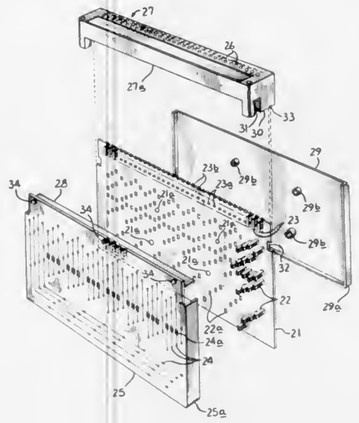
levers are preferably each carried on flexure hinges and are formed integrally with one another. Where the actuator is used in data storage apparatus, it may be used to provide track selection and/or track following.

3,524,197
HIGH INTENSITY PROJECTION CATHODE RAY TUBE
William J. Soule, Brookline, Mass., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed May 28, 1968, Ser. No. 732,780
Int. Cl. H01j *1/02, 29/46, 29/76, 61/52*
U.S. Cl. 313—79 **6 Claims**



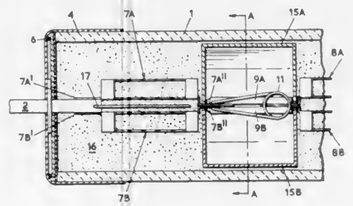
A high intensity projection cathode ray tube comprises an electron gun disposed behind a concave phosphor screen which is mounted on the rear wall of the tube at a distance from the tube face plate. The electron beam is injected through a small central aperture in the screen and then refleted back to the screen by a negative electrode in the forward portion of the tube. A permanent magnet is employed for focusing and magnetic yokes are used for vertical and horizontal deflection. The rear wall of the tube is formed of a heavy metal plate which may be water-cooled for effective heat sinking.

3,524,198
MODULAR UNIT FOR MAKING PLUG-IN ELECTRICAL CONNECTIONS
Howard V. Malmstadt, Urbana, Ill., and Christie G. Enke, Lansing, Mich., assignors to Heath Company, St. Joseph, Mich., a corporation of Delaware
Filed Feb. 29, 1968, Ser. No. 709,277
Int. Cl. H05k *1/04*
U.S. Cl. 317—101 **8 Claims**



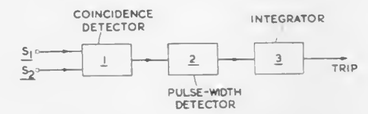
A modular unit for making electrical connections with ordinary electrical wire without the use of special jacks, pins or the like, and useful in devices for teaching electronics. The modular unit includes a card member having a printed circuit or other circuit elements thereon, and a multiplicity of receptacles adapted to receive and hold the stripped end of ordinary electrical wire. A three-piece casing is secured to the card and forms a multiplicity of apertures associated with the receptacles on the card for receiving and guiding electrical wires into the receptacles. The top or header section of the casing is adapted to be mounted directly on the card, and thus may be used without the other two sections of the casing. Appropriate indicia are preferably provided on the casing for identifying the various receptacles associated with the apertures in the casing.

3,524,199
FUSE LINKS
Eric Jacks, John Feenan, and Wilfred Clarke, Liverpool, England, assignors to The English Electric Company Limited, London, England, a British company
Filed May 27, 1968, Ser. No. 732,167
Claims priority, application Great Britain, May 26, 1967 24,516/67
Int. Cl. H01h *85/08*
U.S. Cl. 337—161 **3 Claims**



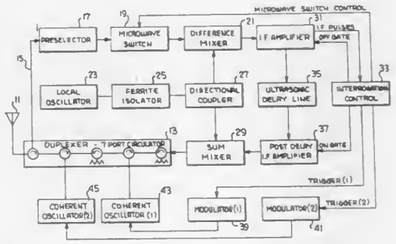
Fuse links incorporating dual elements for operating dual elements for operating on both high fault currents and sustained overloads. In particular, a fuse link comprises first elements of strip form and a second element connected between them comprising two plate-like members. These two members are soldered to the first elements, and springs are provided normally to bias these members apart. The arrangement is operable such that the first element fuses only upon the passage of a high overcurrent whereas the two plates of the second element are operable to break contact with the first elements in response to the solder melting on the passage of a sustained overload current, the springs being effective to force apart these two plates under this condition.

3,524,200
MAGNETIC CORE PHASE COMPARISON CIRCUIT
William Derek Humpage and Selliah Manickavasagar, Manchester, England, assignors to The English Electric Company Limited, London, England, a British company
Filed Jan. 22, 1968, Ser. No. 699,735
Claims priority, application Great Britain, Jan. 20, 1967, 3,189/67
Int. Cl. H04q *9/08*
U.S. Cl. 340—170 **13 Claims**



This invention relates to electrical protective relays and more particularly concerns a comparator for comparing the phase relationship between two input signals and operative to develop an output when their phase displacement lies within predetermined limits. Basically, the comparator includes a coincidence detector for producing pulses having a duration dependent on the periods of coincidence between the input signals and a magnetic circuit comprising a pulsewidth detector and integrator. This latter circuit includes at least one core magnetised by the aforesaid pulses to a degree dependent on their duration and which is successively reset by a predetermined amount, this circuit being operative to develop an output indicative of the phase displacement referred to only in response to the pulses being of such duration as to saturate the core.

3,524,201
PULSE COHERENT TRANSPONDER
James W. Land, Jr., Springfield, Va., assignor to Control Science Corporation, Alexandria, Va., a corporation of Virginia
Filed Oct. 1, 1968, Ser. No. 764,233
Int. Cl. G01s *9/56, 9/44*
U.S. Cl. 343—6.8 **12 Claims**



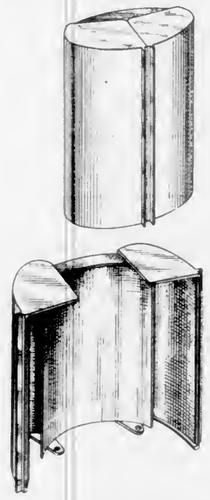
A radar transponder transmits reply pulses of R-F energy which is identical in frequency and phase coherent with R-F energy in received interrogation pulses. The interrogation pulses are converted to I-F pulses which are decoded, amplified and delayed accordingly, and then

reconverted to R-F for transmission, phase coherency being maintained by utilization of the same local oscillator for conversion from and reconversion to R-F. The reconverted R-F is utilized as an injection signal for frequency-synchronizing and phase-locking an injection phase-locked oscillator, the output signal from which, in turn, may be similarly employed as an injection signal to frequency synchronize and phase-lock a further injection phase-locked oscillator. A number of phase-locked injection oscillators may be so cascaded to provide the required output power. Since the output pulse from the phase-locked injection oscillators tracks the input pulse in frequency and is phase-coherent therewith, the transponder is responsive to multiple interrogation sources operating at different frequencies within a prescribed range. Control circuitry is provided for decoding interrogation pulses and time-synchronizing the triggering of the phase-locked injection oscillators.

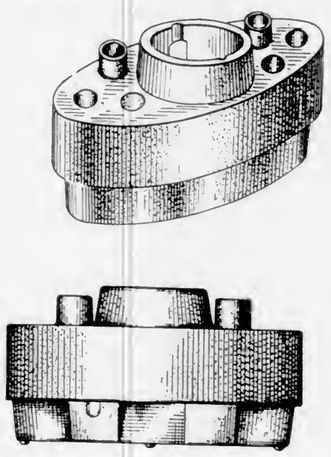
DESIGNS

AUGUST 11, 1970

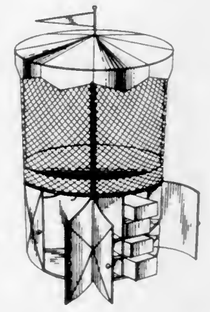
218,269
CABINET FOR A RECHARGING BASE AND BATTERY OPERATED TOOTHBRUSH
LaVern G. Soper, Eau Claire, Wis., assignor to National Presto Industries, Inc., Eau Claire, Wis., a corporation of Wisconsin
Filed June 11, 1969, Ser. No. 17,628
Term of patent 14 years
Int. Cl. D4—*02*
U.S. Cl. D4—16



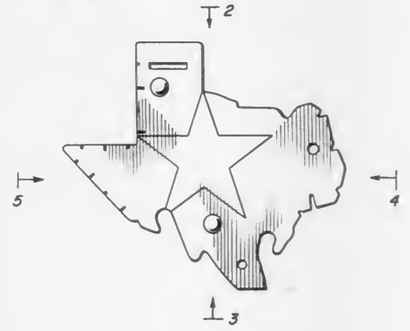
218,270
RECHARGING BASE FOR BATTERY OPERATED TOOTHBRUSH
LaVern G. Soper, Eau Claire, Wis., assignor to National Presto Industries, Inc., Eau Claire, Wis., a corporation of Wisconsin
Filed June 11, 1969, Ser. No. 17,634
Term of patent 14 years
Int. Cl. D4—*02*
U.S. Cl. D4—16



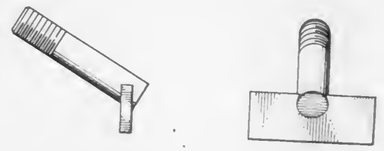
218,271
COMBINED CRIB AND STORAGE CABINET
Filed Nov. 7, 1968, Ser. No. 14,350
Marilyn B. Harrison, Castro County, Tex. (Rte. 2, Hart, Tex. 79043)
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D5—5



218,272
MULTIPURPOSE TOOL OR SIMILAR DEVICE
Benno Bothe, 1508 Hiway 46 S., New Braunfels, Tex. 78130
Filed Aug. 1, 1969, Ser. No. 18,503
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—19



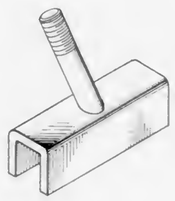
218,273
DESOLDERING TOOL
Alvis R. Knowles, Torrance, Calif., assignor to Eldon Industries, Inc., Hawthorne, Calif., a corporation of California
Filed Oct. 9, 1968, Ser. No. 13,893
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—30



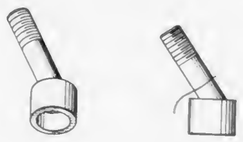
218,274
DESOLDERING TOOL
Alvis R. Knowles, Torrance, Calif., assignor to Eldon Industries, Inc., Hawthorne, Calif., a corporation of California
Filed Oct. 9, 1968, Ser. No. 13,894
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—30



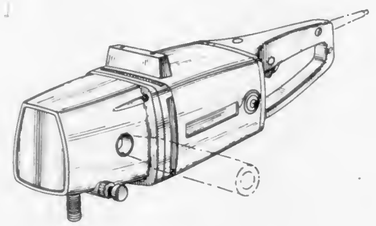
218,275
DESOLDERING TOOL
Alvis R. Knowles, Torrance, Calif., assignor to Eldon Industries, Inc., Hawthorne, Calif., a corporation of California
Filed Oct. 9, 1968, Ser. No. 13,895
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—30



218,276
DESOLDERING TOOL
Alvis R. Knowles, Torrance, Calif., assignor to Eldon Industries, Inc., Hawthorne, Calif., a corporation of California
Filed Oct. 9, 1968, Ser. No. 13,896
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—30



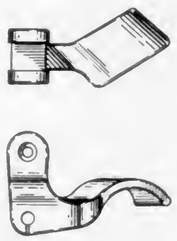
218,277
SANDER-POLISHER
Melvin H. Boldt, Glenview, Ill., assignor to G. W. Murphy Industries, Inc., Houston, Tex., a corporation of Texas
Filed Jan. 23, 1969, Ser. No. 15,477
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—62



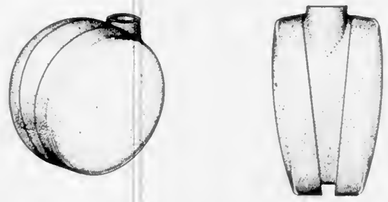
218,278
RIFLE MOUNTED KNIFE SHARPENER OR SIMILAR ARTICLE
William H. Pfeiffer, 307 Lone Star Road, Nampa, Idaho 83651
Filed June 23, 1969, Ser. No. 17,821
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—93



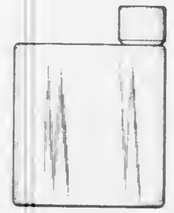
218,279
FINGER ACTUABLE THROTTLE LEVER FOR LIGHTWEIGHT VEHICLES
Guy-Noel Chaumont, 138 Gaulin St., Princeville, Quebec, Canada
Filed May 23, 1969, Ser. No. 17,308
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—161



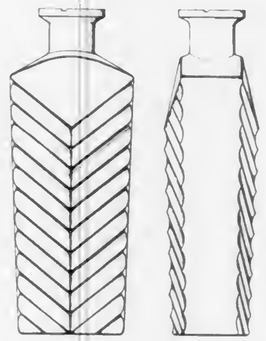
218,280
CASTER FOR FURNITURE AND SMALL TRANSPORT DEVICES OR THE LIKE
Walter Schindler, Basel, Switzerland, assignor to Giroflex-Entwicklungs AG, Koblenz, Switzerland, a Swiss corporation
Filed June 21, 1968, Ser. No. 12,465
Claims priority, application Switzerland Feb. 27, 1968
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—226



218,281
BOTTLE
Horst Diener, Ulm-Wiblingen, Germany, assignor to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Mar. 13, 1968, Ser. No. 10,960
Claims priority, application Germany Sept. 13, 1967
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—71



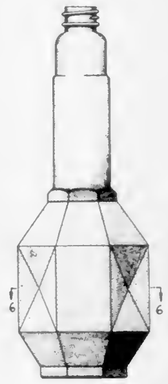
218,282
DECANTER
Walter T. Heintze, New Canaan, Conn., assignor to Schenley Industries, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 5, 1969, Ser. No. 18,543
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—101



218,283
BOTTLE
Richard L. Kline, Mount Vernon, N.Y., assignor to Deviline Inc., Mount Vernon, N.Y., a corporation of New York
Filed May 22, 1969, Ser. No. 17,274
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—118



218,284
DECANTER
Ernest L. Du Pree, New York, N.Y., assignor to Schenley Industries, Inc., New York, N.Y., a corporation of Delaware
Filed July 14, 1969, Ser. No. 18,190
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—128



218,285
BOTTLE OR THE LIKE
Ron J. Klensch, Park Ridge, Ill., assignor to Tolibia Cheese, Inc., Chicago, Ill., a corporation of Wisconsin
Filed Dec. 9, 1968, Ser. No. 14,837
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—131



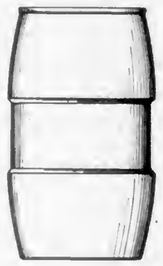
218,286
DECANTER
Ernest L. DuPree, New York, N.Y., assignor to Schenley Industries, Inc., New York, N.Y., a corporation of Delaware
Filed July 14, 1969, Ser. No. 18,191
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—167



218,287
COMBINED UMBRELLA AND SHEATH PACKAGE
Fritz Bremshey, Solingen-Ohligs, Germany, assignor to Telesco Brophey Limited, East Montreal, Quebec, Canada
Filed Dec. 2, 1968, Ser. No. 14,739
Term of patent 14 years
Int. Cl. D9—*99*
U.S. Cl. D9—193



218,288
BEVERAGE CAN
Frederick W. Hilliard, Seattle, and Leslie W. Meyers, Mercer Island, Wash., assignors to Carling Brewing Company Incorporated, Cleveland, Ohio, a corporation of Virginia
Filed Mar. 29, 1968, Ser. No. 11,203
Term of patent 14 years
Int. Cl. D9—*07*
U.S. Cl. D9—216



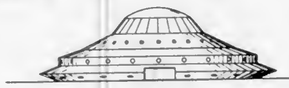
218,289
FOOD BASTING ATTACHMENT FOR BOTTLES OR THE LIKE
Bathuel Rafael Posada, 3700 Dean Drive, Apt. 1207, Ventura, Calif. 93003
Original design application Aug. 20, 1968, Ser. No. 13,208. Divided and this application May 8, 1969, Ser. No. 17,066
Term of patent 14 years
Int. Cl. D9—*02*
U.S. Cl. D9—275



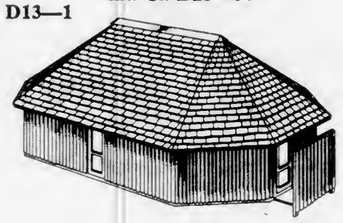
218,290
SHOPPING BAG HANDLE OR SIMILAR ARTICLE
Saul Klarer, 4817 4th St., Laval, Quebec, Canada
Filed Apr. 19, 1968, Ser. No. 11,527
Claims priority, application Canada Nov. 10, 1967
Term of patent 3½ years
Int. Cl. D9—*99*
U.S. Cl. D9—292



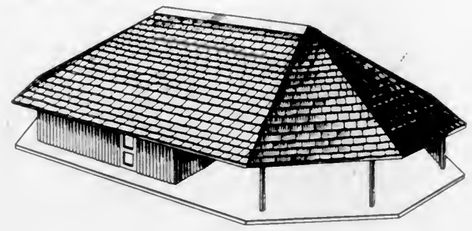
218,291
BUILDING
James E. Sides, 9419 Covemeadow Drive, Dallas, Tex. 75238
Filed Nov. 15, 1968, Ser. No. 14,496
Term of patent 14 years
Int. Cl. D25—*04*
U.S. Cl. D13—1



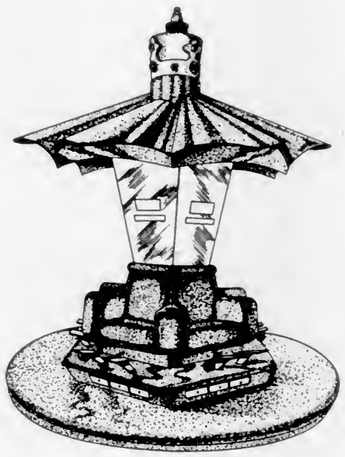
218,292
COMBINED BATHHOUSE AND LAUNDRY BUILDING FOR CAMPGROUNDS
Charles W. Brady, 909 Cherry St., Columbia, Mo. 65201
Filed Sept. 16, 1969, Ser. No. 19,174
Term of patent 14 years
Int. Cl. D25—*04*
U.S. Cl. D13—1



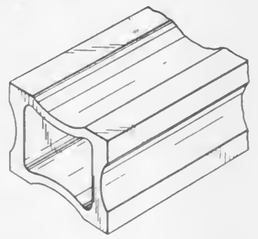
218,293
COMBINED STORE AND RECREATION SHELTER BUILDING FOR CAMPGROUNDS
Charles W. Brady, Columbia, Mo., assignor to Safari Camps of America, Inc., Columbia, Mo., a corporation of Missouri
Filed Sept. 16, 1969, Ser. No. 19,175
Term of patent 14 years
Int. Cl. D25—*04*
U.S. Cl. D13—1



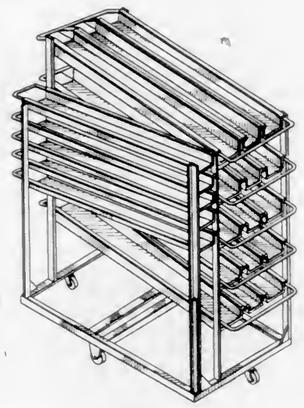
218,294
SHOESHINE STAND
Glen A. Smith, 4896 Rio Vista Ave., San Jose, Calif. 95129
Filed Sept. 25, 1969, Ser. No. 19,298
Term of patent 7 years
Int. Cl. D25—*99*
U.S. Cl. D13—1



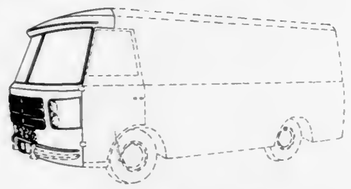
218,295
SEALING STRIP
Kenneth Basil Withy MacLellan and John Patrick McCarthy, Glasgow, Scotland, assignors to MacLellan Rubber Limited, Glasgow, Scotland, a British company
Filed Apr. 10, 1969, Ser. No. 16,661
Claims priority, application Great Britain Nov. 18, 1968
Term of patent 14 years
Int. Cl. D25—*01*
U.S. Cl. D13—6



218,296
MOVABLE SUPPORT FOR CONES, CHEESES OR THE LIKE
James Glenn Fisher, Hartwell, Ga., assignor to NVF Company, Wilmington, Del.
Filed Aug. 27, 1968, Ser. No. 13,286
Term of patent 14 years
Int. Cl. D12—*02*
U.S. Cl. D14—3



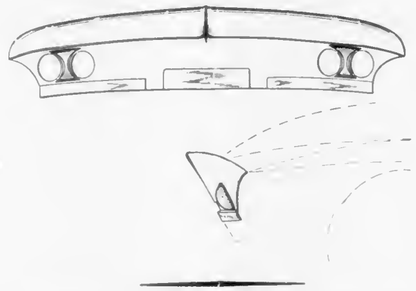
218,297
FRONT PANEL UNIT FOR A VEHICLE
Jesse R. Birchard, Walled Lake, Mich., Albert D. Mortrude, Pompano Beach, Fla., and Ray C. Conner, Battle Creek, Mich., assignors, by mesne assignments, to The Cortez Corporation, Kent, Ohio, a corporation of Ohio
Filed Sept. 20, 1968, Ser. No. 13,621
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D14—6



218,298
FROST, SNOW AND SLEET PROTECTIVE COVER FOR AUTOMOTIVE WINDSHIELD
Lloyd F. Kurschner, 523 8th Ave., Minneapolis, Minn. 55413
Filed Apr. 21, 1969, Ser. No. 16,825
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D14—6



218,299
SPORT CAR SPOILER
Arthur E. Clay III, 2925 Wagner Court, Altadena, Calif. 91001
Filed Apr. 28, 1969, Ser. No. 16,925
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D14—6



218,300
CHAIR
Bernard David Nightingale, 6 Wyegate Court, Willowdale, Ontario, Canada
Filed Feb. 23, 1968, Ser. No. 10,697
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



218,301
CHAIR
Alex Strassle, 9533 Kirchberg, St. Gallen, Kirchberg, Switzerland
Filed Sept. 13, 1968, Ser. No. 13,532
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1

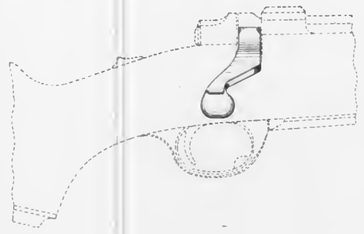


218,302
CHAIR
Paul F. Bertram, St. Louis, Mo., assignor to Lee-Rowan Company, St. Louis, Mo., a corporation of Missouri
Filed Jan. 3, 1969, Ser. No. 15,194
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1

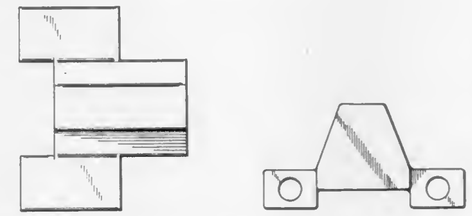


218,303
CHAIR
Leonart Bender, Stockholm, Sweden
(% Charlton Co., Inc., Leominster, Mass.)
Filed Jan. 6, 1969, Ser. No. 15,214
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1

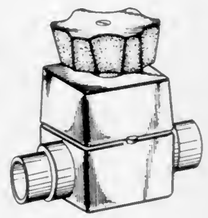
218,304
HANDLE FOR THE BOLT OF A RIFLE
William B. Ruger, Southport, Conn., assignor to Sturm, Ruger & Co., Inc., Southport, Conn., a corporation of Connecticut
Filed Apr. 4, 1969, Ser. No. 16,583
Term of patent 14 years
Int. Cl. D22—*02*
U.S. Cl. D22—7



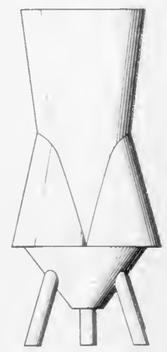
218,305
VALVE BODY
Aaron Kutz, Forest Hills, N.Y., assignor to Fluidic Controls Corporation, South Hackensack, N.J., a corporation of New Jersey
Filed Dec. 3, 1968, Ser. No. 14,767
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—19



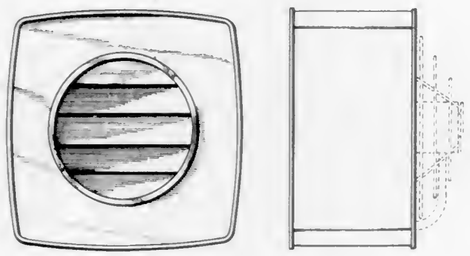
218,306
DIAPHRAGM VALVE
Walter Kreis, Neuhausen, and Paul Troesch, Schaffhausen, Switzerland, assignors to Georg Fischer Aktiengesellschaft, Schaffhausen, Switzerland, a corporation of Switzerland
Filed June 24, 1969, Ser. No. 17,857
Claims priority, application Switzerland Feb. 3, 1969
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—19



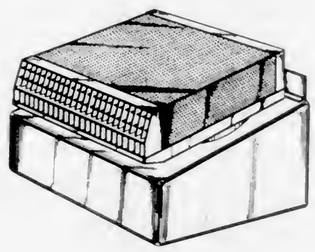
218,307
PYRODECOMPOSITION APPARATUS
John W. Brophy, 242 Woodberry Drive, Bloomfield Hills, Mich. 48013
Filed July 28, 1969, Ser. No. 18,440
Term of patent 14 years
Int. Cl. D23—*03*
U.S. Cl. D23—85



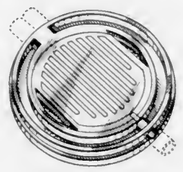
218,308
ELECTRIC UNIT HEATER
Kurt B. Boehm, Lake Bluff, and Tadeusz S. Otocki, Chicago, Ill., assignors to ILG Industries Inc., Chicago, Ill., a corporation of Delaware
Filed Sept. 9, 1968, Ser. No. 13,453
Term of patent 14 years
Int. Cl. D23—*03*
U.S. Cl. D23—110



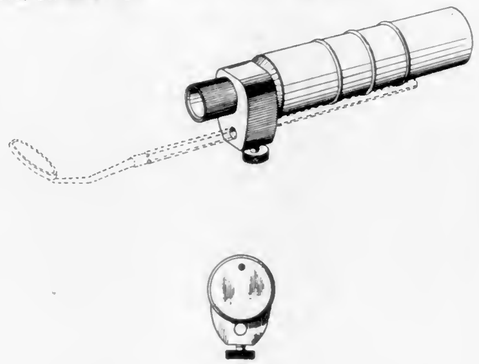
218,309
DESIGN FOR A HUMIDIFIER OR THE LIKE
Hans Rudolf Stoop, Zug, Switzerland, assignor to Defensor A.G., Zurich, Switzerland, a Swiss corporation
Filed Jan. 3, 1969, Ser. No. 15,204
Claims priority, application Switzerland Sept. 4, 1968
Term of patent 14 years
Int. Cl. D23—*04*
U.S. Cl. D23—147



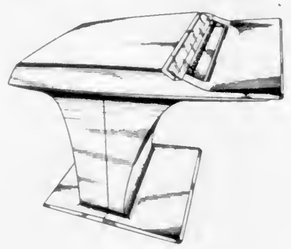
218,310
GAS SEPARATOR
David Rosenberg, 12 Francis Court, Glen Cove, N.Y. 11542
Filed Apr. 10, 1969, Ser. No. 16,671
Term of patent 14 years
Int. Cl. D23—*04*
U.S. Cl. D23—149



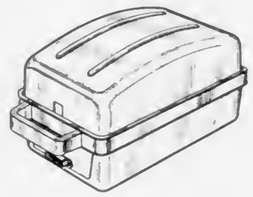
218,311
DENTAL MIRROR LIGHT
Michael N. Foster, Arlington, Tex. (P.O. Box 1681, Fort Worth, Tex. 76101)
Filed Aug. 28, 1969, Ser. No. 18,895
Term of patent 14 years
Int. Cl. D24—*03*; D26—*04*
U.S. Cl. D24—1



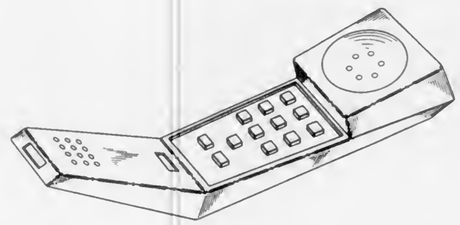
218,312
CABINET FOR DATA PROCESSING EQUIPMENT OR SIMILAR ARTICLE
Donald D. Kelemen, Sherborn, and Charles N. Mazza, Framingham, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Sept. 4, 1969, Ser. No. 19,001
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—5



218,313
HOUSING FOR AN INPUT/OUTPUT ACOUSTICAL TELEPHONE COUPLER UNIT
Robert A. Rice, Minneapolis, Minn., assignor to Data Communications Systems, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Nov. 26, 1968, Ser. No. 14,679
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—14



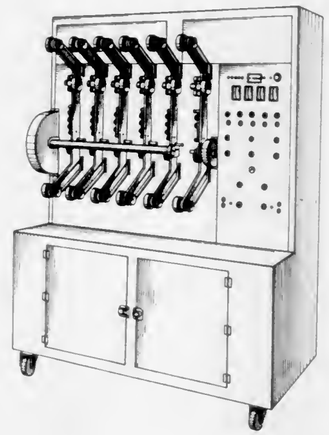
218,314
TELEPHONE HANDSET
John F. Tyson, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Mar. 5, 1969, Ser. No. 16,046
Term of patent 14 years
Int. Cl. D14—*03*
U.S. Cl. D26—14



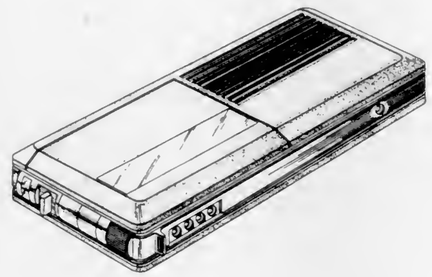
218,315
MICROPHONE
Eduard A. Rusch, 1480 Ramblewood Drive, Hanover Park, Ill. 60103, and Raoul Rodriguez, 2521 N. Burling St., Chicago, Ill. 60614
Filed May 12, 1969, Ser. No. 17,109
Term of patent 14 years
Int. Cl. D14—*03*
U.S. Cl. D26—14



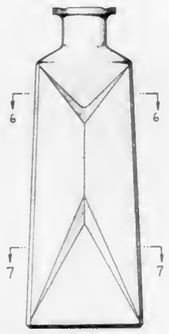
218,316
TAPE DUPLICATING MACHINE
Joseph C. Bouzaglou, Sherman Oaks, and Alwin P. Schmid, Hollywood, Calif., assignors to Coast Export Co., Inc., a corporation of California
Filed June 3, 1969, Ser. No. 17,485
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D26—14



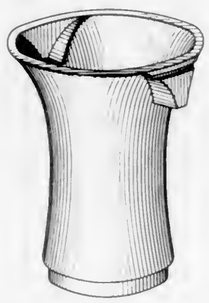
218,317
CASSETTE TRANSPORT
Orville W. Larson, Elmhurst, Ill., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Aug. 18, 1969, Ser. No. 18,724
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D26—14



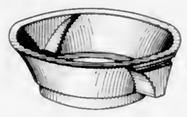
218,318
DECANTER
Walter T. Heintze, New Canaan, Conn., assignor to Schenley Industries, Inc., New York, N.Y., a corporation of Delaware
Filed July 30, 1969, Ser. No. 18,476
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—129



218,319
TROPHY
Dorothy K. Allen, Libertyville, Ill., assignor to F. H. Noble & Company, Chicago, Ill., a corporation of Illinois
Filed Nov. 15, 1967, Ser. No. 9,428
Term of patent 14 years
Int. Cl. D11—*02*
U.S. Cl. D29—28



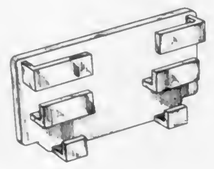
218,320
TROPHY
Dorothy K. Allen, Libertyville, Ill., assignor to F. H. Noble & Company, Chicago, Ill., a corporation of Illinois
Original design application Nov. 15, 1967, Ser. No. 9,428. Divided and this application May 27, 1969, Ser. No. 18,539
Term of patent 14 years
Int. Cl. D11—*02*
U.S. Cl. D29—28



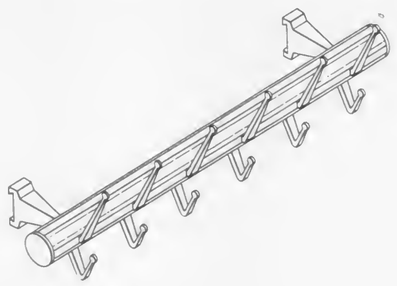
218,321
SUPPORT GUIDE FOR A CABINET DRAWER OR SIMILAR ARTICLE
Robert J. Vander Ley, Grand Rapids, Mich., assignor to The Leslie Metal Arts Co., Inc., Grand Rapids, Mich.
Filed May 6, 1968, Ser. No. 11,790
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—1



218,322
RACK FOR HOLDING ERASERS
Clarence A. Smith, 3710 Osceola St., Denver, Colo. 80212
Filed May 8, 1969, Ser. No. 17,065
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—3



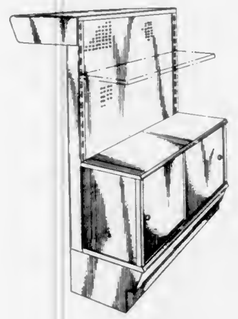
218,323
COAT RACK
Mark O. Uitz, Mountain View, Calif., assignor to F. J. L. Corporation, Palo Alto, Calif., a corporation of California
Filed May 8, 1969, Ser. No. 17,064
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—8



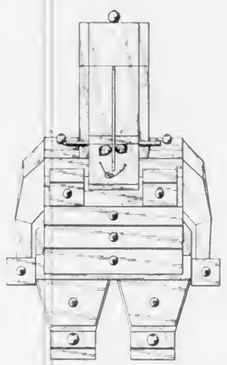
218,324
COAT HANGER
Mark O. Uitz, Mountain View, Calif., assignor to F. J. L. Corporation, Palo Alto, Calif., a corporation of California
Filed May 8, 1969, Ser. No. 17,072
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—8



218,325
COMBINED CABINET AND ROOM DIVIDER
Lester S. Sherman, Franklin County, Ohio (3275 Polley Road, Columbus, Ohio 43221)
Filed Jan. 10, 1969, Ser. No. 15,296
Term of patent 7 years
Int. Cl. D6—*01*
U.S. Cl. D33—19



218,326
CABINET
William A. Hyman, K & K Mobile Park J–2, Bradenton, Fla. 33505
Filed Mar. 4, 1969, Ser. No. 16,024
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—19

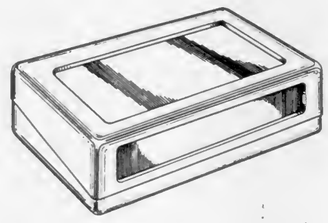


218,327
CABINET OR SIMILAR ARTICLE
Marino Acerbis, Seriate, Italy, assignor to Industria del Mobile Acerbis Benvenuto S.n.C., Seriate, Bergamo, Italy
Filed Mar. 10, 1969, Ser. No. 16,137
Claims priority, application Italy Sept. 9, 1968
Term of patent 7 years
Int. Cl. D6—*01*
U.S. Cl. D33—19

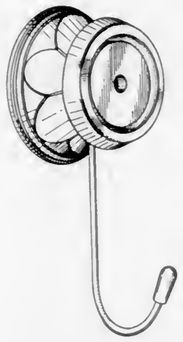


218,328
CABINET
Wilbur Rone, 178 Rockhill Road, Asheville, N.C. 28803
Filed Apr. 18, 1969, Ser. No. 16,810
Term of patent 3½ years
Int. Cl. D6—*01*
U.S. Cl. D33—19

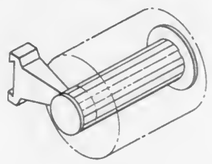
218,329
BAR SOAP CONTAINER
Ronald L. Weaver, Rte. 1, Box 130, Lebanon, Oreg. 97355
Filed Nov. 25, 1968, Ser. No. 15,186
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—24



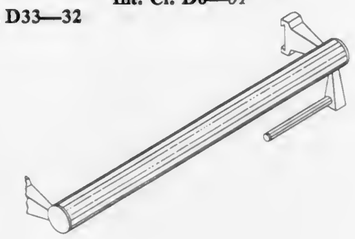
218,330
MAGNETIC-SUCTION COMBINATION SOAP HOLDER AND HOOK
Charles H. Hagopian, 2344 Davidson Ave., Bronx, N.Y. 10468
Filed May 28, 1969, Ser. No. 17,403
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—25



218,331
TOILET PAPER HOLDER
Mark O. Uitz, Mountain View, Calif., assignor to F. J. L. Corporation, Palo Alto, Calif., a corporation of California
Filed May 8, 1969, Ser. No. 17,074
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—31



218,332
TOWEL RACK
Mark O. Uitz, Mountain View, Calif., assignor to F. J. L. Corporation, Palo Alto, Calif., a corporation of California
Filed May 8, 1969, Ser. No. 17,071
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—32



218,333
RAG DOLL
Cecelia Jeannette Cummings, 3033 S. D St., Oxnard, Calif. 93030
Filed May 26, 1969, Ser. No. 17,320
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—4



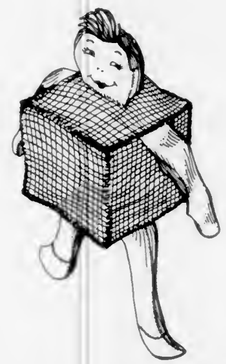
218,334
RAG DOLL
Cecelia Jeannette Cummings, 3033 S. D St., Oxnard, Calif. 93030
Filed May 26, 1969, Ser. No. 17,352
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—4



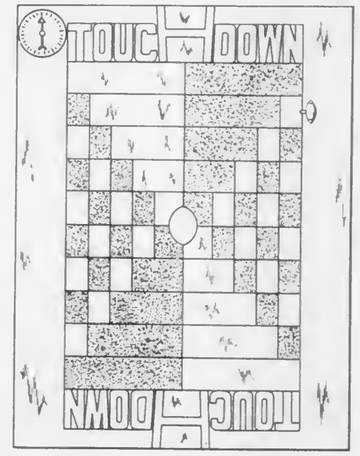
218,335
RAG DOLL
Cecelia Jeannette Cummings, 3033 S. D St., Oxnard, Calif. 93030
Filed May 26, 1969, Ser. No. 17,353
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—4



218,336
RAG DOLL
Cecelia Jeannette Cummings, 3033 S. D St., Oxnard, Calif. 93030
Filed May 26, 1969, Ser. No. 17,357
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—4



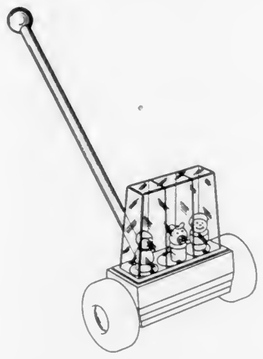
218,337
FOOTBALL GAME BOARD
Paul Posnick, 330 E. 79th St., New York, N.Y. 10021
Filed Feb. 3, 1969, Ser. No. 15,588
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



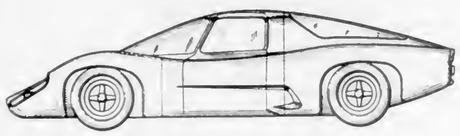
218,338
STATIONARY EXERCISE BICYCLE
Keene P. Dimick, Santa Rosa, and Anthony J. Iozzi, Moraga, Calif., assignors to Lifecycle, Inc., Concord, Calif., a corporation of California
Filed Mar. 3, 1969, Ser. No. 16,013
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



218,339
PUSH TOY
Ralph W. Crawford, East Aurora, N.Y., assignor to Fisher-Price Toys, Inc., East Aurora, N.Y., a corporation of New York
Filed Mar. 6, 1969, Ser. No. 16,093
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



218,340
MODEL RACING CAR
Bruce Leslie McLaren, Surrey, England, assignor to Bruce McLaren Motor Racing Limited, Colnbrook, Buckinghamshire, England
Filed May 22, 1969, Ser. No. 17,284
Claims priority, application Great Britain Nov. 23, 1968, Apr. 16, 1969
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



218,341
CUT AND DRY FLOWER HOLDER
Vincent Giannotti, Jr., Lexington, Ky. (7214 Running Rope, Austin, Tex. 78731)
Filed May 13, 1969, Ser. No. 17,137
Term of patent 14 years
Int. Cl. D11—*02*
U.S. Cl. D35—3



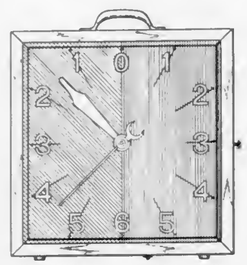
218,342
COMBINED WATCH FACE AND COMPASS FACE
William Rice, Jr., Box D, Paintsville, Ky. 41240
Filed May 16, 1969, Ser. No. 17,176
Term of patent 14 years
Int. Cl. D10—*06*
U.S. Cl. D42—1



218,343
CLOCK HANDS
Herbert E. Spencer, Grandville, Mich., assignor of one-half to Judith Helen Spencer
Filed June 23, 1969, Ser. No. 17,815
Term of patent 14 years
Int. Cl. D10—*06*
U.S. Cl. D42—1



218,344
WRESTLING TIMER OR THE LIKE
Claude P. Baumann, Upper Saddle River, N.J., assignor to Aristo Import Co., Inc., New York, N.Y., a corporation of New York
Filed July 16, 1969, Ser. No. 18,214
Term of patent 14 years
Int. Cl. D10—*05*
U.S. Cl. D42—7



218,345
SAUCEPAN OR THE LIKE
Jacques Aubecq, Auxi-Le-Chateau, Pas-de-Calais, France
Filed Oct. 24, 1968, Ser. No. 14,156
Term of patent 14 years
Int. Cl. D7—*02*
U.S. Cl. D44—1



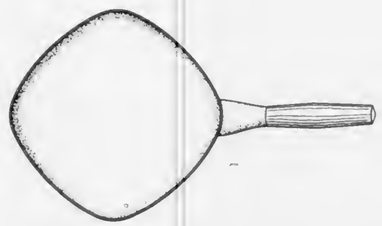
218,346
POT
Jacques Aubecq, Auxi-Le-Chateau, Pas-de-Calais, France
Filed Oct. 24, 1968, Ser. No. 14,163
Term of patent 14 years
Int. Cl. D7—*02*
U.S. Cl. D44—1



218,347
CASSEROLE
Jacques Aubecq, Auxi-Le-Chateau, Pas-de-Calais, France
Filed Oct. 24, 1968, Ser. No. 14,167
Term of patent 14 years
Int. Cl. D7—*02*
U.S. Cl. D44—1



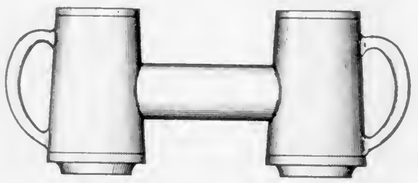
218,348
FRY PAN
Jacques Aubecq, Auxi-Le-Chateau, Pas-de-Calais, France
Filed Oct. 24, 1968, Ser. No. 14,168
Term of patent 14 years
Int. Cl. D7—*02*
U.S. Cl. D44—1



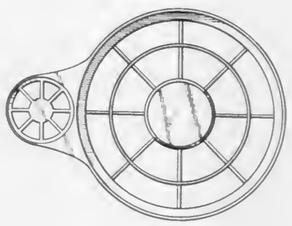
218,349
ICE BUCKET OR THE LIKE
Thomas F. Feeney, 6317 Liebig Ave., Bronx, N.Y. 10471
Filed Apr. 11, 1969, Ser. No. 16,695
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D44—1



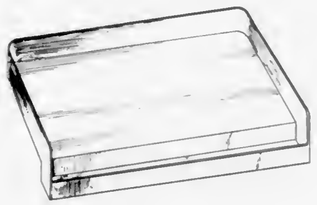
218,350
NOVELTY DRINKING VESSEL
Robert Paul Marks, 2554 W. Rosemont Ave., Chicago, Ill. 60645
Filed July 18, 1969, Ser. No. 18,270
Term of patent 7 years
Int. Cl. D7—*01*
U.S. Cl. D44—9



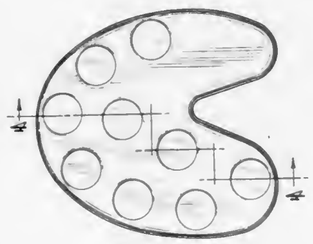
218,351
OUTDOOR FOOD TRAY
Sander Charles Nestegard, White Bear Lake, and Jack E. Wies, New Brighton, Minn., assignors to Marsan Industries Inc., White Bear Lake, Minn., a corporation of Minnesota
Filed Feb. 26, 1969, Ser. No. 15,924
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D44—10



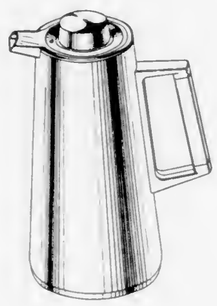
218,352
BABY FOOD TRAY
Joan M. Hoch, 244 S. Norton, Los Angeles, Calif. 90004
Filed Apr. 1, 1969, Ser. No. 16,537
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D44—10



218,353
SERVING TRAY
Thomas H. Eckdahl, Minneapolis, Minn., assignor to Plastics, Inc., St. Paul, Minn., a corporation of Delaware
Filed June 6, 1969, Ser. No. 17,551
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D44—10



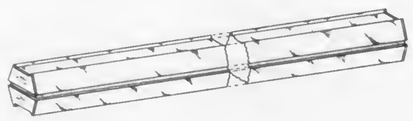
218,354
INSULATED JUG OR THE LIKE
Yoshito Kikuchi, Kadoma, Osaka Prefecture, Japan (% Tiger Vacuum Bottle Industrial Co., Ltd., 1033 Hayamicho, Kadoma, Japan)
Filed Aug. 26, 1969, Ser. No. 18,849
Claims priority, application Japan Apr. 15, 1969
Term of patent 7 years
Int. Cl. D7—*01*
U.S. Cl. D44—21



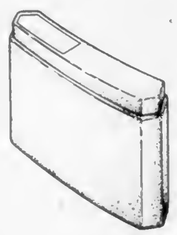
218,355
CANDELABRUM OR THE LIKE
Martin B. Bloom, 2543 Randy Lane, and Terry I. Feit, 2765 Bell Road, both of Bellmore, N.Y. 11710; and Irving J. Mandel, 10 Avondale Road, Plainview, N.Y. 11803
Filed Jan. 17, 1969, Ser. No. 15,402
Term of patent 14 years
Int. Cl. D26—*05*
U.S. Cl. D48—2



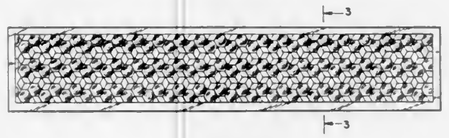
218,356
FLUORESCENT LIGHTING FIXTURE
Mitchell Bobrick, Pacific Palisades, Calif., assignor to Linear Lighting Co., Palisades, N.Y.
Filed Mar. 4, 1968, Ser. No. 10,846
Term of patent 14 years
Int. Cl. D26—*02*
U.S. Cl. D48—23



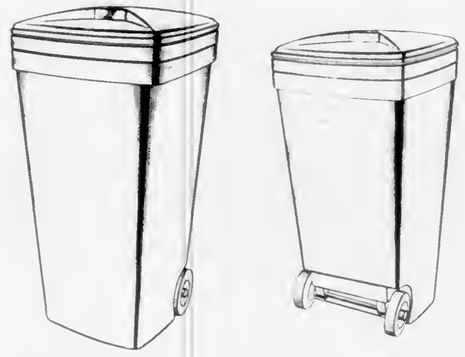
218,357
POCKET LIGHTER
Gotz Florian Strzelczyc, Muhlheim (Main) Germany, assignor to Rowenta Metallwarenfabrik G.m.b.H., Offenbach am Main, Germany, a company of Germany
Filed Feb. 28, 1969, Ser. No. 15,965
Claims priority, application Germany Sept. 4, 1968
Term of patent 14 years
Int. Cl. D27—*05*
U.S. Cl. D48—27



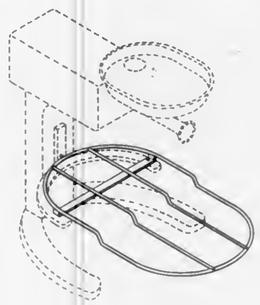
218,358
COMBINED REFLECTOR AND LENS
Sidney A. Heenan, Park Ridge, and Eugene A. Peterson, Northbrook, Ill., assignors to Amerace Esna Corporation, Union, N.J., a corporation of Delaware
Filed June 30, 1969, Ser. No. 17,978
Term of patent 14 years
Int. Cl. D12—*99*; D26—*06*; D29—*99*
U.S. Cl. D48—32



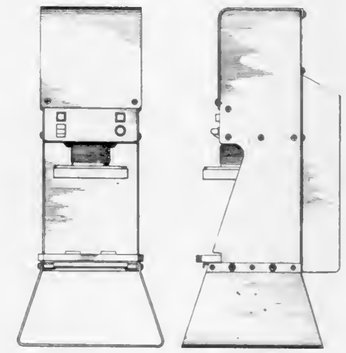
218,359
REFUSE RECEPTACLE OR SIMILAR ARTICLE
William Jackson Marsh, Garden Grove, Calif., assignor to Plasworld, Inc.
Filed Apr. 4, 1969, Ser. No. 16,586
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D49—35



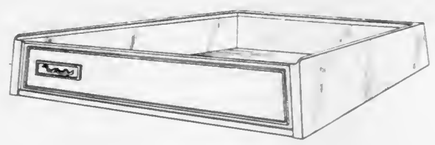
218,360
SUPPORT TRAY FOR FOOD PROCESSING MACHINE
Clyde E. Schul, Wildcat Township, Elk County, Kans., assignor to Marc Mfg., Inc., Wichita, Kans., a corporation of Kansas
Filed Apr. 23, 1969, Ser. No. 16,855
Term of patent 14 years
Int. Cl. D15—*12*; D7—*02*
U.S. Cl. D55—1



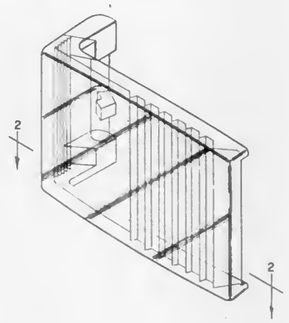
218,361
POTATO DOUGH EXTRUDING MACHINE
David A. Farrant, Northridge, Calif., assignor to The Scionics Corporation, a corporation of California
Filed July 25, 1969, Ser. No. 18,402
Term of patent 14 years
Int. Cl. D15—*12*
U.S. Cl. D55—1



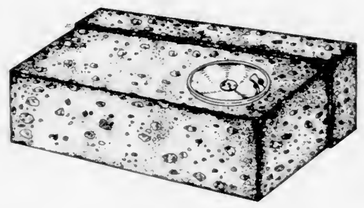
218,362
BASE FOR A TURNTABLE
Herbert N. Hartman, New York, N.Y., assignor to British Industries Corp., Westbury, N.Y., a corporation of New York
Filed June 13, 1968, Ser. No. 12,344
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D56—4



218,363
LIGHT DEFLECTOR FOR A PHOTOGRAPHIC CAMERA
James M. Conner, South Pasadena, Calif., and David E. Van Allen, Malden, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Mar. 21, 1969, Ser. No. 16,375
Term of patent 14 years
Int. Cl. D16—*99*
U.S. Cl. D61—1

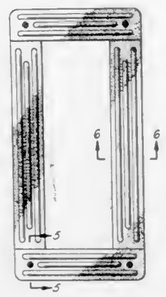


218,364
DRINKING FOUNTAIN
Allen C. Wright, Moraga, Calif., assignor to Haws Drinking Faucet Company, Berkeley, Calif., a corporation of California
Filed Mar. 24, 1969, Ser. No. 16,406
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D67—4

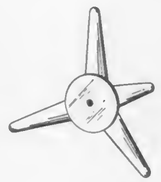


218,365
VERTICAL TAKE-OFF FLYING MACHINE
John W. Sherwood, Atlantic, Iowa (202 NE. 3rd Panora, Iowa 50216), and John W. Sherwood III, Rte. 3, Box 158, Guthrie Center, Iowa 50115
Original design application Apr. 3, 1967, Ser. No. 6,500. Divided and this application Sept. 16, 1968, Ser. No. 13,538
Term of patent 14 years
Int. Cl. D12—*07*
U.S. Cl. D71—1

218,366
BACK PLATE FOR A TRAFFIC SIGNAL LIGHT
Alfred P. Parduhn, Rte. 2, Box 33, Oklahoma City, Okla. 73114
Filed Feb. 3, 1969, Ser. No. 15,593
Term of patent 14 years
Int. Cl. D29—*99*
U.S. Cl. D72—1



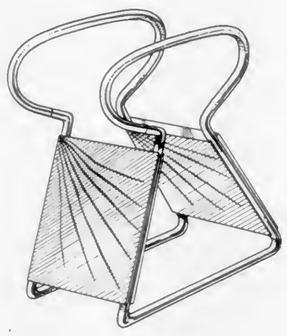
218,367
TRAFFIC WARNING MARKER
Alfred P. Parduhn, Rte. 2, Box 33, Oklahoma City, Okla. 73114
Filed Apr. 24, 1969, Ser. No. 16,888
Term of patent 14 years
Int. Cl. D29—*99*
U.S. Cl. D72—1



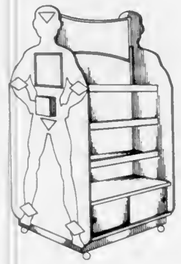
218,368
BAR OF SOAP OR THE LIKE
Roland E. Johnson, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed July 14, 1969, Ser. No. 18,187
Term of patent 14 years
Int. Cl. D7—*06*
U.S. Cl. D73—1



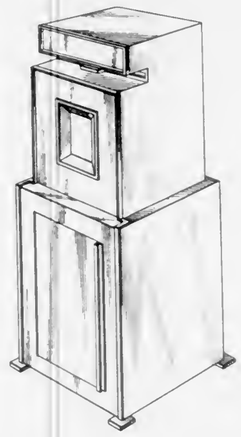
218,369
FLIP CARD INDEX FILE
John Schwartz, 77 Park Terrace E., New York, N.Y. 10034
Filed Dec. 9, 1968, Ser. No. 15,010
Term of patent 14 years
Int. Cl. D19—*99*
U.S. Cl. D74—2



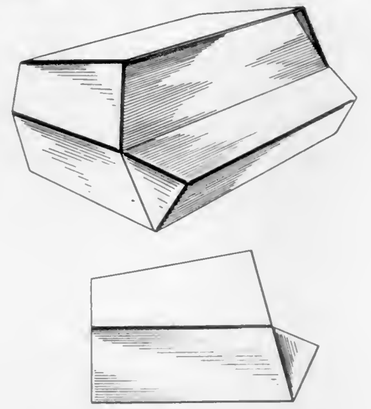
218,370
DISPLAY STAND
Robert Paul Benz, 410 Ivywood Drive, Oxnard, Calif. 93030
Filed Oct. 14, 1968, Ser. No. 13,989
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D80—9



218,371
IRRADIATOR HOUSING
Felix R. Grat, Lake Hiawatha, and Thomas A. Vizzini, Morris Plains, N.J., assignors to Radiation Machinery Corporation, a corporation of New Jersey
Filed Apr. 9, 1969, Ser. No. 16,636
Term of patent 14 years
Int. Cl. D24—*02*
U.S. Cl. D83—1



218,372
FLUID IRRADIATOR HOUSING
Felix R. Grat, Lake Hiawatha, and Thomas A. Vizzini, Morris Plains, N.J., assignors to Radiation Machinery Corporation, a corporation of New Jersey
Filed Apr. 9, 1969, Ser. No. 16,649
Term of patent 14 years
Int. Cl. D24—*02*
U.S. Cl. D83—1



218,373
EPIDURAL NEEDLE ASSEMBLY
Vincent L. Vaillancourt, Livingston, and Robert W. Harris, Florham Park, N.J., assignors to C. R. Bard, Inc., Murray Hill, N.J., a corporation of New York
Filed July 17, 1969, Ser. No. 18,246
Term of patent 14 years
Int. Cl. D24—*03*
U.S. Cl. D83—12

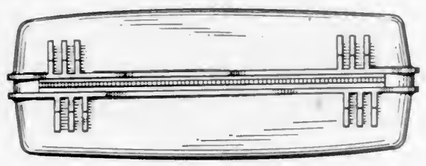




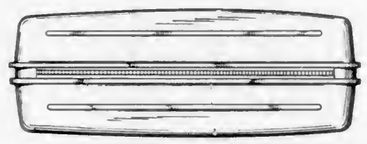
218,374
SHOPPING BAG
Shigeharu Kuroda, 1994–29 Oshikuma-cho, Nara, Nara Prefecture, Japan
Filed Mar. 11, 1968, Ser. No. 10,910
Term of patent 14 years
Int. Cl. D3—*02*
U.S. Cl. D87—3

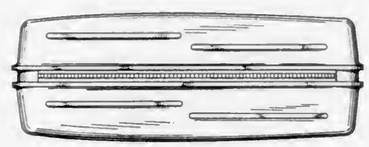


218,375
LUGGAGE CASE
Clair A. Samhammer, Orange, Calif., assignor to Samsonite Corporation, Denver, Colo., a corporation of Colorado
Original design application May 22, 1967, Ser. No. 7,201. Divided and this application Oct. 28, 1968, Ser. No. 14,205
Term of patent 14 years
Int. Cl. D3—*01*
U.S. Cl. D87—5

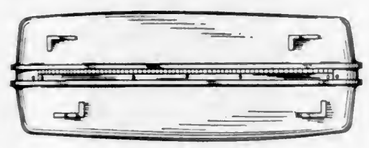


218,376
LUGGAGE CASE
Clair A. Samhammer, Orange, Calif., assignor to Samsonite Corporation, Denver, Colo., a corporation of Colorado
Original design application May 22, 1967, Ser. No. 7,201. Divided and this application Oct. 28, 1968, Ser. No. 14,206
Term of patent 14 years
Int. Cl. D3—*01*
U.S. Cl. D87—5





218,377
LUGGAGE CASE
Clair A. Samhammer, Orange, Calif., assignor to Samsonite Corporation, Denver, Colo., a corporation of Colorado
Original design application May 22, 1967, Ser. No. 7,201. Divided and this application Oct. 30, 1968, Ser. No. 14,238
Term of patent 14 years
Int. Cl. D3—*01*
U.S. Cl. D87—5



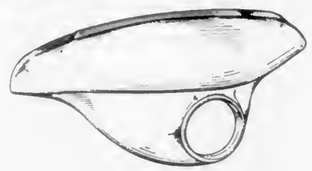
218,378
TENT
Charles R. Gretz, Valdosta, Ga., assignor to Transamerican Development Corporation, Valdosta, Ga., a corporation of Georgia
Filed Sept. 10, 1968, Ser. No. 13,478
Term of patent 14 years
Int. Cl. D21—*05*
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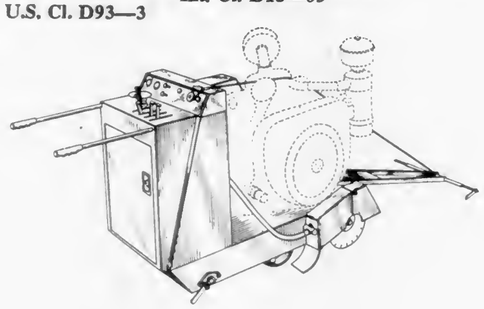
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UMBRELLA HANDLE
Fritz Bremshey, Solingen-Ohligs, Germany, assignor to Telesco Brophey Limited, East Montreal, Quebec, Canada
Filed Mar. 7, 1969, Ser. No. 16,118
Term of patent 14 years
Int. Cl. D3—*03*
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MOTORCYCLE FAIRING
Paul R. Jones and Harold H. Larsen, Long Beach, Calif., assignors to Bates Industries, Inc., Long Beach, Calif., a corporation of California
Filed Feb. 6, 1969, Ser. No. 15,664
Term of patent 14 years
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218,381
CONCRETE SAW
Richard E. Ten Eyck, Wichita, Kans., assignor to Clipper Manufacturing Company, Inc., Grandview, Mo., a corporation of Massachusetts
Filed Mar. 26, 1969, Ser. No. 16,470
Term of patent 14 years
Int. Cl. D15—*05*
U.S. Cl. D93—3



LIST OF PATENTEES

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PATENTS WERE ISSUED ON THE 11TH DAY OF AUGUST, 1970

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Aalbers, Johan G., and Zwaneveld, Johannes C., to Cem-Y Fabriek van Chemische Produkten N.V. Thermoplastic composition. 3,523,932, Cl. 260-88.2

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Nelson, Norman A., 3,523,600.

Adelsohn, Louis. Fastenable three-dimensional puzzle pieces. 3,523,384, Cl. 46-25.

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Wick, Richard, and Knapp, Walter, 3,523,728.

Agrios, John P., and Stern, Richard A., to United States of America, Army. Non-reciprocal waveguide phase shifter having side-by-side ferrite toroids. 3,524,152, Cl. 333-24.1

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Albersheim, Walter J., to United States of America, Air Force. Method for increased data rate in transmission over time-varying multiple paths. 3,524,136, Cl. 325-65.

Aldred, Peter Arthur, and Farthing, Geoffrey, to Imperial Chemical Industries Limited. Gripping device for ropes. 3,523,338, Cl. 24-122.6

Alexander, Raymond L., to Moorfeed Corporation. Assembly feeder. 3,523,316, Cl. 10-155.

Allen, Archelaius Dawson, to Gullick Limited. Mine roof supports. 3,523,424, Cl. 61-45.

Allen, Harry R., Jr., to Honeywell Inc. Galvanometer having a wide reflective mirror with low inertia. 3,524,132, Cl. 324-97.

Allen, Herbert, to Cameron Iron Works, Inc. Hydraulic press. 3,523,443, Cl. 72-453.

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Amemiya, Masahiro, Sakuma, Shiuzi, Kurokawa, Susumu, and Emoto, Masayuki, to Hitachi, Ltd. Magnetic material having square hysteresis loop characteristic and a memory core made of the same. 3,523,901, Cl. 252-62.57

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Stepanov, Alexandr Dmitrievich, Anders, Vitaly Ivanovich, and Kostev, Nikolai Lavrentievich 3,524,070.

Anderson, Amos R., to American Dynamics International Incorporated, mesne. Visual detection of gas leaks. 3,523,771, Cl. 48-193.

Anderson, Clay H., and Ewart, James M., to Madill, S., Ltd. Cable hoisting and hauling apparatus. 3,523,615, Cl. 212-96.

Anderson, Noel M. Yard hydrant valve. 3,523,549, Cl. 137-288.

Anderson, Rodney H., and Salzman, Fred J., to Caterpillar Tractor Company. Ejector for loader bucket. 3,523,621, Cl. 214-146.

Andrzej, Libura Lech. Cathode ray tube means for digital measurement of continuous quantities. 3,524,134, Cl. 324-121.

Anstalt Europaische Handelsgesellschaft: *See—*
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Anthony, Anne Marie, and Yerouchalmi, David, to Commissariat a l'Energie Atomique. Electrically conductive ceramic material and method of preparation. 3,523,915, Cl. 252-513.

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Arndt, Richard H., to General Electric Company. Static state voltage and current monitoring device for electric power cable terminations. 3,524,133, Cl. 324-102.

Artis, Edward J., and Artis, Paul A. Stationary chimney vacuum cap. 3,523,500, Cl. 98-78.

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Asmanes, Charles, to United States of America, Atomic Energy Commission. Non-contact spark-gap current tool-setting device. 3,524,130, Cl. 324-71.

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Bagno, Samuel M., deceased (by Bagno, Goldie, administratrix), to Systron-Donner Corporation. Method and apparatus for making wall structure impervious to moisture. 3,523,884, Cl. 204-196.

Baird, Roger B., Bruns, Frank J., and Vallino, Barney, Jr., to Sinclair Research, Inc. Apparatus for injecting fluid fuel into a blast furnace. 3,523,683, Cl. 266-30.

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Brean, John, to Baldwin, D. H., Company. Optical encoder. 3,524,184, Cl. 340-347.

Brehm, Richard Keith, Ilowski, Joseph Stanislaw, and Jarrell, Richard Fiske, to Fisher Scientific Company, mesne. Diffraction grating spectrometer wherein the grating has first and second groups of grooves. 3,523,734, Cl. 356-79.

Breza, Edward J.: *See—*
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Brinster, John F. Compatible color photophone. 3,524,010, Cl. 178-5.2

British Aircraft Corporation Limited: *See—*
Rawcliffe, Anthony G., 3,523,662.

British Petroleum Company Limited, The: *See—*
Forbes, Eric Simon, Squire, John Mansel, and Wood, John Michael, 3,523,931.

Brooks, Bobbie, Incorporated: *See—*
Wolf, Richard B., 3,523,416.

Broughton, Donald B., to Universal Oil Products Company. Baffled chamber for a plurality of contact beds to preclude diffused fluid flow. 3,523,762, Cl. 23-285.

Brouwer, Nicolaas L., to Aluminum Company of America. Apparatus and method for piercing holes in elastomeric articles. 3,524,046, Cl. 219-384.

Brown, Clayton S. Above surface observed marker secured to underground utilities, etc. to indicate their depth and direction. 3,523,515, Cl. 116-114.

Brown, David: *See—*
Sharp, Royds, Bath, Malcolm, and Brown, David 3,523,447.

Brown, Paul L., to Mattel, Inc. Spinable stringless top. 3,523,386, Cl. 46-50.

Brown, Walter J. Control system for series wound electric motor using a controlled rectifier and voltage storage means therefor. 3,524,120, Cl. 318-249.

Bruce, John K., and Bruce, Roger K., to Sterigard Company. Apparatus and method for attaching a flexible bag to a container body. 3,523,492, Cl. 93-36.01

Bruce, Roger K.: *See—*
Bruce, John K., and Bruce, Roger K. 3,523,492.

Brundage Company, The: *See—*
Jolette, Gerald P., 3,523,743.

Brundell Och Jonsson AB: *See—*
Jonsson, Karl-EIK A., and Matlik, August, 3,523,564.

Bruns, Frank J.: *See—*
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Brunswick Corporation: *See—*
Cornell, William D., Schankler, Martin M., and Kenrick, Charles R., 3,523,689.

Brunton, John: *See—*
Rozelaar, Alan Jack Westell, Brunton, John, and Imre, Umit 3,523,448.

Bryce, Clement, Stanworth, Frank, and Trafford, John, to U.S. Philips Corporation, mesne. Electrically screened ferromagnetic ferrite elements and method. 3,523,821, Cl. 117-227.

Burcham, Thomas L., Booth, Sterling R., Miller, Walter B., and Mc Rae, Donald J., to Caterpillar Tractor Company. Safety device for side dumping mechanism for a loader bucket. 3,523,622, Cl. 214-768.

Burdick, Glen A., and Haas, Paul, deceased (by Haas, Helen C., executrix), to Sylvania Electric Products, Inc. Time dependent color purity correction for a color cathode ray tube. 3,524,093, Cl. 313-75.

Burgess, Keith A.: *See—*
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Burke, George K., to Burron Medical Products, Inc. Hypodermic needle. 3,523,531, Cl. 128-221.

Burke, George K., to Burron Medical Products, Inc. Hypodermic needle. 3,523,532, Cl. 128-221.

Burke, George K., to Burron Medical Products, Inc. Hypodermic needle. 3,523,533, Cl. 128-221.

Burkert, George M., and Ellestad, Reuben B., to Lithium Corporation of America. Precipitation of lithium carbonate from lithium chloride solution. 3,523,751, Cl. 23-63.

Burpo, Charles M.: *See—*
Ploch, Henry W., and Burpo, Charles M. 3,523,482.

Burron Medical Products, Inc.: *See—*
Burke, George K., 3,523,531.
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Burroughs Corporation: *See—*
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Hibner, John A., 3,524,172.
Morgenson, Edgar O., and Lacher, William A., 3,524,179.
Savinese, Stanley J., and Gerhart, Gilbert B., 3,524,080.

Buschow, Kurt Heinz Jurgen, and Velge, Wilhelmus Antonius Johannes Josephus, to U.S. Philips Corporation, mesne. Permanent magnet constituted of fine particles of a compound M_8R. 3,523,836, Cl. 148-31.57

Buser, Rudolf G., Kainz, Johann J., and Sullivan, John J., to United States of America, Army. Laser generator having shock-induced narrow band illuminator. 3,524,144, Cl. 331-94.5

Busse, Gerd: *See—*
Orth, Winfried, Rappen, Ludwig, and Busse, Gerd 3,523,952.

Buswell, Richard Bobart. Apparatus for producing a moving fluid surface. 3,523,307, Cl. 4-172.

Buzzi, Ugo, and Gemperle, Bruno, to Anstalt Europaische Handelsgesellschaft. Magnetic information storage carrier with individual storage elements. 3,524,176, Cl. 340-174.1

BYK-Gulden Lomberg Chemische Fabrik G.m.b.H.: *See—*
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Cabot Corporation: *See—*
Swank, Thomas F., 3,523,810.

Cahn, Jean, to Societe a Responsabilite dite: MARPHA Societe d' Etude et d'Exploitation de Marques. Iminodibenzyls and a process for their preparation. 3,523,944, Cl. 260-240.

Calgon Corporation: *See—*
Schiegg, Dallas L., 3,523,892.

Callaghan, Norman M., Jr.: *See—*
Berger, Horst H., Callaghan, Norman M., Jr., and Najmann, Knut K. 3,524,125.

Callahan, Joseph W., and Marque, Eric G., to Chemical Cleaning and Equipment Service, Inc. Cleaning composition and method of using same. 3,523,825, Cl. 134-2.

Cameron Iron Works, Inc.: *See—*
Allen, Herbert, 3,523,443.
Lucky, Maurice C., 3,523,444.
Pennington, John V., 3,523,445.

Camhi, Jack C., Hackney, Donald E., and Lewis, Thomas Glenn, Jr., to Du Pont de Nemours, E. I., and Company. Process for casting films of uniform thickness. 3,523,987, Cl. 264-39.

Campanella, Samuel Joseph, to United States of America, Army, mesne. S-filter. 3,524,081, Cl. 307-317.

Campbell, John O. Response system for television. 3,524,015, Cl. 178-6.

Canadian Copper Refiners Limited: *See—*
Elkin, Eugene Mitchell, 3,523,873.

Cantarutti, mindo, to NRM Corporation, mesne. Apparatus for applying strip tread on tire building drum. 3,523,854, Cl. 156-397.

Canton Textile Mills, Inc.: *See—*
Bolen, Wiley P., Price, Ernest E., and Holbrook, John T., Jr., 3,523,346.

Cantrel, Kenneth E.: *See—*
Reinert, Andrew J., Cantrel, Kenneth E., and Cobb, Raymond L. 3,524,003.

Caparone, Michael J., and Chambers, William W., to Robertshaw Controls Company. Temperature control system with recycling high limit. 3,523,643, Cl. 236-9.

Carey, Larry C., and Stone, Ira N., to Stone Container Corporation, and Cooper Industries, Inc. Display package and method of forming display packages. 3,523,397, Cl. 53-30.

Carl, Allen E. Apparatus for measuring and cutting lengths of cable. 3,523,392, Cl. 51-99.

Carvell, Robert Jr., to Texas Instruments, Incorporated. Method of preparing phosphors and color display systems containing same. 3,523,905, Cl. 252-301.6

Cason, Charles M., III, to United States of America, Army. Device for measuring ionized gas velocity and turbulence. 3,523,452, Cl. 73-194.

Catapano, Thomas A. Liquid dispensing device for hair treatment. 3,523,630, Cl. 222-568.

Caterpillar Tractor Company: *See—*
Anderson, Rodney H., and Salzman, Fred J., 3,523,621.
Bianchetta, Donald L., 3,523,490.
Burcham, Thomas L., Booth, Sterling R., Miller, Walter B., and Mc Rae, Donald J., 3,523,622.

Catino, Sigmund C.: *See—*
Strobel, Albert F., and Catino, Sigmund C. 3,523,953.

C.A.V. Limited: *See—*
Kemp, Kenneth Albert Walters, 3,523,457.
Mowbray, Dorian Farrar, 3,523,459.

Cave, Louis L., to Texas Instrument, Incorporated. Method for producing pure silicon. 3,523,816, Cl. 117-106.

Cavitron Corporation: *See—*
Robertson, Clifford A., 3,523,845.

Cawley, Wesley D. Method and apparatus for stacking sheet material. 3,523,686, Cl. 271-68.

Cegedur GP: *See—*
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Peyraud, Serge, and Freiche, Jean, 3,523,573.

Cellucap Manufacturing Co.: *See—*
Wagenfeld, Gilbert B., 3,523,303.

Cem-Y Fabriek van Chemische Produkten N.V.: *See—*
Aalbers, Johan G., and Zwaneveld, Johannes C., 3,523,932.

Central Glass Co., Ltd.: *See—*
Yasutake, Yoshito, and Fujita, Yosisige, 3,523,754.

Chalco Engineering Corporation: *See—*
Bevis, Jeffrey M., 3,523,655.

Chambers, William W.: *See—*
Caparone, Michael J., and Chambers, William W. 3,523,643.

Chance, William Ernest, to Cheney, C. W., & Son Limited. Locks for suitcases and like articles of luggage. 3,523,436, Cl. 70-75.

Chapman, George C., to Owens-Illinois, Inc. Glass tube forming apparatus. 3,523,782, Cl. 65-184.

Charles Berthiez: *See—*
Neuman, Marcel L., 3,523,484.

Chase-Shawmut Company, The: *See—*
Salzer, Erwin, 3,524,157.

Chemical Cleaning and Equipment Service, Inc.: *See—*
Callahan, Joseph W., and Marque, Eric G., 3,523,825.

Chemical Rubber Products, Inc.: *See—*
Crosland, Howard C., 3,523,857.

Chemische Fabrik Kalk G.m.b.H.: *See—*
Jenkner, Herbert, 3,523,753.

Cheney, C. W., & Son Limited: *See—*
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Chenoweth, Dean B., and Barnard, Richard Louis, to Eastman Kodak Company, mesne. Method and apparatus for removing entrained discrete immiscible matter from liquids by velocity gradient separation. 3,523,406, Cl. 55-55.

Chevron Research Company: *See—*
Jaffe, Joseph, 3,523,912.
Mehmedbasich, Enver, and Lindstrom, Eddie G., 3,523,768.

Chi, Yiu Dak, to Forda Manufacturing Company Limited. Liquid mixing and dispensing device. 3,523,629, Cl. 222-241.

Chiba, Masato, Ozawa, Yukio, Nagura, Tononori, Hirano, Yusuke, Iwasaki, Mikio, Uchida, Tomomi, Kondo, Takeshi, Nishimura, Shozo, and Okada, Tomoo, to Nippon Telegram and Telephone Public Corporation, Oki Electric Industry Co., Ltd., Nippon Electric Company, Limited, Fujitsu Limited, and Hitachi, Ltd. Route advance control system for automatic telephone exchanges. 3,524,025, Cl. 179-18.

Chibata, Ichiro, Yamada, Shigeki, Yamamoto, Masao, Wada, Mitsuru, and Yoshida, Takahiko, to Tanabe Seiyaku Co., Ltd. Resolution of serine paratoluenesulfonate. 3,523,969, Cl. 260-501.12

Chinlund, Joseph F.: *See—*
Gotschewski, Paul O., and Chinlund, Joseph F. 3,523,641.

Chisholm, James J., to Bausch & Lomb Incorporated. Lens system for the sample compartment of spectrophotometers, colorimeters and the like. 3,523,738, Cl. 356-201.

Chisholm, James J., and Emmel, Henry J., to Bausch & Lomb Incorporated. Ignition assembly for burner for photometric apparatus. 3,523,748, Cl. 431-264.

Chivas, Norman J.: *See—*
Mojden, Wallace W., and Chivas, Norman J. 3,523,602.

Chong, Carlos F., to Sperry Rand Corporation. Search memory. 3,524,174, Cl. 340-174.

Chope, Henry R., to Industrial Nucleonics Corporation, The. Resonant circuit encoder. 3,524,183, Cl. 340-347.

Chore-Time Equipment, Inc.: *See—*
Hostetler, Eldon, 3,523,519.

Chrysler Corporation: *See—*
Kozinski, Richard C., 3,523,644.

Chung, Kwangho, Goepfrich, George A., and Milano, Edward J., to Skinner Precision Industries, Inc. Foil feeding system. 3,523,631, Cl. 226-39.

Church, Peter Dudley, and Sideras, Chris Stavros, to English Electric Computers Limited. Piezoelectric actuators. 3,524,196, Cl. 310-8.

Churchill, John W., Hanford, William E., and Kober, Ehrenfried H., to Olin Mathieson Chemical Corporation. Preparation of lactams and ketones by reaction of carbon monoxide with a nitrocycloalkane. 3,523,940, Cl. 260-239.3

C.I.C. Engineering Limited: *See—*
Hawkins, Wallace Gerald, 3,523,993.

Cincinnati Milling Machine Co., The: *See—*
Attermeyer, Lawrence A., 3,523,851.

Cities Service Oil Company: *See—*
Fulford, Richard S., 3,523,582.

Cities Service Research and Development Company: *See—*
Stewart, Norman C., and Van Driesen, Roger P., 3,523,888.
Van Driesen, Roger P., Stewart, Norman C., and White, Edmund W., 3,523,763.

Claeys, Daniel Alois: *See—*
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Vrancken, Marcel Nicolas, and Claeys, Daniel Alois 3,523,907.

Clark, Harold W., and Stilley, George W., to PPG Industries, Inc. Glass press shaping means with movable fabric cover. 3,523,783, Cl. 65-287.

Clarke, Wilfred: *See—*
Jacks, Eric, Feenan, John, and Clarke, Wilfred 3,524,199.

Clas, Wilhelm, and Gierenz, Gerhard, to Henkel & Cie G.m.b.H. Polyvinyl chloride plastisols containing tri glycidyl isocyanurates. 3,523,984, Cl. 260-836.

Clay, Robert A. Aerosol actuated jack. 3,523,679, Cl. 254-93.

Clegg, David: *See—*
Paddison, Eric, Gillies, John McGill, Clegg, David, and Williams, Anthony 3,524,106.

Cleo Wrap Corporation: *See—*
West, William S., and Henchman, Parker C., 3,523,402.

Clevite Corporation: *See—*
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Cobb, Raymond L.: *See—*
Reinert, Andrew J., Cantrel, Kenneth E., and Cobb, Raymond L. 3,524,003.

Coen, Richard T., to Singer-General Precision, Inc. Electronic system for varying fog simulation with changes in direction of sight. 3,524,019, Cl. 178-6.8

Coleman, George: *See—*
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Collins, William George, to Shirley and Warbey Box Company Limited, The. Means for making display packages. 3,523,403, Cl. 53-373.

Colter, Alan L., to International Basic Economy Corporation. Pulsation dampener. 3,523,557, Cl. 138-37.

Colvin, John Llewellyn: *See—*
Frith, David Malcolm, and Colvin, John Llewellyn 3,523,375.

Colvin, Lee B.: *See—*
Colvin, Roger D., Duffy, John B., and Wittemann, Ross G. 3,523,628.

Colvin, Roger D., deceased (by Colvin, Lee B., administratrix), Duffy, John B., and Wittemann, Ross G., to Loctite Corporation. Container for cyanoacrylate adhesive. 3,523,628, Cl. 222-107.

Combustion Engineering, Inc.: *See—*
Osterman, Joseph, and Klei, Herbert E., Jr., 3,523,864.
Schuetzenduebel, Wolfram G., 3,523,421.

Cominco Ltd.: *See—*
Coon, Benjamin T., 3,523,784.

Commissariat a l'Energie Atomique: *See—*
Grieneisen, Andre, 3,523,765.
Anthony, Anne Marie, and Yerouchalmi, David, 3,523,915.

Commonwealth Scientific and Industrial Research Organization: *See—*
Czulak, Joseph, 3,523,367.

Compagnie de Saint-Gobain: *See—*
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Leveque, Maurice J., 3,523,781.

Compagnie Generale d'Electricite: *See—*
Barbini, Spartacus, 3,524,101.

Compo Industries, Inc.: *See—*
Klantke, Herbert, von den Benken, Henry, and Dunlap, Robert B., 3,523,317.

Condor Helicopters and Aviation, Inc.: *See—*
Attebery, Walter Noland, and Patterson, Thomas Andrew, 3,523,660.

Conklin, Glenn E., and Greenwood, Ivan A., Jr., to Singer-General Precision, Inc. Adjustable filter networks utilizing the effects of magnetic resonance. 3,524,127, Cl. 324-0.5

Conklin, Harold A., Jr., to Baldwin, D. H., Company. Longitudinal mode tuning of stringed instruments. 3,523,480, Cl. 84-312.

Conterno, Giovanni, to Personal S.a.s. Combination steering wheel and horn for motor cars. 3,524,032, Cl. 200-61.54

Continental Can Company, Inc.: *See—*
Curry, Charles F., 3,523,624.
Maier, Curtis E., Ullery, Lee R., and Erlandson, Paul M., 3,523,513.
Stec, Frederick J., 3,523,637.

Continental Gummi-Werke Aktiengesellschaft: *See—*
Huff, Karl, Holm, Dieter, and Humke, Hans, 3,523,328.
Huff, Karl, Moeller, Heinz, and Krauss, Rolf, 3,523,848.

Continental Oil Company: *See—*
Guerrero, Fernando V., 3,523,667.
Guerrero, Fernando V., 3,523,852.

Contraves A.G.: *See—*
Reich, Heinrich, and Stucky, Jean Paul, 3,523,523.

Control Science Corporation: *See—*
Land, James W., Jr., 3,524,201.

Coon, Benjamin T., to Cominco Ltd. Manufacture of ammonium phosphate fertilizer. 3,523,784, Cl. 71-34.

Cooper Industries, Inc.: *See—*
Carey, Larry C., and Stone, Ira N., 3,523,397.

Corbani, John F., to Sloan Instruments Corporation. Rotating workpiece holder. 3,523,517, Cl. 118-500.

Cornell, William D., Schankler, Martin M., and Kenrick, Charles R., to Brunswick Corporation. Golf game. 3,523,689, Cl. 273-176.

Corrugated Container Company, The: *See—*
Croley, Thomas E., and Morgan, Richard O., 3,523,635.

Cortes, Julio M., to Worcester Foundation for Experimental Biology. Method and apparatus for material extraction. 3,523,879, Cl. 204-180.

Cox, Cecil Wayne, and May, Frederick T., to International Business Machines Corporation. Detection and error checking system for binary data. 3,524,164, Cl. 340-146.1

Craddock, Mike. Time delay relay. 3,524,109, Cl. 317-141.

Crain, Robert L.: *See—*
Nolan, Clyde E., Jr., and Crain, Robert L. 3,523,578.

Cramer, John Henry, and Ness, Walter Eldon, to American Cyanamid Company. Pigmentary ferric ammonium ferrocyanide particle with cationic surfactant coating. 3,523,811, Cl. 106-304.

Crane Co.: *See—*
Gibson, William H., 3,523,559.

Crimmins, David J., Basile, Rocco F., and Breakfield, Joseph W., to Thomas & Betts. Method and apparatus for making flexible multiconductor flat cable. 3,523,844, Cl. 156-52.

Crisanti, Armando. Apparatus for cutting the hair of the head and body. 3,523,364, Cl. 30-30.

Criscimagna, Tony N., to International Business Machines Corporation. Display system. 3,524,182, Cl. 340-324.

Criscimagna, Tony N., and Floros, Theodore G., to International Business Machines Corporation. Display system. 3,524,181, Cl. 340-324.

Crisplant A/S: *See—*
Nielsen, Jacob August, 3,523,618.

Croley, Thomas E., and Morgan, Richard O., to Corrugated Container Company, The. Fiberboard box having strengthened bottom structure and connector corner joint. 3,523,635, Cl. 229-37.

Croon, IGEMAR Liss-Albin, and Blomqvist, Nils Verner, to Mo Och Domsjo Aktiebolag. Tampan for dental and cataminial use. 3,523,535, Cl. 128-285.

Crosland, Howard C., to Chemical Rubber Products, Inc. Diaphragm assembly. 3,523,857, Cl. 161-40.

Crow, Thomas G., to United States of America, Army. Low temperature optical isolator for laser system. 3,523,718, Cl. 350-151.

Crozier, Robert F. Electronic fuel dispensing meter. 3,523,627, Cl. 222-20.

Cruse, Philip M., to Santa Barbara Research Center. Passive intrusion detecting system. 3,524,180, Cl. 340-258.

CTS Corporation: *See—*
English, Jack A., 3,524,108.

Currie, Harold Burtis, to RCA Corporation. Character reader. 3,524,166, Cl. 340-146.3

Curry, Charles F., to Continental Can Company, Inc. Bottle crown. 3,523,624, Cl. 215-39.

Cuscino, Thomas A., and Smith, Herman O., to United States Steel Corporation. Vacuum vessel with inlet closure and provision for sealing engagement with teeming ladle. 3,523,684, Cl. 266-34.

Czulak, Joseph, to Commonwealth Scientific and Industrial Research Organization. Draining and processing of curd in the manufacture of cheese. 3,523,367, Cl. 31-89.

Dacysyn, Allen. Harvester pickup attachment. 3,523,412, Cl. 56-364.

Dadian, Lazarus H., Gehrung, Horst O., and Griffiths, Roger O., to Racine Hydraulics, Inc. Fluid translating device. 3,523,746, Cl. 418-26.

Dady, Charles E. Apparatus and method for monitoring fission products. 3,523,868, Cl. 176-19.

Daily, William C., to Jones, R. A., and Company, Incorporated. Leaflet feeder and inserter for cartoners. 3,523,400, Cl. 53-117.

Daimler-Benz Aktiengesellschaft: *See—*
Steinbrenner, Hans, Florus, Hans-Jorg, and Schwerdt, Paul, 3,523,449.

Dana, Richard L.: *See—*
Huber, William W., and Dana, Richard L. 3,523,344.

Davis, Jefferson C., Whitmore, Henry B., and Harris, Leonard. Passive and active tubular pressurization suit. 3,523,301, Cl. 2-2.1

Dayco Corporation: *See—*
Beindorf, Lucian J., 3,523,462.
Nemecek, Paul E., and Henderson, Dewey D., 3,523,461.

Debaere, Julius, 1/2 to Luto Gelderse Exportslachterijen N.V. Installation for the outside cleaning of slaughtered animals, more especially pigs. 3,523,324, Cl. 17-1.

Deban, Alois: *See—*
Pelps, Konrad, Deban, Alois, and Schnall, Gunter 3,523,498.

de Bucs, Eugen Szabo: *See—*
Rupprecht, Joachim, de Bucs, Eugen Szabo, and Oesterhelt, Gerhard 3,523,832.

Deem, William Roy, to Imperial Chemical Industries Limited. Substituted triazines. 3,523,946, Cl. 260-248.

Deering Milliken Research Corporation: *See—*
Ingham, Robert M., Jr., 3,523,335.
Wylie, Richard D., 3,523,399.

de Jonge, Martinus C. Grating. 3,523,396, Cl. 52-668.

Delzenne, Gerard Albert, and Laridon, Urbain Leopold, to Gevaert-Agfa N.V. Process for the photopolymerisation of ethylenically unsaturated monomers. 3,523,792, Cl. 96-35.1

Denkowski, Walter J., to King of Prussia Research and Development Corporation. Linear actuator with torque control. 3,523,599, Cl. 192-150.

Denss, Rolf: *See—*
Kuhnis, Hans Herbert, and Denss, Rolf 3,523,949.

Derieg, Michael E., Fryer, Rodney Ian, and Sternbach, Leo Henryk, to Hoffmann-La Roche Inc. 1-Cyclic amidine-5-aryl-1,4-benzodiazepine and process. 3,523,947, Cl. 260-256.4

Deuringer, Rudolf: *See—*
Hersch, Paul A., and Deuringer, Rudolf 3,523,872.

DeVault, Albert N., to Phillips Petroleum Company. Increased base number metal petroleum sulfonate and process for its preparation. 3,523,897, Cl. 252-32.7

DeVault, Albert N., to Phillips Petroleum Company. Increased base number metal petroleum sulfonate and process for its preparation. 3,523,898, Cl. 252-33.

DeVault, Albert N., to Phillips Petroleum Company. Overbased metal petroleum sulfonate and method for its preparation. 3,523,899, Cl. 252-33.

Dever, John F.: *See—*
Krueger, Wilbur W., and Dever, John F. 3,523,866.

Devos, Francis Marie Robert, to Ateliers de Constructions Electriques de Charleroi (ACEC) Societe Anonyme. Sheet metal enclosure formed by a cover and flat sheet metal walls. 3,523,394, Cl. 52-127.

Dewar, Robert Alfred, Maier, Volker Elmar, and Riddolls, Margaret Anthea, to Imperial Chemical Industries of Australia and New Zealand Limited. Process of purification. 3,523,967, Cl. 260-465.8

Dey, Arabinda N., to Hooker Chemical Corporation. Metal coating of aromatic polymers. 3,523,874, Cl. 204-30.

Dickert, Eugene A., and Silverwood, Hartley A., to Allied Chemical Corporation. Organic polyisocyanate gels and urethane polymers therefrom. 3,523,917, Cl. 260-2.5

Di Netta, Joseph: *See—*
Egerton, John R., and Di Netta, Joseph 3,524,000.

DiPalma, Sebastian M.: *See—*
Paige, John L., and DiPalma, Sebastian M. 3,523,929.

Donets, Igor Denisovich: *See—*
Tulin, Nikolai Alexeevich, Bastrakov, Nikolai Fedorovich, Silaev, Alexandr Yakovlevich, Pismenov, Vitaly Semenovich, Krivtsova, Ljudmila Viktorovna, Gutara, Gennady Vasilievich, Pritu-

lyak, Leonid Grigorievich, Borodin, Viktor Savelievich, and Donets, Igor Denisovich 3,523,995.
Doniger, Jerry, and Belsky, Fred J., to Bendix Corporation, The. Terminal flare controller. 3,523,663, Cl. 244-77.
Doniger, Jerry, Platt, Walter A., and Belsky, Fred J., to Bendix Corporation, The. Terminal flare controller. 3,523,664, Cl. 244-77.
Donsolidation Coal Company: *See—*
Gorin, Everett, Reichl, Eric H., and United States of America, Interior, 3,523,886.
Dorn, Henry J., to Zapata Industries, Inc. Cover for cut edge projections of twist-off crowns for protecting the fingers of the user. 3,523,623, Cl. 215-38.
Dotzauer, Oswald, to Schubert & Salzer Maschinenfabrik Aktiengesellschaft. Fiber sliver guide mechanism. 3,523,334, Cl. 19-0.23
Dougall, John, to Associated Electrical Industries, Limited. Gas sealing valves. 3,523,548, Cl. 137-269.
Drees, Joseph M., to United States of America, Army, mesne. Method of fabricating a non-intercepting grid assembly for an electron tube. 3,523,347, Cl. 29-25.15
Drinkard, John H., Giandomenico, Edward D., and Grenz, Harold, to Burroughs Corporation. Back plane wiring apparatus. 3,523,353, Cl. 29-203.
Dryer, Ronald L. Variable picture frame assembly. 3,523,382, Cl. 40-152.
Dubin, Sol. Skid for palletized loads having integral shock absorbing means. 3,523,507, Cl. 108-51.
Dubois, Andre, and Parizot, Daniel. Nozzle wall construction for thermoelectric machine. 3,524,087, Cl. 310-11.
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Edwards, James W., to Monsanto Company. Method of making pellucid laminates having an interference filter. 3,523,847, Cl. 156-99.
Egerton, John R., and Di Netta, Joseph, to Merck & Co., Inc. Anthelmintic compositions and method of using same. 3,524,000, Cl. 424-267.
Ehlscheid, Gunther, to Winkler & Dunnebier Maschinenfabrik und Eisengiesserei KG. Apparatus for feeding blanks or sheets. 3,523,685, Cl. 271-9.
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Kober, Ehrenfried H., Schnabel, Wilhelm J., and Hammond, Philip D., to Olin Corporation. Preparation of aromatic isocyanates. 3,523,964, Cl. 260-453.

Kober, Ehrenfried H., Schnabel, Wilhelm J., and Kraus, Theodore C., to Olin Corporation. Preparation of aromatic isocyanates. 3,523,963, Cl. 260-453.

Kober, Ehrenfried H., Schnabel, Wilhelm J., Kraus, Theodore C., and Ottmann, Gerhard F., to Olin Corporation. Preparation of aromatic isocyanates. 3,523,965, Cl. 260-453.

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Williams, Robert Arthur, to Stanray Corporation. Small hatch and cover in an elongated hatch. 3,523,506, Cl. 105-377.
Williams, Robert D. Brush assembly for use in car washes. 3,523,320, Cl. 15-21.
Williams, Sumner H., and Ellis, Joseph Reid, to GAF Corporation. Apparatus for producing heat induced effects on flexible substrates. 3,523,435, Cl. 68-13.
Willits, Glenn D., to General Electric Company. Dynamoelectric machine with easy access to circuit control terminals. 3,524,089, Cl. 310-60.
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Wintriss, George, to Industrionics Controls, Inc. Fluid operated detector for reciprocating parts. 3,523,487, Cl. 91-47.
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Wolf, Herbert S., to Thiokol Chemical Corporation. Two stage liquid rocket powerplant. 3,523,422, Cl. 60-224.
Wolf, Irving W., to Ampex Corporation. Process for electrodeposition of anisotropic magnetic films and a product formed by the process. 3,524,173, Cl. 340-174.
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Cortes, Julio M., 3,523,879.
Worrall, Brian Stanley, to Expert Industrial Controls Limited. Fluid control valves. 3,523,556, Cl. 137-625.65
Wright, John B., to Upjohn Company, The. Compositions and method for reducing free fatty acid and cholesterol in the blood of mammals with 3,5-disubstituted isoxazoles. 3,524,001, Cl. 424-272.
Wright, John Thomas Matthew, to Lucas, Joseph, (Industries) Limited. Valve plate for a hydraulic pump or motor. 3,523,678, Cl. 251-316.
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Yamashita, Iwao, and Yamamoto, Noboru. Process for the production of polyaldehydes. 3,523,922, Cl. 260-67.
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Zielke, Darrell W., to Stereodyne, Inc. Tape locking device. 3,523,654, Cl. 242-74.1
Zill, Fred W., to Schlumberger Technology Corporation. Multiple acoustic receiver and transmitter system for measuring sonic attenuation ratio in earth formations. 3,524,162, Cl. 340-15.5
Zimmer, Hildebrand, and Bohnke, Rolf-Dieter, to U.S. Philips Corporation, mesne. Process for producing a vacuum tight supra-conducting joint by diffusion soldering. 3,523,358, Cl. 29-498.
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Zlley, Walter G., to Aluminum Company of America. Process for imparting a low gloss on aluminum. 3,523,843, Cl. 156-22.
Zorn, Eugene K., to Palleon Electronics Limited. Automatic flushing apparatus for toilets. 3,523,305, Cl. 4-100.
Zorn, Eugene K., to Palleon Electronics Limited. Mounting assembly for lamp and photocell units. 3,524,068, Cl. 250-239.
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TO WHOM

PATENTS WERE ISSUED ON THE 11TH DAY OF AUGUST, 1970

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Layman, John D., to General Electric Co. Temperature compensated control systems. Re. 26,933, 8–11–70, Cl. 83—72.

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Aubecq, Jacques. Pot. 218,346, 8–11–70, Cl. D44—1.
Aubecq, Jacques. Casserole. 218,347, 8–11–70, Cl. D44—1.
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Bender, Leonart. Chair. 218,303, 8–11–70, Cl. D15—1.
Benz, Robert P. Display stand. 218,370, 8–11–70, Cl. D80—9.
Bertram, Paul F., to Lee-Rowan Co. Chair. 218,302, 8–11–70, Cl. D15—1.
Birchard, Jesse R., A. D. Mortrude, and R. C. Conner, to Cortez Corp. Front panel unit for a vehicle. 218,297, 8–11–70, Cl. D14—6.
Bloom, Martin B., T. I. Feit, and I. J. Mandel, Candelabrum or the like. 218,355, 8–11–70, Cl. D48—2.
Bobrick, Mitchell, to Linear Lighting Co. Fluorescent lighting fixture. 218,356, 8–11–70, Cl. D48—23.
Boehm, Kurt B., and T. S. Otocki, to ILG Industries Inc. Electric unit heater. 218,308, 8–11–70, Cl. D23—110.
Boldt, Melvin H., to G. W. Murphy Industries, Inc. Sander-polisher. 218,277, 8–11–70, Cl. D8—62.
Bothe, Benno. Multi-purpose tool or similar device. 218,272, 8–11–70, Cl. D8—19.
Bouzaglou, Joseph C., and A. P. Schmid, to Coast Export Co., Inc. Tape duplicating machine. 218,316, 8–11–70, Cl. D26—14.
Brady, Charles W. Combined bathhouse and laundry building for campgrounds. 218,292, 8–11–70, Cl. D13—1.
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Cummings, Cecelia J. Rag doll. 218,336, 8–11–70, Cl. D34—4.
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Transamerican Development Corp.: *See*—
Gretz, Charles R. 218,378.
Troesch, Paul: *See*—
Kreis, Walter, and Troesch. 218,306.
Tyson, John F., to Northern Electric Co. Ltd. Telephone handset. 218,314, 8–11–70, Cl. D26—14.
Uitz, Mark O., to F.J.L. Corp. Coat rack. 218,323, 8–11–70, Cl. D33—8.
Uitz, Mark O., to F.J.L. Corp. Coat hanger. 218,324, 8–11–70, Cl. D33—8.
Uitz, Mark O., to F.J.L. Corp. Toilet paper holder. 218,331, 8–11–70, Cl. D33—31.
Uitz, Mark O., to F.J.L. Corp. Towel rack. 218,332, 8–11–70, Cl. D33—32.
Vaillancourt, Vincent L., and R. W. Harris, to C. R. Bard, Inc. Epidural needle. 218,373, 8–11–70, Cl. D83—12.
Van Allen, David E.: *See*—
Conner, James M., and Van Allen. 218,363.
Vander Ley, Robert J., to The Leslie Metal Arts Co., Inc. Support guide for a cabinet drawer or similar article. 218,321, 8–11–70, Cl. D33—1.
Vizzini, Thomas A.: *See*—
Grat, Felix R., and Vizzini. 218,371.
Grat, Felix R., and Vizzini. 218,372.
Weaver, Ronald L. Bar soap container. 218,329, 8–11–70, Cl. D33—24.
Wies, Jack E.: *See*—
Nestegard, Sander C., and Wies. 218,351.
Wright, Allen C., to Haws Drinking Faucet Co. Drinking fountain. 218,364, 8–11–70, Cl. D67—4.

CLASSIFICATION OF PATENTS

ISSUED AUGUST 11, 1970

NOTE.—First number, class; second number, subclass; third number, patent number

2— 2.1 : 3,523,301
69.5 : 3,523,302
200 : 3,523,303
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41.35	3,524,052		3,523,905		3,523,964	294– 64	3,523,706	318–128	3,524,117	.1	3,524,172
51.11	3,524,053	316	3,523,906		3,523,965	65	3,523,707		3,524,118		3,524,176
241– 85	3,523,649		3,523,907		3,523,966	83	3,523,708		3,524,119	186	3,524,177
242– 18	3,523,650	359	3,523,908	465.8	3,523,967	295– 36	3,523,709	249	3,524,120	248	3,524,178
27	3,523,651	370	3,523,909	479	3,523,968	297–456	3,523,710	320– 48	3,524,121	253	3,524,179
43.2	3,523,652	402	3,523,910	501.12	3,523,969	299– 59	3,523,711	321– 15	3,524,122	258	3,524,180
55.53	3,523,653	421	3,523,911	543	3,523,970	303– 21	3,523,712	322– 28	3,524,123	324	3,524,181
74.1	3,523,654	439	3,523,912	561	3,523,971		3,523,713	323– 1	3,524,124		3,524,182
190	3,523,655	455	3,523,913	566	3,523,972	307–108	3,524,071	22	3,524,125	347	3,524,183
198	3,523,656		3,523,914	583	3,523,973	112	3,524,072	61	3,524,126		3,524,184
200	3,523,657	513	3,523,915	591	3,523,974	211	3,524,073	324– .5	3,524,127	415	3,524,185
244– 1	3,523,658	254– 93	3,523,679	608	3,523,975	230	3,524,074		3,524,128	343– 6.8	3,524,201
3.17	3,523,659	260– 2.5	3,523,916	610	3,523,976	235	3,524,075	6	3,524,129	100	3,524,186
17.11	3,523,660		3,523,917		3,523,977	237	3,524,076	71	3,524,130	117	3,524,187
41	3,523,661		3,523,918	618	3,523,978	246	3,524,077	78	3,524,131	754	3,524,188
52	3,523,662	18	3,523,919	666	3,523,979	252	3,524,078	97	3,524,132	771	3,524,189
77	3,523,663	37	3,523,920		3,523,980		3,524,079	102	3,524,133		3,524,190
	3,523,664		3,523,921	668	3,523,981	291	3,524,080	121	3,524,134	819	3,524,191
83	3,523,665	67	3,523,922	677	3,523,982	317	3,524,081	123	3,524,135	854	3,524,192
246– 37	3,524,054	75	3,523,923	683.15	3,523,983	308– 5	3,523,714	325– 65	3,524,136	895	3,524,193
184	3,524,055	77.5	3,523,924	836	3,523,984	10	3,523,715	357	3,524,137	346–123	3,524,194
248– 16	3,523,336		3,523,925	887	3,523,985	310– 8	3,524,196	328–104	3,524,138	350–123	3,523,717
44	3,523,666	79	3,523,926	261– 23	3,523,680	.1	3,524,082	155	3,524,139	151	3,523,718
49	3,523,667	.5	3,523,927	142	3,523,681		3,524,083	181	3,524,140	184	3,523,719
59	3,523,668	80	3,523,928	263– 33	3,523,682		3,524,084	330– 22	3,524,141	211	3,523,720
73	3,523,669	.78	3,523,929	264– 39	3,523,987	.2	3,524,085	27	3,524,142		3,523,721
168	3,523,670	.8	3,523,930	41	3,523,988	11	3,524,086	30	3,524,143	352– 84	3,523,722
249–210	3,523,671	88.1	3,523,931	45	3,523,989		3,524,087	331– 94.5	3,524,144	112	3,523,723
250– 41.9	3,524,056	.2	3,523,932	51	3,523,990	50	3,524,088		3,524,145	202	3,523,724
50	3,524,057	89.1	3,523,933	163	3,523,991	60	3,524,089		3,524,146	355– 8	3,523,725
65	3,524,058	92.8	3,523,986		3,523,992	71	3,524,090	332– 7.51	3,524,147	10	3,523,726
66	3,524,059	151	3,523,934	244	3,523,993	162	3,524,091	9	3,524,148	18	3,523,727
83	3,524,060	186	3,523,935	252	3,523,994	163	3,524,092	16	3,524,149	32	3,523,728
.1	3,524,061	187	3,523,936	299	3,523,996	312–257	3,523,716	31	3,524,150	46	3,523,729
	3,524,062	210	3,523,937	345	3,523,997	313– 75	3,524,093	333– 6	3,524,151	356– 4	3,523,730
.3	3,524,063	233.3	3,523,938	266– 30	3,523,683	76	3,524,094	24.1	3,524,152		3,523,731
213	3,524,064	239	3,523,939	34	3,523,684	79	3,524,197	335–200	3,524,154		3,523,732
216	3,524,065	.3	3,523,940	271– 9	3,523,685	83	3,524,095	202	3,524,153	39	3,523,733
218	3,524,066		3,523,941	68	3,523,686	85	3,524,096	279	3,524,155	79	3,523,734
219	3,524,067	.5	3,523,942	71	3,523,687	193	3,524,097	336–208	3,524,156	106	3,523,735
	3,524,195	.55	3,523,943	272– 66	3,523,688	311	3,524,098	337–159	3,524,157	156	3,523,736
239	3,524,068	240	3,523,944	273–176	3,523,689	315– 36	3,524,099	161	3,524,199	180	3,523,737
251– 3	3,523,672	248	3,523,945	274– 37	3,523,690	73	3,524,100	204	3,524,158	201	3,523,738
24	3,523,673		3,523,946	277– 4	3,523,691	150	3,524,101	338– 92	3,524,159	215	3,523,739
58	3,523,674	256.4	3,523,947	25	3,523,692	238	3,524,102	339– 34	3,524,160		3,523,740
94	3,523,675	268	3,523,948	279– 9	3,523,693	317– 6	3,524,103	176	3,524,161	401– 94	3,523,741
141	3,523,676	294.3	3,523,949	280– 33.99	3,523,694	11	3,524,104	340– 15.5	3,524,162	415– 17	3,523,742
	3,523,677	295	3,523,950	80	3,523,695	15	3,524,105	146.1	3,524,163	204	3,523,743
316	3,523,678	306.7	3,523,951	150	3,523,696	27	3,524,106		3,524,164	417–115	3,523,744
252– 5	3,523,893	326.62	3,523,952		3,523,697	61	3,524,107		3,524,165	284	3,523,745
8.55	3,523,894	332.2	3,523,953	.5	3,523,698	101	3,524,108	.3	3,524,166	418– 26	3,523,746
17	3,523,895	340.5	3,523,954	412	3,523,699		3,524,198	149	3,524,168	424– 78	3,523,998
32.7	3,523,897	343	3,523,955	285–137	3,523,700	141	3,524,109	166	3,524,167	217	3,523,999
33	3,523,896	348.5	3,523,956	150	3,523,701	148.5	3,524,110	170	3,524,200	267	3,524,000
	3,523,898		3,523,957	287– 58	3,523,702	155.5	3,524,111	172.5	3,524,169	272	3,524,001
	3,523,899	397.4	3,523,958	189.36	3,523,703	230	3,524,112	173.1	3,524,170	318	3,524,002
62.1	3,523,900	413	3,523,959	290– 14	3,524,069	235	3,524,113	174	3,524,171	346	3,524,003
.57	3,523,901	429	3,523,960		3,524,070		3,524,114		3,524,173	431–192	3,523,747
137	3,523,902	.7	3,523,961	292–216	3,523,704		3,524,115		3,524,174	264	3,523,748
300	3,523,903	453	3,523,962								

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	218,270	216	218,288	85	218,307		218,327		218,346	D71– 1	218,365
D 5– 5	218,271	275	218,289	110	218,308		218,328		218,347	D72– 1	218,366
D 8– 19	218,272	292	218,290	147	218,309	24	218,329		218,348		218,367
30	218,273	D13– 1	218,291	149	218,310	25	218,330		218,349	D73– 1	218,368
	218,274		218,292	D24– 1	218,311	31	218,331	9	218,350	D74– 2	218,369
	218,275		218,293	D26– 5	218,312	32	218,332	10	218,351	D80– 9	218,370
	218,276		218,294	14	218,313	D34– 4	218,333		218,352	D83– 1	218,371
62	218,277	6	218,295		218,314		218,334		218,353		218,372
93	218,278	D14– 3	218,296		218,315		218,335	21	218,354	12	218,373
161	218,279	6	218,297		218,316		218,336	D48– 2	218,355	D87– 3	218,374
226	218,280		218,298		218,317	5	218,337	23	218,356	5	218,375
D 9– 71	218,281		218,299	D29– 28	218,319		218,338	27	218,357		218,376
101	218,282	D15– 1	218,300		218,320	15	218,339	32	218,358		218,377
118	218,283		218,301	D33– 1	218,321		218,340	D49– 35	218,359	D88– 3	218,378
128	218,284		218,302	3	218,322	D35– 3	218,341	D55– 1	218,360		218,379
129	218,318		218,303	8	218,323	D42– 1	218,342		218,361	D90– 1	218,380
131	218,285	D22– 7	218,304		218,324		218,343	D56– 4	218,362	D93– 3	218,381
167	218,286	D23– 19	218,305	19	218,325	7	218,344	D61– 1	218,363		

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PATENTS

3,524,192	6 : 3,523,668	9 : 3,523,929	17 : 3,523,524	19 : 3,523,585	25 : 3,524,042
1 : 3,523,452	3,523,672	3,523,940	3,523,528	3,523,666	3,524,045
3,523,752	3,523,673	3,523,962	3,523,534	3,523,705	3,524,056
4 : 3,523,506	3,523,677	3,523,963	3,523,540	3,524,048	3,524,059
3,523,679	3,523,694	3,523,964	3,523,546	20 : 3,523,695	3,524,065
5 : 3,523,520	3,523,701	3,523,965	3,523,553	21 : 3,523,400	3,524,099
3,523,838	3,523,722	3,523,966	3,523,565	3,523,525	3,524,107
6 : 3,523,301	3,523,723	3,523,996	3,523,567	3,523,834	3,524,133
3,523,311	3,523,724	3,524,085	3,523,589	3,524,026	3,524,136
3,523,318	3,523,745	3,524,098	3,523,602	3,524,039	3,524,154
3,523,320	3,523,768	3,524,104	3,523,606	3,524,067	3,524,155
3,523,347	3,523,777	3,524,120	3,523,613	3,524,143	3,524,157
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3,523,361	3,523,860	3,523,596	3,523,622	22 : 3,523,825	3,524,163
3,523,371	3,523,863	3,523,624	3,523,637	3,523,877	3,524,191
3,523,377	3,523,872	3,523,773	3,523,641	23 : 3,523,478	3,524,197
3,523,379	3,523,889	3,523,878	3,523,645	24 : 3,523,380	26 : 3,523,340
3,523,381	3,523,891	3,523,927	3,523,683	3,523,407	3,523,341
3,523,386	3,523,912	3,523,928	3,523,702	3,523,731	3,523,342
3,523,393	3,523,938	3,523,930	3,523,744	3,523,732	3,523,349
3,523,398	3,523,970	11 : 3,524,189	3,523,747	25 : 3,523,354	3,523,418
3,523,402	3,523,971	12 : 3,523,416	3,523,762	3,523,362	3,523,456
3,523,404	3,524,015	3,523,477	3,523,829	3,523,376	3,523,463
3,523,410	3,524,017	3,523,576	3,523,830	3,523,413	3,523,467
3,523,421	3,524,027	3,523,591	3,523,904	3,523,488	3,523,468
3,523,427	3,524,057	3,523,625	3,523,908	3,523,510	3,523,471
3,523,428	3,524,058	3,523,718	3,523,913	3,523,539	3,523,479
3,523,453	3,524,082	3,523,766	3,523,914	3,523,541	3,523,504
3,523,481	3,524,097	3,523,827	3,524,011	3,523,547	3,523,526
3,523,483	3,524,131	3,523,973	3,524,029	3,523,583	3,523,537
3,523,492	3,524,138	3,523,988	3,524,072	3,523,610	3,523,575
3,523,502	3,524,147	3,524,023	3,524,105	3,523,665	3,523,590
3,523,514	3,524,169	3,524,030	3,524,137	3,523,708	3,523,597
3,523,517	3,524,172	3,524,075	3,524,198	3,523,734	3,523,598
3,523,530	3,524,173	3,524,193	18 : 3,523,316	3,523,755	3,523,605
3,523,555	3,524,180	13 : 3,523,346	3,523,519	3,523,785	3,523,612
3,523,559	3,524,190	3,523,465	3,523,570	3,523,810	3,523,632
3,523,587	8 : 3,523,387	3,523,990	3,523,798	3,523,814	3,523,644
3,523,607	3,523,616	16 : 3,523,500	3,523,822	3,523,823	3,523,654
3,523,614	3,523,627	17 : 3,523,306	3,523,870	3,523,840	3,523,680
3,523,633	3,524,073	3,523,314	3,523,994	3,523,861	3,523,689
3,523,639	3,524,132	3,523,325	3,524,009	3,523,868	3,523,690
3,523,642	9 : 3,523,351	3,523,368	3,524,052	3,523,874	3,523,704
3,523,643	3,523,425	3,523,370	3,524,089	3,523,879	3,523,710
3,523,647	3,523,593	3,523,388	3,524,108	3,523,880	3,523,737
3,523,655	3,523,628	3,523,438	3,524,142	3,523,881	3,523,743
3,523,657	3,523,669	3,523,455	19 : 3,523,302	3,523,903	3,523,771
3,523,659	3,523,862	3,523,489	3,523,374	3,523,992	3,524,001
3,523,660	3,523,864	3,523,490	3,523,549	3,524,028	3,524,036
3,523,661	3,523,926	3,523,513	3,523,584	3,524,033	3,524,037

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U.S. DEPARTMENT OF COMMERCE
Official Gazette of the United States Patent Office

August 11, 1970 Volume 877 Number 2

TRADEMARKS
NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 363,993. (See 2,953,395.)

Reg. No. 552,794. (See 2,953,395.)

Reg. No. 569,864. (See 2,953,395.)

Reg. No. 593,643 (LONDON), London Records, Inc., Grooved phonograph records; **Reg. No. 748,481**, same, Tape recordings, **filed** July 22, 1969, D.C.N.J. (Newark), Doc. 849–69, *London Records, Inc.* v. *Ultra Ristic Design Co., and Benjamin Tate, doing business as London House Records, London House Recording Studio and L.H.R. Co.* Judgment for permanent injunction, May 25, 1970.

Reg. No. 597,721 (ROTO-ROOTER), Roto-Rooter Corporation, Municipal, industrial, and domestic sewer, drain, and pipe cleaning service; **Reg. No. 745,984** (ROTO-ROOTER AND DESIGN), same, Cleaning sewer, oil and water pipes, field and drain tile conduits for electric cable, **filed** June 15, 1970, D.C., W.D. Tex. (San Antonio), Doc. SA70CA–244, *Roto-Rooter Corporation* v. *Eustacio G. Soto, doing business as Soto Rooter Roots and S.W. Bell Telephone Co.*

Reg. No. 602,529 (MILKY), Helene Curtis Industries, Inc., Shampoo, **filed** Feb. 16, 1970, D.C., W.D. Mo. (Kansas City), Doc. 18108–4, *Helene Curtis Industries, Inc.* v. *Dayco Laboratories, Inc.* Final judgment, plaintiff owner of name and mark "Milky" and defendant is enjoined, June 10, 1970.

Reg. No. 609,589 (SPRING AIR), The Spring-Air Company, Mattresses and box springs; sofa-beds, lounges, day beds, and other furniture providing alternately sleeping facilities and table facilities or sleeping facilities and seating facilities; **Reg. No. 645,411**, same, Sleep products—namely, davenport-beds; **Reg. No. 847,035** (BACK SUPPORTER), same, Innerspring mattresses and box springs, **filed** June 4, 1970, D.C., S.D. Tex. (Houston), Doc. 70–H–558, *The Spring Air Co. and Parker Bedding Co., Inc.* v. *Sleep-Aire Mattress Co., Inc.*

Reg. No. 645,411. (See Reg. No. 609,589.)

Reg. No. 693,662. (See 2,953,395.)

Reg. No. 735,310 (SHANDON AND DESIGN), Shandon Scientific Company Limited, Scientific apparatus, instruments, and laboratory equipment—namely, chromatography apparatus and parts thereof; electrophoresis apparatus and parts thereof; thermostatic units; cold generators; bunsen burners and accessories therefor; radiant reflector hotplates and accessories therefor; instruments for combustion testing; thermometers; balances; calculators for blood tests; melting point apparatus and accessories therefor; gel cutters and slicers; bacteria presses; evaporating equipment; microtome knife sharpeners; and tissue processors; **Reg. No. 751,647** (CHROMATANK), same, Containers used in chromatography; **Reg. No. 779,038**, same, Scientific apparatus and instruments—namely, chromatographic tanks, parts, and fittings therefor made wholly or principally of glass, **filed** Sept. 29, 1967, D.C., N.D. Ill. (Chicago), Doc. 66c1677, *Consolidated*

CONDITION OF TRADEMARK APPLICATIONS AS OF JUNE 30, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)] 24,142
Date of oldest new application ..... June 13, 1969
Date of oldest amended application (filing date) ..... September 27, 1965

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 17, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B		
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	9–24–69	11–30–67
(III) C. R. FOWLER, Classes 12, 16, 19, 21, 23, 26, 31, 34, 35, 36	11–3–69	9–27–65
(IV) M. E. ABRAMSON, Classes 13, 14, 20, 22, 24, 25, 29; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	12–24–69	6–19–67
	6–13–69	5–18–67
Renewals (All Classes)	5–11–70	.....
Sec. 12(c) Publications (All Classes)	5–15–70	.....

Applications filed during the month of June 1970—3,042

Registrations Issued ..... 439—No. 896,251 to No. 896,689
Renewals Issued 120

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PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

Laboratories, Inc. v. Shandon Scientific Industries, Ltd. Defendant's motion for summary judgment granted, Oct. 30, 1968; filed mandate, Aug. 15, 1969; cause dismissed with prejudice, Feb. 6, 1970; summary judgment of dismissal reversed and remanded, July 2, 1969.

Reg. No. 745,984. (See Reg. No. 597,721.)

Reg. No. 746,297 (SAMBO'S AND DESIGN), Sambo's Inc., Packaged pancake mix; **Reg. No. 860,231** (MISCELLANEOUS DESIGN), same, Instant pancake mix; **Reg. No. 860,232,** (SAMBO'S), same, **filed** Apr. 10, 1970, D.C., N. Mex. (Albuquerque), Doc. 8470–C, *Sambo's Restaurants, Inc. v. Nick P. Kapnison and El Negrito Sambo, S.A. de C.V.*

Reg. No. 748,481. (See Reg. No. 593,643.)

Reg. No. 751,647. (See Reg. No. 735,310.)

Reg. No. 758,359. (See Reg. No. 758,123.)

Reg. No. 758,062. (See Reg. No. 758,123.)

Reg. No. 758,123 (AVERY), Avery Adhesive Products, Inc., Unprinted labels and blank label stock; **Reg. No. 758,359,** same, Printed labels; **Reg. No. 758,062,** same, Machine products such as label dispensers, labeling machines, applicators, and imprinters, **filed** June 8, 1970, D.C., E.D. Wis. (Milwaukee), Doc. 70–C–307, *Avery Products Corporation v. Milwaukee Tab Supply Co. and James R. Klug.*

Reg. No. 779,038. (See Reg. No. 735,310.)

Reg. No. 790,126 (AMERICANA NURSING HOME AND DESIGN), Americana Nursing Homes, Inc., Making feasibility studies and market site analyses for clients proposing to construct and operate nursing homes; **Reg. No. 856,209** (AMERICANA), Americana Nursing Centers, Inc., Operating nursing homes, convalescent hospitals, extended care facilities, health care facilities, and the like, and consulting services to others for the design and operation thereof; **Reg. No. 860,308** (AMERICANA NURSING CENTER AND DESIGN), same, **filed** June 1, 1970, D.C., E.D. Mich. (Detroit), Doc. No. 34960, *Americana Nursing Centers, Inc. v. Alden Care Enterprises, Inc. and Americana Convalescent & Nursing Center, Inc.*

Reg. No. 847,035. (See Reg. No. 609,589.)

Reg. No. 856,209. (See Reg. No. 790,126.)

Reg. No. 860,231. (See Reg. No. 746,297.)

Reg. No. 860,232. (See Reg. No. 746,297.)

Reg. No. 860,308. (See Reg. No. 790,126.)

Reg. No. 860,776 (NEVCO), Nevco Wood Products Co., Inc., Wood and plastic products—namely, holders, boxes, snack bowls, salad sets, shoeshine and sewing boxes, sold empty in the trade, planters, salt and pepper sets, egg caddies and cup sets, and coasters (Class 2); Kitchen, cooking and eating utensils, such as cooking baskets and strainers; and bar accessories, such as ice crushers, spoons, forks, strainers, bottle and can openers, and pourers (Class 13); Knives, forks, spoons, files, carving boards, kitchen spades, steak knives, kitchen saws, slicers, carving sets, meat cleavers, salad scissors, choppers and slicers for cheese, butter, fruits and other foods, pizza and pie cutters, kitchen scissors, poultry shears, peelers and corers; mixing spoons, spatulas, salad fork and spoon sets, meat presses, tongs, foodboards, scoops, meat tenderizers, egg slicers, graters, peelers, can openers, jiggers, cork-screws, ice picks, ice tongs, and lemon squeezers (Class 23); Bar stools, chairs, tables, racks, shelves, hat stands, training chairs and training seats for children, drawers, drying racks for clothes, tie racks, valets, step stools, benches, and serving wagons (Class 32). **filed** June 8, 1970, D.C., S.D.N.Y., Doc. 70–C–2370, *Nevco Wood Products Co., Inc. v. John Hull Cutlers Corp.*

Reg. No. 868,938. (See 3,423,825.)

2,953,395, E. Turner, MOTORCYCLE FRONT WHEEL SUSPENSION; **Reg. No. 363,993** (TRIUMPH), Triumph Engineering Company Limited, Motorcycles and side cars therefor, and structural parts thereof; **Reg. No. 552,794,** same, Motor cycles; **Reg. No. 569,864** (THUNDERBIRD), same, Motor cycles and structural parts thereof; **Reg. No. 693,662** (TRICOR AND DESIGN), The Triumph Corporation, Polish for motorcycles, scooters, and the like (Class 4); Gasket sealing compounds (Class 5); Motorcycle and scooter accessories and parts—namely, handlebar grips; luggage cases and saddle bags, crash or safety bars, fairings or enclosures for motorcycles, and control cables for said vehicles (Class 19); Electrical test sets for testing alternators, generators, rectifiers, voltage regulators, switch and wire continuity and battery voltage (Class 26); Crash helmets for motorcyclists and the like (Class 39); Solvents, and cleaners for hands and metal (Class 52), **filed** Nov. 24, 1969, D.C., S.D. Fla. (Miami), Doc. 69-1373–C–TC, *The Triumph Corp. v. Bernard Bastacky et al.*

3,423,825, Frost and Maguire, CAN OPENER; **Reg. No. 868,938** (SLICK 'N CLEAN), Rival Manufacturing Company, Electric can openers, **filed** June 12, 1970, D.C., W.D. Mo. (Kansas City), Doc. 18440–3, *Rival Manufacturing Company v. Dazey Products Company.*

PROPOSALS FOR AN INTERNATIONAL TRADEMARK SYSTEM

(REPORT OF THE COMMITTEE OF EXPERTS FOR THE REVISION OF THE MADRID AGREEMENT)

As a result of an invitation from the United International Bureau for the Protection of Intellectual Property (BIRPI) the United States sent a delegation to participate in the discussions of a Committee of Experts held in Geneva from April 13 to 16, 1970. The purpose of the meeting was to study the advisability of developing an international trademark filing system.

The principal working papers for the meeting were published in the "Trademark Notices" section of the OFFICIAL GAZETTE *of December 2, 1969 (Volume 869, Number 1, pp. TM 3–27).*

Since considerable interest has been expressed concerning this matter the Patent Office is now publishing below the text of document MM/I/8 which is the final report of the Committee of Experts referred to above.

WILLIAM E. SCHUYLER, JR.,
Commissioner of Patents.

Date: July 15, 1970.

I. *Introduction*

1. At the invitation of the Director of BIRPI, a Committee of Experts which had as its task the study of the possible revision of the Madrid Agreement Concerning the International Registration of Trademarks met in Geneva from April 13 to 16, 1970.

2. All the member countries of the Madrid Union Concerning the International Registration of Marks had been invited to attend, as members of the Committee, as well as the following countries which had expressed an interest in the Madrid Agreement: Denmark, Finland, Japan, Norway, Sweden, Union of Soviet Socialist Republics, United Kingdom, United States of America.

3. The following countries were represented: Austria, Belgium, Czechoslavakia, Denmark, Finland, France, Germany (Federal Republic), Hungary, Italy, Netherlands, Norway, Portugal, Rumania, San Marino, Spain, Sweden, Switzerland, Union of Soviet Socialist Republics, United Arab Republic, United Kingdom, United States of America, Yugoslavia.

4. One intergovernmental organization, the Commission of the European Communities, was represented by an observer.

5. The following three international non-governmental organizations were represented by observers: International Association for the Protection of Industrial Property (IAPIP), International Chamber of Commerce (ICC), International Federation of Patent Agents (FICPI).

6. Observers were able to participate in the discussions on the same footing as the Government representatives.

7. The Director of BIRPI, Professor G. H. C. Bodenhausen, took part in all the discussions.

8. In his opening address, the Director of BIRPI welcomed the participants, and thanked them for their cooperation. He said that BIRPI was contemplating revising the Madrid Agreement and that the meeting was intended to inform them of the wishes and probable attitude of those countries which were already members of the Madrid Union and of others which had shown a certain interest in the Madrid Agreement. He stated in conclusion that, if the results of the meeting were encouraging, BIRPI would submit a complete draft to a larger committee of experts.

9. The Committee unanimously elected Mr. W. M. J. C. Phaf (Netherlands) as Chairman, and Mr. W. E. Schuyler Jr. (United States of America) and Mr. A. F. Mazarambroz (Spain) as Vice-Chairmen.

10. Mr. J. Voyame, Second Deputy Director of BIRPI, acted as Secretary of the Committee of Experts.

11. The list of participants is attached to the present Report.

12. The Committee of Experts adopted the agenda as shown in draft form in document MM/I/1.

II. *Scope of the Present Report*

13. The present Report does not—except in cases where the nature of the invention seems to require it—identify the persons, countries or organizations expressing the opinions recorded here. Its sole purpose, in fact, is to assist BIRPI and its future committees of experts in preparing drafts for the revision of the Madrid Agreement. Should it be necessary, speakers can be identified on the basis of the notes taken by the Secretariat and the recordings of all the interventions, which are kept in the archives of BIRPI.

14. Furthermore, in view of the limited purpose of this Report, the arguments put forward in favor of the various opinions expressed have generally not been reproduced.

III. *Basis of the Discussions of the Committee*

15. The Committee's deliberations were based on a BIRPI memorandum on the main questions to be solved with a view to a possible revision of the Madrid Agreement (document MM/I/2). The Committee also studied observations presented by the Delegation of the United Kingdom (document MM/I/4) and a proposal by the Delegation of Germany (Federal Republic) (document MM/I/5). In addition, the Committee had before it a document (MM/I/3) containing a preliminary draft of a revised Agreement, which, however, was merely an illustration of what the solutions furthest removed from the present system might represent in the form of an agreement. The latter document was therefore not discussed by the Committee of Experts.

IV. *General Discussion*

16. In the general discussion, several delegations of member countries of the Madrid Union said that, subject to a few improvements which were desirable, the Madrid Agreement worked satisfactorily and rendered great services to the industrial and trade circles of their countries. Amendments were certainly possible, with a view to increasing the number of member countries, but they should be undertaken with great care. This opinion was shared by the representative of a private organization.

17. The delegations of several non-member countries of the Madrid Union said that their countries were most certainly interested in the Madrid Agreement, especially if various amendments to that Agreement allowed them to overcome more easily the obstacles at present hindering their accession. Two delegations mentioned, in this connection, that their Offices carried out a very thorough examination, whose costs would have to be met by the applicant for international registration in the form of the payment of fees the amount of which would be approximately the same as that of the national fees.

V. *Dependence or Independence of the International Registration Filing of Applications for International Registration Examination of such Applications*

18. The Committee of Experts examined simultaneously Questions I and II appearing in paragraph 91 of document MM/I/2. It also discussed a proposal presented in this connection by the Delegation of Germany (Federal Republic) (document MM/I/5).

19. The delegations of several member countries of the Madrid Union said that their countries were attached to the system under which international registration depended on the registration of the mark in the country of origin and according to which protection in other countries of the Union depended, for a given period, on the protection in the country of origin. This system, they said, permitted third parties whose rights were infringed by an international mark to have it cancelled in all the member countries by one single action. On the other hand, the absence of the examination undertaken at present by the Office of the country of origin would increase the number of marks without protection and would clutter the registers. Independence would also increase the possibilities of obtaining marks in bad faith. The representatives of two private organizations stated that they were also opposed to the system of independence of the international mark.

20. Some of these delegations added, however, that the five-year period during which the protection in the country of origin conditions the protection in the other countries could be reduced to two or three years, as a compromise.

21. Two delegations declared that they were in favor of the system of independence. They stressed the disadvantages of dependence, as outlined in paragraph 12 of document MM/I/2, and added that the advantages attibuted to the system of dependence were more theoretical than practical.

22. As to the proposal by the Delegation of Germany (Federal Republic), its purpose was mainly to introduce the following system: there would be no requirement of prior national registration; the international application would have to be filed with the Office of the country of origin, which would make a limited examination based on grounds to be set forth in the Agreement; the decisions of the national Office would be subject to the legal remedies provided for in the national law for national applications; each country in which protection is sought, including possibly the country of origin, could refuse that protection in its territory; refusals by countries other than the country of origin, however, would have to be based on the grounds specified in Article 6quinquies of the Paris Convention.

23. Several delegations said that they could not agree to that proposal in so far as it was based on the principle of total independence.

24. Some delegations expressed interest more especially in the proposed procedure and the uniform preliminary examination which, according to the Delegation of Germany (Federal Republic), would have to be undertaken by the national Offices; the proposed procedure would, in fact, make it possible to obtain an international registration more easily and more quickly, and it would establish at the outset the same situation for applicants of all the member countries.

25. The procedure and the examination thus proposed were criticized, however, by several delegations. It was pointed out, in particular, that the system would oblige the Office of the country of origin to undertake two different types of examination, which would increase the costs, and that, furthermore, the decision on some of the points which would be the subject of the "international" examination depended on national laws or local conceptions, so that solutions would vary from one country to another. It was finally mentioned, in this connection, that the very notion of country of origin was called in question by the proposal under discussion.

26. Finally, the Committee of Experts considered that it was not yet possible to take a definite stand on the questions discussed, but that they deserved careful study. It recommended BIRPI to continue its studies along the lines of the following system, suggested mainly by the Delegation of Austria:

(a) The international registration would no longer be subject to national registration in the country of origin. It would depend only on a filing in the country of origin. The Office of that country would examine the application for international registration merely as to form. If the formal requirements were fulfilled, the national Office in question would send the application to BIRPI, which would register it, notify the registration to the countries where protection was sought, and publish it.

(b) Protection in countries other than the country of origin would depend, however, for a given period—which could be reduced to two or three years—on the protection granted in that country. Consequently, if the application was withdrawn, if the registration was refused by the Office of the country of origin or if the mark ceased to be protected in that country, protection would also cease in the other countries.

VI. *Optional or Generalized Territorial Limitation*

27. The Committee of Experts first discussed the question whether the system of optional territorial limitation, provided for in Article 3bis of the Nice Act of the Madrid Agreement, should be maintained or whether territorial limitation should be generalized (Question III.1 of document MM/I/2, paragraph 91). All the delegations, with one single exception, and all the representatives of private organizations—again with one exception—declared themselves in favor of the system of generalized territorial limitation. They found, in particular, that the system of territorial limitation had been introduced and was working satisfactorily from the time of the entry into force of the Nice Act, that it had this advantage that international marks were not cluttering the registers of countries in which the applicants were not interested, and that the fees charged for the benefit of countries in which protection was sought enabled such countries to cover the examination costs.

28. The Committee of Experts then expressed its opinion on the question of the minimum number of countries in respect of which protection should be applied for (Question III.4 of document MM/I/2, paragraph 91). With the exception of one delegation, all the participants of the Committee of Experts were in favor of a minimum of three countries.

29. On the other hand, the Committee of Experts expressed no opinion on Questions III.2 and III.3 of document MM/I/2, paragraph 91, considering that the replies to those questions depended to a large extent on the solutions which would be found to the questions of the dependence of the international mark, the filing of the application, and the examination of the application (paragraphs 18 to 26, above).

VII. *Supplementary Fees for Classes of Goods or Services*

30. The Committee of Experts then examined the question whether it would be advisable, as far as the classes of goods and services covered by a single filing were concerned, to collect a supplementary fee for each class, or as from the second or third class, or, as at present, from the fourth class (Question IV.1 of document MM/I/2, paragraph 91).

31. It was agreed that, subject to the distribution formula, such supplementary fees should be paid to the countries in respect of which protection was sought.

32. Finally, ten delegations expressed themselves in favor of the collection of a supplementary fee for each class, two for the collection of such a fee as from the second class, and four for the collection of the said fee as from the third class. No delegation proposed that the system at present in force should be maintained.

33. The representative of one private organization expressed, at the same time, the opinion that an international registration should not contain more than two classes of goods or services.

34. With regard to the supplementary fee (Question IV.2 of document MM/I/2, paragraph 91), the Delegation of the United Kingdom recalled that, as explained in document MM/I/4, it considered that applicants should pay to BIRPI approximately the total amount of the national fees required by those countries in which protection was sought. In reply to this statement, it was pointed out that the international registration would then be too costly and the benefit derived from it would be lost.

35. Two delegations mentioned the possibility of introducing a graduated supplementary fee.

36. The Committee of Experts finally considered that, having accepted the generalized territorial limitation and the payment of the supplementary fee for each class, it had appreciably modified certain aspects of the problem and that the question of the amount of the supplementary fee should therefore be studied by BIRPI in the light of these new factors.

VIII. *Special Requirements of Certain Countries*

37. The Committee of Experts discussed the question whether the national Offices of countries where protection was sought should be able to demand from the applicant any declarations, documents or proof required by their national legislation and, if so, what the role of BIRPI should be in such a procedure (Questions V.1 to V.3 of document MM/I/2, paragraph 91).

38. With regard to the question of principle, several delegations of member countries of the Madrid Union gave a negative reply. They said that, if the requirement to comply with national formalities was accepted, it would be in conflict with one of the fundamental principles of the Madrid Agreement, according to which the international registration is equivalent to a regular national filing without the requirement of filing additional documents.

39. The delegation of one member country of the Madrid Union said, however, that other national requirements could be accepted, provided they were indicated restrictively in the Regulations.

40. On the question of principle, the representatives of the private organizations expressed conflicting opinions.

41. The Committee of Experts then envisaged actual cases of national requirements which might have to be taken into account, such as the declaration of a bona fide intention to use the mark required by the United Kingdom law, and the proof that the mark is effectively used somewhere in the world required by the law of the United States of America.

42. On the first of the two points mentioned in the previous paragraph, the Delegation of the United Kingdom explained that the declaration of a bona fide intention to use the mark could be inserted in the application form for international registration, and this would reduce the formalities to a minimum.

43. On the second point mentioned in paragraph 41, the Delegation of the United States of America said that a Bill was pending before Congress according to the terms of which it would suffice, for the filing to be accepted, that a declaration be made of intention to use the mark; proof of use would have to be provided, however, before registration.

44. It was explained, in this connection, that the declaration of a bona fide intention to use the mark and the use of the mark itself had to be considered, under United Kingdom and United States law, as part of the very notion of the mark. They were consequently fundamental conditions the absence of which would allow those countries to refuse protection in their territories if they were members of the Madrid Union.

45. As for the role which BIRPI would play, it was pointed out that, if such requirements were accepted in principle, it would be desirable to ask BIRPI to transmit to the national Offices the declarations, documents or proof that they required. In this way, applicants would be spared the necessity of appointing an agent in each of the countries concerned to fulfill such requirements.

46. It was observed, on the other hand, that, if the conditions thus imposed were not complied with, BIRPI should not have the power to refuse an application for extension of protection to the interested countries. In such cases, it would be left to the latter to refuse protection on their territory.

47. Finally, the Chairman noted that it appeared that the Committee of Experts was in any case opposed to the acceptance of every national requirement and would not agree that BIRPI itself should be entrusted with the task of making a decision if the requirements accepted were not complied with. He suggested, with the agreement of the Committee of Experts, that BIRPI should continue the study of the question in the light of the opinions expressed during the discussion.

IX. *Time Limit for Refusing Protection*

48. The Committee of Experts first expressed its opinion on the date from which the time limit for refusing protection should run (Question VI.1 of document MM/I/2, paragraph 91). The unanimous opionion was that the time limit should run from the date of publication of the international registration.

49. The Committee of Experts discussed at length the question of the time limit for refusal itself, particularly for countries which make an ex officio examination as to the existence of conflicting marks and which have an opposition procedure.

50. It was agreed that the applicant should know, within a reasonable time, whether his mark was meeting with refusals or objections in the various countries in respect of which he had applied for protection.

51. The Committee of Experts considered that in any case it was not necessary that the Office of the country

in respect of which protection was sought should pronounce a final refusal within the time allowed. It was sufficient if, within that period, the said Office pronounced a provisional refusal, in other words, informed the applicant of the objections that might be raised against the mark either as a result of an ex officio examination, or as a result of third-party opposition. In particular, no time limit could be fixed for the closing of proceedings instituted on the basis of oppositions. These are administrative or judicial proceedings which must take their normal course.

52. Several delegations and the representatives of two private organizations considered that in these conditions a time limit of one year was sufficient in all cases. Three delegations, however, said that it was necessary that the time limit be extended—by six months, for example—for the notification of objections based on anticipations as a result of an ex officio examination or on third-party opposition. Other delegations then said that, if an extension were accepted, it was preferable that it should be a general extension so as to have a uniform time limit for all cases.

53. It was also suggested that countries which required a time limit of more than one year should reduce the length of their procedure by calling for oppositions without waiting for the termination of the ex officio examination. In answer to this suggestion, it was pointed out that such a solution would not solve the problem in all cases and that, in any event, the need for countries to modify their national laws to any appreciable extent in order to be able to accede to the Madrid Agreement would have to be avoided as far as possible.

54. In the end, the Committee of Experts recommended that BIRPI should seek a compromise solution on the basis of the opinions expressed during the discussion.

X. *International Filing Date and Duration of Protection*

55. As regards the way in which the date of the international filing is to be determined (Question VII.1 of document MM/I/2, paragraph 91), the Committee of Experts considered that it depended on the solutions which would be found to the questions of the dependence of the international mark, the filing, and the examination (paragraphs 18 to 26, above). It therefore expressed no opinion on this matter.

56. As for the duration of the protection (Question VII.2 of document MM/I/2, paragraph 91), the great majority of the Committee of Experts expressed itself in favor of adopting a term of ten years instead of the twenty years at present provided for under the Madrid Agreement.

XI. *Recording of Licenses in the International Register*

57. In reply to Question VIII of document MM/I/2, paragraph 91, two delegations considered that it might be useful, for information purposes, to record licenses in the international register. However, the majority of the delegations and the representatives of two private organizations said they were opposed to the recording of licenses in the international register. In their view, such a procedure would create confusion, as the conditions and the effects of such recordings could not be clearly regulated.

XII. *Distribution of Fees Collected for Member Countries*

58. The Committee of Experts examined Question IX of document MM/I/2, paragraph 91, in which it is proposed that, for the distribution of the fees collected for the benefit of member countries, such countries should be divided into four categories according to the type of examination carried out by those countries.

59. Two delegations of non-member countries of the Madrid Union recalled that in their opinion the examination of international marks would take at least as much time as that of national marks, and that the costs to be borne for such examination by the national Offices should be met by the payment to BIRPI of fees equivalent to those required for national filings.

60. Several delegations, as well as the representative of one private organization, replied that the examination of international marks was less costly than that of national marks, that the collection of national fees by BIRPI would give rise to considerable administrative complications and that, in any case, the international registration procedure should remain as simple and cheap as possible. One delegation, however, said that the present fees would have to be increased in order to cover more satisfactorily the costs borne by the various countries for the examination of international marks.

61. Finally, the great majority of the Committee of Experts decided that, for the purposes of the distribution of the fees, member countries should be classified according to the four categories mentioned in document MM/I/2.

XIII. *Working Languages*

62. The Committee of Experts examined the question whether and in what conditions English should be adopted as a working language (Questions X.1 to X.4 of document MM/I/2, paragraph 91).

63. On the question of principle, the Committee of Experts was of the unanimous opinion that English should be adopted as a second working language as soon as one or more English-language countries, which could be expected to provide an adequate number of applications for international registration, had become members of the Madrid Union.

64. One delegation and the representatives of two private organizations, however, expressed the opinion that it should suffice if the country or countries whose accession would be required as indicated in the foregoing paragraph were a country or countries which expressed a preference, as regards the application of the Madrid Agreement, for the English language instead of the French language; such would probably be the case for the Scandinavian countries, for example.

65. The Director of BIRPI pointed out that, in any case, BIRPI would require a certain amount of time before it would be able to introduce English as a second working language for the application of the Madrid Agreement.

66. As for the question whether it should be provided that for each registration the list of goods and services must be drawn up in both languages (Question X.2 of document MM/I/2, paragraph 91), opinion was divided.

67. In the view of some delegations, it would be necessary for the list of goods and services to be registered and published in both working languages. BIRPI would have to check the list, as it does at present, and also check the translation. In case of doubt, the original list would prevail.

68. Three delegations said, however, that in their view it would suffice if the list of goods and services were registered and published in one language. They pointed out, in particular, that the checking of translations of such lists would involve considerable expense for BIRPI, which would inevitably have repercussions on the amount of the fees.

69. With regard to the list of countries in respect of which protection is applied for (Question X.3 of document MM/I/2, paragraph 91), the Committee of Experts considered that it mattered little whether it was registered or published in one or in two languages.

70. The Committee of Experts then examined the question of the language in which refusals of protection should be notified to applicants (Question X.4 of document MM/I/2, paragraph 91). While one delegation considered that such refusals should be notified in the language chosen by the applicant, the majority were in favor of notification in one of the two working languages, at the discretion of the national Office from which the refusal comes.

71. In conclusion, it was understood that BIRPI would continue the study of the question in the light of the opinions expressed; moreover, financial studies would have to be carried out, the results of which would probably have an influence on the choice to be made in the various cases.

XIV. *Searches for Anticipation*

72. The Committee of Experts discussed the question whether BIRPI should extend to national marks its trademark search service, which is at present limited to international marks (Question XI of document MM/I/2, paragraph 91).

73. One delegation and the representatives of two private organizations said that extension of the BIRPI trademark search service to national marks would involve considerable expense and the search made could only produce inadequate results, as cases of similarity would have to be judged differently according to the language and the national law.

74. Several delegations pointed out, however, that the Offices of their countries had introduced or were studying the introduction of search services with the help of computers and the results obtained were encouraging. Thus, the marks registered in several countries—including international marks—were already on magnetic tapes which were available and could be exchanged if the systems used were identical. It might be useful if BIRPI undertook to coordinate to some extent the work in this field.

75. The Committee of Experts finally agreed to the idea that BIRPI might convene a study group composed, on the one hand, of representatives of countries using computers for trademark searches and, on the other hand, of representatives of countries interested in such searches. This study group could have discussions and exchange information on mutual experience. BIRPI, for its part, could, if necessary, coordinate the work done in the various countries with a view to harmonizing the systems adopted. Thereafter, on the basis of the experience gained, it might study ways and means of developing its own trademark search service.

XV. *Other Questions*

76. One delegation described the difficulties arising from the simultaneous application of the London and Nice Acts, particularly with respect to the date of international registrations. It expressed the hope that, within the framework of the proposed revision, the possibility would be studied of improving this situation by means of transitional provisions and, furthermore, that in future divergences of this sort would as far as possible be avoided.

77. Another delegation criticized the system chosen at the Nice Conference for the renewal of registrations. The intention had been to simplify matters but at the same time the national Offices had been deprived of the possibility of accepting or refusing, on renewal, marks which they had refused or accepted previously. It would therefore be preferable to revert to the system existing under the London Act.

78. The Delegation of the United States of America then said that the working documents prepared by BIRPI had provoked great interest in his country, both in government and in private circles. It had been generally agreed that these documents, in particular, document MM/I/3, would provide a good basis for discussion with a view to the drafting of a universal Agreement on Marks, which would answer a real need. The Delegation of the United States of America, therefore, recommended the convening of a wider assembly, which could bring together all the member countries of the Paris Union and which could use as a basis for its discussion a document along the lines of document MM/I/3.

79. The Director of BIRPI said in reply that he had no objection to the inclusion of such a document in the documentation that might be submitted to a larger committee of experts. He recalled, however, that in order to be able to revise the Madrid Agreement it was necessary to obtain the unanimous consent of the member countries of the Madrid Union.

80. The present Report was unanimously adopted by the Committee of Experts.

U.S. GOVERNMENT PRINTING OFFICE: 0—1970

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 300,413. Walnut Acres Incorporated, Penns Creek, Pa. Filed June 14, 1968.

WALNUT ACRES

Class 18—Medicines and Pharmaceutical Preparations

For Food Supplements for Human Consumption—Namely, Vitamin and Mineral Preparations (Int. Cl. 5).
First use on or about Sept. 15, 1960.

Class 46—Foods and Ingredients of Foods

For Organically Grown Grain Products and Products Made Therefrom—Namely, Flours, Cereals, Pancake and Bread Mixes, Bread, Cake and Cookies; Canned, Frozen and Fresh Meats; Peanut, Cashew and Apple Butter, Jams and Jellies Made From Organically Grown Fruit; Honey; Sugar; Food Syrups and Cooking Vegetable Oils (Int. Cls. 29 and 30).
First use October 1948.

SN 302,663. National Security Systems, Inc., Manhasset, N.Y. Filed July 15, 1968.

NATIONAL SECURITY SYSTEMS, INC.

The wording "Security Systems, Inc." is disclaimed apart from the mark as a whole.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electronic Burglar/Intrusion Alarm Systems, Electronic Closed Circuit Television Surveillance Systems, Electronic Communications Systems Employing Wires and Radio Waves (Int. Cl. 9).

Class 25—Locks and Safes

For Locks (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Electronic Fire-Temperature-Combustion Detection Systems Activated by Detection of Heat, Smoke, Carbon Dioxide or Infra-Red Radiation and Electronic System for Detection of Changes in Physical, Chemical, Biological, and/or Physiological Level or Activity in Nature or in a Manufacturing Process (Int. Cl. 37).

Class 103—Construction and Repair

For Custom Manufacturing and Installation of Alarm, Detection, Surveillance and Communication Equipment (Int. Cl. 6).

First use Jan. 3, 1966.

SN 330,036. Pacific Fence and Wire Company, Portland, Oreg. Filed June 16, 1969.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Fencing (Int. Cl. 6).
First use Feb. 15, 1968.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Fireplace Screens (Int. Cl. 20).
First use Feb. 1, 1968.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Drapery Mesh (Int. Cl. 24).
First use Aug. 15, 1968.

SN 330,040. Western Publishing Company, Inc., Racine, Wis. Filed June 16, 1969.

KRAZY IKES

Owner of Reg. No. 268,283.

Class 22—Games, Toys, and Sporting Goods

For Take-Apart Dolls and Fanciful Figures Comprised of Segmented Interchangeable Plastic Parts and Pieces; Self-Erasable Writing Pads, and Apparatuses for Temporarily Receiving Written Impressions; and Jigsaw Puzzles (Int. Cl. 28).

Class 38—Prints and Publications

For Coloring Books (Int. Cl. 16).

First use May 15, 1969.

SN 332,060. Wilroy Inc., New York, N.Y. Filed July 9, 1969.

QUESTO

The meaning of "Questo" in English is "this."

Class 39—Clothing

For Women's and Girls' Apparel—Namely, Dresses (Int. Cl. 25).
First use July 11, 1969.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Fabrics in the Piece—Namely, Synthetic Fabrics for Use in Women's Apparel (Int. Cl. 24).
First use July 3, 1969.

SN 334,912. Diemakers, Inc., Monroe City, Mo. Filed Aug. 11, 1969.

DMI

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Tools Used in Diemaking—Namely, Plastic Molds, Jigs, and Fixtures for the Molds, Drill Holders, Trimming Dies, Forging Dies, and Diecasting Dies (Int. Cl. 8).

Class 106—Material Treatment

For Fabrication of Dies and Molds to the Order and Specification of Others (Int. Cl. 40).

First use July 1966.

SN 335,909. The Wiremold Company, Hartford, Conn. Filed Aug. 22, 1969.

Wiremold

Owner of Reg. Nos. 124,280, 793,963, and others.

Class 21—Electrical Apparatus, Machines, and Supplies

For Raceways for Electric Wires and Fittings and Electric Cord Set Kits (Int. Cl. 9).
First use Apr. 29, 1969; Jan. 10, 1918 as to "Wiremold."

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Wire Pulley (Int. Cl. 7).
First use July 28, 1969.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Air Duct (Also Useful as Defroster Hose) (Int. Cl. 11).
First use May 13, 1969.

SN 338,836. Serviposte SA., Roubaix (Nord), France. Filed Sept. 25, 1969.

DYNACTIL

Owner of French Reg. No. 738,353, dated Aug. 8, 1967.

Class 39—Clothing

For Ready-to-Wear Clothing—Namely, Women's Underwear, Slips, Bras, Chemises, Girdles, Corselets, Panties, Tights, Hoods, Anklets, Knee Bands, Hosiery, Slippers, Robes and Bed Jackets, Pajamas, Children's Underwear; Men's Underwear, Shorts, Pull-Overs, Shirts, Cardigans, Waistcoats, and Vests (Int. Cl. 25).
(Int. Cl. 25).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Table Linens, Bedsprends and Fabrics for Use in Making the Aforementioned Articles of Clothing (Int. Cl. 24).

SN 347,847. Avon Products, Inc., New York, N.Y. Filed Jan. 7, 1970.

SILVER FLUTES

Class 51—Cosmetics and Toilet Preparations

For Cologne and Dusting Powder (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use Nov. 6, 1969.

SN 350,797. NMS Industries, Inc., New York, N.Y. Filed Feb. 9, 1970.

Rossini

Owner of Reg. Nos. 726,368 and 865,537.

Class 2—Receptacles

For Willow Baskets of Various Shapes and Sizes; Woodenware—Namely, Bowls, Trays, and Buckets (Int. Cl. 21).

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Beach Bags and Knitting Bags and Duffel Bags of Various Shapes and Sizes (Int. Cl 18).

Class 30—Crockery, Earthenware, and Porcelain

For Crockery, Porcelain and Earthenware—Namely, Mugs, and Bowls of Various Shapes and Sizes; Vases, and China Dinnerware (Int. Cl. 21).

First use as early as October 1964.

SN 358,641. A-T-O Inc., Cleveland, Ohio. Filed May 4, 1970.

HADCO

Class 19—Vehicles

For Trailer and Mobile Home Chassis Parts—Namely, Couplers, Jack Posts, Running Gear Including Wheels, Hubs, and Axles (Int. Cl. 12).
First use at least as early as 1947.

Class 31—Filters and Refrigerators

For Appliances for Trailers and Mobile Homes—Namely, Refrigerators (Int. Cl. 11).
First use at least as early as 1963.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1 — Raw or Partly Prepared Materials

SN 295,070. York Feather & Down Corp., New York, N.Y. Filed Apr. 5, 1968.

SILVER GRAY

For Goose Down (Int. Cl. 22).
First use Sept. 23, 1935.

SN 335,687. Contour Extrusion Co., Inc., Mamaroneck, N.Y. Filed Aug. 19, 1969.

TRI-SEAL

For Extruded Plastic in Sheet Form Especially for Use as Liners for Receptacle Closures (Int. Cl. 17).
First use May 22, 1969.

Class 2 — Receptacles

SN 300,114. Reynolds Metals Company, Richmond, Va. Filed June 10, 1968.

SPACE SAVER

For Disposable Aluminum Cans Sold Empty to the Beverage Trade (Int. Cl. 6).
First use at least as early as Apr. 5, 1968.
Subj. to Intf. with SN 303,765.

SN 336,964. Westerwaelder Eisenwerk Dr. Paul Gerhard KG, Weitefeld/Sieg, Germany. Filed Sept. 3, 1969.

LIKWITAINER

Owner of German Reg. No. 845,268, dated Nov. 17, 1967.
For Transport Containers for Liquid Goods (Int. Cl. 21).

SN 350,846. American Hospital Supply Corporation, Evanston, Ill. Filed Feb. 9, 1970.

ENVO-LOK

For Polyethelene Flatware Bag (Int. Cl. 20).
First use on or before Nov. 12, 1969.

Class 5 — Adhesives

SN 333,198. Stein, Hall & Co., Inc., New York, N.Y. Filed July 22, 1969.

HALLMARK

For Adhesives Used for Packaging and Combining Foils, Films, Papers and Textile Materials (Int. Cl. 1).
First use in or about 1944.

SN 333,199. Stein, Hall & Co., Inc., New York, N.Y. Filed July 22, 1969.

TEXMELT

For Adhesives Used for Packaging and Combining Foils, Films, Paper and Textile Materials (Int. Cl. 1).
First use February 1967.

Class 6 — Chemicals and Chemical Compositions

SN 304,684. Geigy Chemical Corporation, Ardsley, N.Y. Filed Aug. 8, 1968.

TINOSOFT

Owner of Reg. Nos. 431,874, 652,584, and others.
For Catalysts and Pigment Extenders Used in Connection With Color Printing of Fabrics (Int. Cl. 2).
First use June 13, 1968.

SN 314,528. Chemalloy Company, Inc., Philadelphia, Pa. Filed Dec. 16, 1968.

CHEMAFLUX

For Chemical Compounds, Compositions, and Preparations for Use in Foundry and Casting Work Applied to the "Melt" of Metal or Alloys, or Applied to Dies, Molds, Tools, Cores, Crucibles, Ladles, or Furnace Walls (Int. Cl. 1).
First use Mar. 15, 1965.

SN 332,882. ADM-Tronics Unlimited, Inc., Westwood, N.J. Filed July 18, 1969.

ZARAN

For Water-Based Adhesion Promoters for Use on Polyolefin Films and Polyester Films (Int. Cl. 1).
First use June 6, 1969.

SN 348,049. Monsanto Company, St. Louis, Mo. Filed Jan. 8, 1970.

MONFLEX

For Barrier Coating for Paper (Int. Cl. 1).
First use Dec. 12, 1969.

SN 356,393. Geigy Chemical Corporation, Ardsley, N.Y. Filed Apr. 9, 1970.

DASINOL

Owner of Reg. No. 786,999.
For Chemical Ingredient Used in the Manufacture of Herbicides (Int. Cl. 1).
First use Mar. 4, 1970.

SN 356,395. Geigy Chemical Corporation, Ardsley, N.Y. Filed Apr. 9, 1970.

HOLAROX

For Chemical Ingredient Used in the Manufacture of Insecticides (Int. Cl. 1).
First use Mar. 4, 1970.

SN 357,532. Geigy Chemical Corporation, Ardsley, N.Y. Filed Apr. 21, 1970.

ILBEX

For Chemical Ingredient Used in the Manufacture of Herbicides (Int. Cl. 1).
First use Mar. 31, 1970.

SN 358,731. Geigy Chemical Corporation, Ardsley, N.Y. Filed May 4, 1970.

IRGASTAT

Owner of Reg. Nos. 165,426, 783,863, and others.
For Anti-Static Agent Used in the Processing of Textiles, Yarns, and Articles Composed Thereof (Int. Cl. 1).
First use Apr. 13, 1970.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 316,192. Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany. Filed Jan. 9, 1969.



The German word "Eichel" means "acorn." Priority claimed under Sec. 44(d) on German application, filed July 13, 1968; Reg. No. 849,940, dated Sept. 19, 1968. Owner of U.S. Reg. No. 606,273.
For Hunting and Sporting Ammunition (Int. Cl. 13).

SN 320,458. Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany. Filed Mar. 3, 1969.



Owner of German Reg. No. 743,769, dated Mar. 16, 1960, and U.S. Reg. Nos. 597,249 and 606,274.
For Rim Fire Cartridges (Int. Cl. 13).

SN 333,096. Colt's Inc., Hartford, Conn. Filed July 22, 1969.

LIGHTNING

For Pistols, Revolvers, and Rifles (Int. Cl. 13).
First use June 23, 1969.

Class 10 — Fertilizers

SN 350,518. Pullen Molded Products, Inc., New Iberia, La. Filed Feb. 4, 1970.

KYS-KUBE

For Porous Container Including Plant Nutrients for Growing Seedlings (Int. Cl. 1).
First use Dec. 10, 1969.

Class 11 — Inks and Inking Materials

SN 339,686. Spectrachem Corporation, Paterson, N.J. Filed Oct. 3, 1969.

SPECTRASPERSE

For Textile Printing Ink (Int. Cl. 2).
First use December 1967.

SN 339,687. Spectrachem Corporation, Paterson, N.J. Filed Oct. 3, 1969.

SPECTRA-M

For Gravure Printing Ink (Int. Cl. 2).
First use August 1968.

SN 339,688. Spectrachem Corporation, Paterson, N.J. Filed Oct. 3, 1969.

SPECTRASOLV

For Textile Printing Ink (Int. Cl. 2).
First use December 1967.

Class 12 — Construction Materials

SN 330,653. Larsen Products Corporation, Rockville, Md. Filed June 23, 1969.

MARVOROC

For Liquid Resinous Additive for Imparting Strength and Adhesive Qualities to Cement and Sand Bedcoat Designed To Receive Stone, Marble, Granite or Quartz Chips and the Like, and for Finishing walls, Floors, Columns, and the Like (Int. Cl. 19).
First use May 21, 1969.

SN 335,551. Clow Corporation, Chicago, Ill. Filed Aug. 18, 1969.



For Clay Pipe and Fittings (Int. Cl. 19).
First use Jan. 22, 1969.

SN 344,527. James H. Woods, d.b.a. Woods Chemical Co., Waban, Mass. Filed Nov. 25, 1969.

PLUM-R-AID

For Repair Kit for the Plumbing Trade Consisting of Plastic Bonding and Filling Compound With a Catalyst Therefor (Int. Cl. 17).
First use Aug. 14, 1969.

SN 350,879. Chicago Fire Brick Company, Chicago, Ill. Filed Feb. 9, 1970.

OXAL

For Phosphate Bonded Refractory Mix in the Form of a Ramming Material and in the Form of a Plastic Material (Int. Cl. 19).
First use Oct. 13, 1969.

SN 351,996. W. S. Tyler, Incorporated, Cleveland, Ohio. Filed Feb. 20, 1970.

TFL

For Woven Metal Having a High Degree of Light Reflectivity Used as Paneling for Walls and Ceilings (Int. Cl. 6).
First use in 1965.

SN 356,240. Beacon Paint Works, Inc., Jamaica Plain, Mass. Filed Apr. 8, 1970.

AREA 5

For Latex Blacktop Coating (Int. Cl. 19).
First use at least as early as Mar. 9, 1970.

SN 358,372. Controlled Acoustics Corporation, New York, N.Y. Filed Apr. 30, 1970.

QUIETFAB

For Acoustical Sheet Material (Int. Cl. 19).
First use Apr. 24, 1970.

SN 358,373. Controlled Acoustics Corporation, New York, N.Y. Filed Apr. 30, 1970.

QUIETFOAM

For Acoustically Absorptive Foam (Int. Cl. 19).
First use Apr. 24, 1970.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 339,123. Bernstein Bros., Inc., Pueblo, Colo. Filed Sept. 29, 1969.

INSTANT FENCE

For Metal Fences (Int. Cl. 6).
First use November 1967.

SN 339,124. Bernstein Bros., Inc., Pueblo, Colo. Filed Sept. 29, 1969.

PRONTO PANELS

For Metal Fences (Int. Cl. 6).
First use November 1967.

SN 341,482. Rehau Plastiks G.m.b.H., Rehau, Germany. Filed Oct. 22, 1969.

RAUDRILL

Owner of German Reg. No. 818,509, dated Aug. 13, 1965.
For Road Drainage Pipes (Int. Cl. 19).

SN 341,954. Jay R. Smith Mfg. Co., Piscataway, N.J. Filed Oct. 28, 1969.

RAINTROL

For Roof Drains (Int. Cl. 6).
First use June 1, 1969.

SN 347,706. E. A. Baumbach Mfg. Co., Inc., Chicago, Ill. Filed Jan. 5, 1970.



Applicant disclaims the expression "Industrial Supplies" and the representation of the goods apart from the mark as shown.
Owner of Reg. No. 265,861.
For Dowel Pins, Socket Cap Screws, Set Screws, Buttonhead Screws, Flat Head Screws, Stripper Bolts, and Hex Keys (Int. Cl. 6).
First use on or about Feb. 1, 1929.

Class 15 — Oils and Greases

SN 318,448. MOC Products Company, Inc., Glendale, Calif. Filed Feb. 5, 1969.

MOC

For Motor Oil Conditioner, Radiator Sealer and Lubricant, and Silicone Lube and Gear Moly Lubricant (Int. Cl. 4).
First use in 1953.

SN 355,813. Witco Chemical Corporation, New York, N.Y. Filed Apr. 2, 1970.

AD-15

For Additive for Lubricating Oils To Reduce Engine Wear (Int. Cl. 1).
First use Mar. 9, 1970.

SN 356,993. Murphy Oil Corporation, El Dorado, Ark. Filed Apr. 15, 1970.

APG

For Gasoline (Int. Cl. 4).
First use Apr. 9, 1970.

SN 357,132. Stauffer Chemical Company, New York, N.Y. Filed Apr. 16, 1970.

FYRQUEL

Owner of Reg. No. 863,773.
For Fire Resistant Lubricant (Int. Cl. 4).
First use at least as early as June 4, 1968.

Class 16 — Protective and Decorative Coatings

SN 341,491. Motive Suppliers, Inc., Philadelphia, Pa. Filed Oct. 23, 1969.

MOTIVE AID

For Ignition Spray—Namely, a Liquid Moisture-Repellant Coating Material for Coating Exposed Parts of Ignition System, Spark Plugs, Wires and Outside of Distributor Head of Internal Combustion Engines; and Spray Paints (Int. Cl. 2).
First use on or about May 1, 1964.

Class 17 — Tobacco Products

SN 359,553. Liggett & Myers Incorporated, New York, N.Y. Filed May 13, 1970.



Owner of Reg. No. 872,454.
For Cigarettes (Int. Cl. 34).
First use Apr. 27, 1970.

Class 18 — Medicines and Pharmaceutical Preparations

SN 296,759. Standard Oil Company, Flemington, N.J. Filed Apr. 29, 1968.

EXXON

For Pharmaceutical Grade Petrolatum (Int. Cl. 5).
First use Nov. 14, 1967.

SN 310,265. V.M.S., Inc., Montgomery, Ala. Filed Oct. 22, 1968.

V.M.S.

For Supplemental Feed for Ruminants and Horses (Int. Cl. 31).
First use July 31, 1968.

SN 319,593. Etablissements Clin-Byla, Paris (Seine), France. Filed Feb. 19, 1969.

Tranxene

Owner of French Reg. No. 742,495, dated June 5, 1968.
For Tranquilizers, Sedatives and Anti-Depressants Pharmaceutical Preparation (Int. Cl. 5).

SN 321,925. Geigy Chemical Corporation, Ardsley, N.Y. Filed Mar. 17, 1969.

SDD

For Dosage Forms Designed To Provide the Patient With Sufficient Medication for One Day Through a Single Oral Administration (Int. Cl. 5).
First use Feb. 14, 1969.

SN 321,983. A. H. Robins Company, Incorporated, Richmond, Va. Filed Mar. 17, 1969.

NaP

For Pharmaceutical Preparation for Use in the Treatment of Schistosomiasis (Int. Cl. 5).
First use Jan. 20, 1969.

SN 322,104. Thayer Laboratories, Inc., New York, N.Y., assignee of Thayer Laboratories Div. Thayer-Komark, Inc., Springfield Gardens, N.Y. Filed Mar. 18, 1969.

DOCTRIN

For Analgesic/Relaxant (Int. Cl. 5).
First use Jan. 20, 1969.

SN 322,507. Watso Products Co., Oak Brook, Ill. Filed Mar. 21, 1969.

NICK-STIX

For Collection of Disposable Styptic Sticks (Int. Cl. 5).
First use Sept. 9, 1968.

SN 330,527. Arline F. Murphy, Plainfield, N.J. Filed June 19, 1969.

LIQUO-GARLIC

For Medicinal Tonic, Taken Internally With Water To Aid the Functioning of Internal Organs, Such as Stomach, Intestines, etc. (Int. Cl. 5).
First use June 1934.

SN 330,542. Uni-Lab Research, Incorporated, Lodi, N.J. Filed June 19, 1969.

MEDI-SUN

For Lotion for Relief Against Discomfort From Sunburn, Cuts, Bruises, Abrasions, Insect Bites, Detergent Hands, Kitchen Burns and Poison Ivy (Int. Cl. 5).
First use June 12, 1969.

SN 333,054. Live Food Products Co., Burbank, Calif. Filed July 22, 1969.

FLORAMUCIN

For Laxatives (Int. Cl. 5).
First use 1938.

SN 338,305. Dellen Inc., Omaha, Nebr. Filed Sept. 19, 1969.



For Veterinary Drugs (Int. Cl. 5).
First use at least as early as May 1967.

SN 338,311. Dellen Inc., Omaha, Nebr. Filed Sept. 19, 1969.

LEPTONE

For Leptospira Canicola Icterohemorrhagiae Bacterin for Veterinary Use (Int. Cl. 5).
First use at least as early as April 1966.

SN 340,085. Dellen Inc., Omaha, Nebr. Filed Oct. 8, 1969.

LEPTOCON

For Leptospira Pomona Bacterin for Veterinary Use (Int. Cl. 5).
First use at least as early as October 1967.

SN 343,120. Hoffmann-La Roche Inc., Nutley, N.J. Filed Nov. 10, 1969.

LARODOPA

For Preparations for Treatment of Neurologic Disorders (Int. Cl. 5).
First use Nov. 7, 1969.

SN 343,762. G. D. Searle & Co., Skokie, Ill. Filed Nov. 17, 1969.

GLUTROL

For Pharmaceutical Preparation for the Treatment of Diabetes (Int. Cl. 5).
First use Nov. 7, 1969.

SN 343,772. USV Pharmaceutical Corporation, New York, N.Y. Filed Nov. 17, 1969.

DEEMA

For Antidiarrheal (Int. Cl. 5).
First use Oct. 29, 1969.

SN 343,872. Stiefel Laboratories, Inc., Oak Hill, N.Y. Filed Nov. 18, 1969.

LASAN

For Psoriasis Treatment Composition (Int. Cl. 5).
First use Oct. 21, 1969.

SN 343,958. The Dow Chemical Company, Midland, Mich. Filed Nov. 19, 1969.

EXERT

For Pharmaceuticals for the Relief of Angina Pectoris (Int. Cl. 5).
First use Oct. 16, 1969.

SN 344,132. Osto Pharmaceutical Company, Elizabeth, N.J. Filed Nov. 20, 1969.

OSTOAMP

Antibiotics (Int. Cl. 5).
First use Nov. 12, 1969.

SN 344,314. B. F. Ascher & Company, Inc., Kansas City, Mo. Filed Nov. 24, 1969.

ETHAQUIN

For Vasodilator (Int. Cl. 5).
First use Mar. 27, 1957.

SN 344,633. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 26, 1969.

FINALLY CLEAR

Applicant disclaims any interest in the word "Clear" apart from the mark as shown.
For Acne Preparations (Int. Cl. 5).
First use Nov. 13, 1969.

SN 344,634. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 26, 1969.

INTERFACE

For Acne Preparation (Int. Cl. 5).
First use Oct. 23, 1969.

SN 344,658. Anapco Products, Inc., Marionville, Mo. Filed Nov. 26, 1969.

MOO-MED

For Medication for Calf Scours and Anemia (Int. Cl. 5).
First use June 15, 1969.

SN 344,660. Anapco Products, Inc., Marionville, Mo. Filed Nov. 26, 1969.

HAWG-HEP

For Medicated Feed Supplement for Hogs (Int. Cl. 5).
First use May 1, 1969.

SN 348,609. Carter-Wallace, Inc., New York, N.Y. Filed Jan. 15, 1970.

SILENT SLEEP

Owner of Reg. No. 739,268.
For Non-Narcotic Tranquilizer (Int. Cl. 5).
First use Dec. 9, 1969.

SN 349,540. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 26, 1970.

CAPILL

For Laxative (Int. Cl. 5).
First use Nov. 19, 1969.

SN 350,432. The Upjohn Company, Kalamazoo, Mich. Filed Feb. 4, 1970.

MELANATE

Owner of Reg. No. 814,329.
For Analgesic Preparation (Int. Cl. 5).
First use Nov. 17, 1969.

SN 352,047. The Upjohn Company, Kalamazoo, Mich. Filed Feb. 24, 1970.

DUO-MEDROL

Owner of Reg. Nos. 657,022, 759,108, and others.
For Hormonal Preparation (Int. Cl. 5).
First use Nov. 17, 1969.

SN 352,051. The Upjohn Company, Kalamazoo, Mich. Filed Feb. 24, 1970.

PROXOL

For Antiarthritic, Antiinflammatory Compound (Int. Cl. 5).
First use Apr. 24, 1962.

SN 353,688. American Home Products Corporation, New York, N.Y. Filed Mar. 11, 1970.

AYERST

Owner of Reg. No. 723,160.
For Pharmaceutical and Medicinal Preparations (Int. Cl. 5).
First use Mar. 30, 1934.

SN 358,497. Carter-Wallace, Inc., New York, N.Y. Filed May 1, 1970.

DAY STARTER

For Antacid and Analgesic (Int. Cl. 5).
First use Feb. 5, 1970.

SN 359,310. Smith Kline & French Laboratories, Philadelphia, Pa. Filed May 11, 1970.

NUCLON

Owner of Reg. Nos. 529,571 and 787,739.
For Antacid Preparation (Int. Cl. 5).
First use Apr. 30, 1970.

SN 359,687. Smith Kline & French Laboratories, Philadelphia, Pa. Filed May 14, 1970.

PACEM

For Antacid Preparation (Int. Cl. 5).
First use Apr. 30, 1970.

Class 19 — Vehicles

SN 326,273. Bruce Manufacturing, Inc., Bruce, Wis. Filed May 2, 1969.

PUG

For All Terrain Fun and Utility Vehicle (Int. Cl. 12).
First use Nov. 1, 1966.

SN 328,638. Aeronautical Development of Florida, Inc., Jacksonville, Fla. Filed May 29, 1969.

ASI-CAT

For Catamaran Boats (Int. Cl. 12).
First use at least as early as Feb. 12, 1969.

SN 329,518. Service Spring Company, Indianapolis, Ind. Filed June 9, 1969.

MORE BOUND TO THE POUND WITH GENUINE SERVICE SPRINGS

Applicant disclaims the words "With Genuine Service Springs" apart from the mark as shown. Owner of Reg. No. 754,345.
For Springs and Spring Components (Int. Cl. 12).
First use May 15, 1961.

SN 337,269. The Columbus Auto Parts Company, Columbus, Ohio. Filed Sept. 8, 1969.

The drawing is lined for the color red but no claim is made as to color. Owner of Reg. No. 584,120.
For Parts for On-the-Road and Off-the-Road Vehicles—Namely, Drag Links, Tie Rods, Tie Rod Ends, Steering Linkages, Suspension Parts, and Ball and Socket Joints (Int. Cl. 12).
First use on or about Oct. 1, 1963; 1953 in a different display.

SN 340,032. National Automotive Parts Association, Rosemont, Ill. Filed Oct. 7, 1969.

NAPA

For Automotive Parts—Namely, Brake Shoes, Disc Brake Pads, Shock Absorbers, Load Leveling Units, Brackets, Adapters, Mounting Pin Assemblies, Brake Assemblies, Ball Joint Assemblies, Dollies, Automotive Floor Mats, Automotive Body Panels, Vehicle Reflectors, Mirrors, Automobile Litter Baskets, Automobile License Covers, Splash Guards, Automobile Front Axle Spindles, Hydraulic Brake Cylinders, and Hydraulic Brake Pistons (Int. Cl. 12).
First use October 1965.

SN 343,865. Murray Marine Corporation, Tampa, Fla. Filed Nov. 18, 1969.

TRAIL WAGON

For Travel Trailers, Camping Trailers, House Trailers, and Parts Therefor (Int. Cl. 12).
First use Jan. 22, 1968.

Class 20 — Linoleum and Oiled Cloth

SN 342,398. The Birge Company, Inc., Buffalo, N.Y. Filed Nov. 3, 1969.

VY-TEX

Owner of Reg. No. 793,367.
For Woven-Fabric Backed Vinyl Wall Covering (Int. Cl. 27).
First use on or about Oct. 22, 1969.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 263,413. Svenska Ackumulator AB Jungner, Oskarshamn, Sweden. Filed Jan. 26, 1967.

NIFE

Owner of U.S. Reg. Nos. 546,342 and 559,811.
For Electrical Primary and Secondary Cells and Storage Batteries, Including Dry Cells and Wet Cells, and Parts Thereof; Electrical Illuminating and Lighting Means—Namely, Lamps, Lanterns, Flashlights, Miners' Lamps, and Parts Thereof; Self-Synchronizing Units for Transmitting and Indicating Electric Currents—Namely, Synchro Motors, Resolvers, Servo-Motors for Remote Indication, for Remote Control, for Servo Mechanisms, and for Electrical Computation (Int. Cl. 9).
First use Jan. 1, 1965; in commerce Jan. 1, 1965.

SN 285,311. Coral Audio Corporation, Kawaguchi-shi, Saitama-ken, Japan. Filed Nov. 21, 1967.

SUNGO

Priority claimed under Sec. 44(d) on Japanese application, filed June 15, 1967; Reg. No. 830,192, dated Aug. 29, 1969.
For Loud Speakers, Microphones, Speaker Cabinets, Radio Receivers, Amplifiers, Transformers, Headphones, and Transceivers (Int. Cl. 9).

SN 323,070. Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden. Filed Mar. 28, 1969.

TYRAFLEX

Owner of Swedish Reg. No. 125,395, dated Nov. 15, 1968.
For Diodes, Thyristors, Converters, Inverters, Resistors, Fuses, Electrical Cables, Boxes, Plates, Framework for Carrying Electric Circuits Including One or More of Said Components, Electric Circuits With One or More Diodes and/or One or More Thyristors, or Fuses or the Like, Building Blocks, Containers Including Building Blocks, Boxes or Cases for One or More Diodes and Thyristors (Int. Cl. 9).

SN 327,012. GCL Mercantile Corporation, Hawthorne, N.J. Filed May 12, 1969.



For Combination High Fidelity Stereo Radio and Phonograph Consoles (Int. Cl. 9).
First use on or about Mar. 10, 1969.

SN 329,591. Autolab Company, Coral Gables, Fla. Filed June 10, 1969.

Vari-Angle

No claim is made to exclusive right of the word "Vari" apart from the mark as shown.
For Adjustable Moistureproof Spark Plug Connectors (Int. Cl. 7).
First use Apr. 4, 1967.

SN 331,754. John J. Horan, d.b.a. Horan Design Studios, Willow Grove, Pa. Filed July 3, 1969.

LIGHT WAND

The word "Light" is disclaimed apart from the mark as shown.
For Electric Interior Lamp (Int. Cl. 11).
First use May 20, 1969.

SN 331,755. John J. Horan, d.b.a. Horan Design Studios, Willow Grove, Pa. Filed July 3, 1969.

STEPTOE

For Electrical Interior Lamp (Int. Cl. 11).
First use May 20, 1969.

SN 331,901. Jetco Electronic Industries, Inc., Huntsville, Tex. Filed July 7, 1969.

CHAMP TRONIC-TRAINER

For Remote Control Shocking Device Attached to Collars for Animals' Necks Operating With a Super-Heterodyne Receiver and Super-Heterodyne Transmitter (Int. Cl. 9).
First use Mar. 1, 1969.

SN 331,902. Jetco Electronic Industries, Inc., Huntsville, Tex. Filed July 7, 1969.

DIVEMASTER

For Submersible Electronic Hand-Held Metal-Mineral Locator, Operating on a Beat-Frequency Principle, and Indicating the Proximity of Metal and/or Minerals by Sound and by Instrument Display. Normally Used To Detect Metallic Objects or Minerals Underground or in Water (Int. Cl. 9).
First use Dec. 20, 1968.

SN 331,903. Jetco Electronic Industries, Inc., Huntsville, Tex. Filed July 7, 1969.

GTO SEARCHMASTER

For Electronic Hand-Held Metal-Mineral Locator, Operating on a Beat-Frequency Principle, and Indicating the Proximity of Metal and/or Minerals by Sound and by Instrument Display, Normally Used To Detect Metallic Objects or Minerals Underground or in Water (Int. Cl. 9).
First use Mar. 1, 1969.

SN 331,904. Jetco Electronic Industries, Inc., Huntsville, Tex. Filed July 7, 1969.

TREASURE HAWK

For Electronic Hand-Held Metal-Mineral Locator, Operating on a Beat-Frequency Principle, and Indicating the Proximity of Metal and/or Minerals by Sound and by Instrument Display, Normally Used To Detect Metallic Objects or Minerals Underground or in Water (Int. Cl. 9).
First use Mar. 1, 1969.

SN 331,905. Jetco Electronic Industries, Inc., Huntsville, Tex. Filed July 7, 1969.

HUNTMASTER

For Electronic Hand-Held Metal-Mineral Locator, Operating on a Beat-Frequency Principle, and Indicating the Proximity of Metal and/or Minerals by Sound and by Instrument Display, Normally Used To Detect Metallic Objects or Minerals Underground or in Water (Int. Cl. 9).
First use Dec. 20, 1968.

SN 331,906. Jetco Electronic Industries, Inc., Huntsville, Tex. Filed July 7, 1969.

THE ENFORCER

For Electronic Hand-Held Metal Detector, Operating on a Beat-Frequency Principle, Indicating the Proximity of Metal Objects by Sound and by Instrument Display, Normally Used To Detect Weapons and Other Metal Objects Concealed on the Person or in Walls, Bedding, etc. (Int. Cl. 9).
First use Jan. 15, 1969.

SN 331,907. Jetco Electronic Industries, Inc., Huntsville, Tex. Filed July 7, 1969.

GOLDSTAR

For Electronic Hand-Held Metal-Mineral Locator, Operating on a Beat-Frequency Principle, and Indicating the Proximity of Metal and/or Minerals by Sound and by Instrument Display, Normally Used to Detect Metallic Objects or Minerals Underground or in Water (Int. Cl. 9).
First use July 1, 1968.

SN 331,950. Timely Products Corporation, Fairfield, Conn. Filed July 7, 1969.

Lectra-Mits

For Low Voltage Battery Heated Glove (Int. Cl. 10).
First use on or about Feb. 2, 1969.

SN 337,054. Ishimoto Trading Company, Los Angeles, Calif. Filed Sept. 4, 1969.

NUGI

For Electronic Tubes (Int. Cl. 9).
First use Aug. 26, 1969.

SN 338,235. Endevco Corporation, d.b.a. The Digitron Company, Pasadena, Calif. Filed Sept. 18, 1969.

MINILEVER

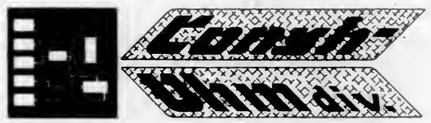
For Rotary Switches (Int. Cl. 9).
First use July 31, 1969.

SN 338,806. Pacific Industrial Components, Inc., Eugene, Oreg. Filed Sept. 24, 1969.



Applicant disclaims the word "Brand" apart from the mark.
For Plastic Electrical Tape, and Electrical Components—Namely, Solderless Electrical Terminals and Connectors, Brazed Lugs, "O" Rings, Nylon Clamps, and Rubber Insulated Clamps. All of These Articles are Used in Making Connections of Electrical Wiring (Int. Cl. 9).
First use Apr. 2, 1969.

SN 339,555. Conshohocken Chemicals, Inc., Flourtown, Pa. Filed Oct. 2, 1969.



Applicant disclaims the representation of the circuitry and the word "Div." apart from the mark as a whole. The drawing is lined for the color orange, but without limitation of the mark to any specific color.
For Products for Electronic Construction—Namely, Electrically Resistive Cermet Pastes and Electrically Conductive Pastes Used in the Manufacture of Miniature Hybrid Circuits (Int. Cl. 9).
First use June 30, 1969.

SN 340,796. Industrial Electric Reels, Inc., Omaha, Nebr. Filed Oct. 15, 1969.

TORQUE-O-MATIC

Owner of Reg. Nos. 582,278, 875,973, and others.
For Automatic Take-Up Reels for Electrical Cords and Cables (Int. Cl. 7).
First use at least as early as July 1, 1961.

SN 351,084. G. James Adams and Joseph Melhado, d.b.a SP/ACE, Pleasantville, N.Y. Filed Feb. 11, 1970.



For Field Strength Meters (Int. Cl. 9).
First use Dec. 15, 1969.

SN 351,880. Abco Quality Products Co., Philadelphia, Pa. Filed Feb. 20, 1970.

petite pinch

For Decorative Light Bulbs (Int. Cl. 11).
First use on or about June 1, 1966.

SN 352,109. Empro Manufacturing Company, Inc., Indianapolis, Ind. Filed Feb. 24, 1970.



The term "Shunts" appearing as part of the mark, is disclaimed.
For Shunts (Int. Cl. 9).
First use June 9, 1969.

SN 352,665. Reynolds Metals Company, Richmond, Va. Filed Feb. 27, 1970.

PRECON

For Conduitized Electrical Conductors (Int. Cl. 9).
First use at least as early as 1962.

SN 353,185. General Instrument Corporation, Newark, N.J. Filed Mar. 5, 1970.

GIANT

For Nitride-Containing Semiconductor Assemblies (Int. Cl. 9).
First use Dec. 23, 1969.

SN 353,215. Ortho Pharmaceutical Corporation, Raritan, N.J. Filed Mar. 5, 1970.

ORTHO

Owner of Reg. Nos. 298,222, 865,229, and others.
For Electronic Bench Lamp (Int. Cl. 11).
First use Dec. 18, 1969.

SN 358,656. Fingerhut Manufacturing Company, Minneapolis, Minn. Filed May 4, 1970.

CADAUX

For Radios (Int. Cl. 9).
First use on or about Nov. 13, 1968.

Class 22 — Games, Toys, and Sporting Goods

SN 335,106. Mattel, Inc., Hawthorne, Calif. Filed Aug. 12, 1969.

TICKLE PINKLE

For Dolls and Doll Accessories (Int. Cl. 28).
First use June 16, 1969.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 315,419. Kenco Engineering Company, Tulsa, Okla. Filed Dec. 30, 1968.

KENCO

For Oil Level Controllers and Oil Safety Switches and Parts Thereof for Regulating Oil Flow in Mechanical Lubricators, Angle Drive Compressors, Cylinders and Engines Especially Designed for Use in the Oil Fields (Int. Cl. 7).
First use on or before Aug. 1, 1957.

SN 319,318. Russell S. King, d.b.a., R. S. King Company, Tujunga, Calif. Filed Feb. 17, 1969.

KING SNAKES

The word "Snakes" is disclaimed apart from the mark as shown.
For Power-Operated Auger for Cleaning Drain and Sewer Pipes (Int. Cl. 7).
First use Mar. 1, 1968.

SN 322,789. Fuji Denki Kogyo Company, Ltd., Joto, Osaka, Japan. Filed Mar. 26, 1969.

MARUMERIZER

For Spheronizing Machines for Transforming Extruded Material Into Small, Solid Spheres of Uniform Size and Density (Int. Cl. 7).
First use Aug. 7, 1967; in commerce Aug. 7, 1967.

SN 333,411. Kenco Engineering Company, Tulsa, Okla. Filed July 24, 1969.



For Oil Level Controllers, Oil Supply Systems, Oil Safety Switches for Motors and Engines Especially Designed for Use in the Oil Fields (Int. Cl. 7).
First use on or before Oct. 1, 1968.

SN 334,648. United Drill Bushing Corporation, Downey, Calif. Filed Aug. 6, 1969.



For Drill Bushings and Parts Thereof (Int. Cl. 7).
First use Apr. 25, 1964.

SN 337,208. Thomas Engineering Inc., Hoffman Estates, Ill. Filed Sept. 5, 1969.

ACCELA-COTA

Machines for Applying Coating Materials on Pharmaceutical and Confectionery Tablets by Means of a Tumbling Action (Int. Cl. 7).
First use Nov. 15, 1968.

SN 340,925. Monsanto Biodize Systems, Inc., New York, N.Y. Filed Oct. 16, 1969.

BIODIZE

For Plants and Apparatus for the Control and Abatement of Water Pollution, Air Pollution and Waste Materials Comprised of Machines for the Mechanical and/or Biochemical Treatment of Air, Water and Solid Matter (Int. Cl. 11).
First use at least as early as Apr. 21, 1969.

SN 341,715. Van Brode Milling Co., Inc., Clinton, Mass. Filed Oct. 24, 1969.

SPORK

For Combination Plastic Spoon, Fork and Knife (Int. Cl. 8).
First use Aug. 1, 1969.

SN 347,571. Albany International, Inc., Albany, Oreg. Filed Jan. 2, 1970.

ABANY

For Machinery and Equipment for Processing Logs Into Lumber, Plywood, Chips and Other Wood Products—Namely, Log Barkers, Log Hauls, Log Stops and Loaders, Log Kickers, Chippers, Band Mills, Multi-Band Mills, Decksaws, Trimmers, Edgers, Panel Trim Saws, Complete Sawmills, Log and Lumber Infeed and Outfeed Systems, Line Bars, Setworks, Carriages, Air Dogs, Tilt Hoists, Roll Cases, Conveyor Systems, Log and Lumber Turners and Pullers, End Printers, Edge Markers, Planar Feed Tables, Plywood Grooving Machines, Plywood Strip Cutters (Int. Cl. 7).
First use July 1948.

SN 351,171. F. D. Kees Manufacturing Company, Beatrice, Nebr. Filed Feb. 12, 1970.

POWERSLICE

For Power Operated Lawn Care Machine Capable of Slicing and Aerating Turf and Soil, and Thus Enabling Moisture, Fertilizer, Air and Sunlight To Penetrate to the Roots (Int. Cl. 7).
First use during January 1967.

SN 358,235. Dynamic Fluid Power Co., Winona, Minn. Filed Apr. 29, 1970.

ZOOM BOOM

The word "Boom" is disclaimed apart from the mark as shown.
For Hydraulic Cranes (Int. Cl. 7).
First use Mar. 7, 1969.

Class 25 — Locks and Safes

SN 359,800. Harry J. Stola, d.b.a. Boston Lock & Safe Co., Boston, Mass. Filed May 15, 1970.

BOSTON

Owner of Reg. No. 835,693.
For Locks, Keys, and Safes (Int. Cl. 6).
First use at least as early as Feb. 23, 1962.

Class 26 — Measuring and Scientific Appliances

SN 305,490. Production Control Units, Inc., Dayton, Ohio. Filed Aug. 19, 1968.

AIR-KARE

For Testing, Measuring, and Charging Machines for the Servicing and Repairing of Refrigeration Units, Particularly Automotive Air Conditioners (Int. Cls. 7 and 9).
First use Jan. 22, 1968.

SN 321,237. Kojima Gankyo Koki Kabushiki Kaisha, Chuoku, Tokyo, Japan. Filed Mar. 10, 1969.

OYO IRIS OPTICAL

For Binoculars (Int. Cl. 9).
First use Feb. 28, 1959; in commerce Apr. 28, 1959.

SN 325,252. W. Bell & Co., Inc., Washington, D.C. Filed Apr. 18, 1969.

BELFONT

For Binoculars (Int. Cl. 9).
First use Sept. 1, 1968.

SN 328,363. Tokyo Seimitsu Co., Ltd., Mitaka-shi, Tokyo, Japan. Filed May 26, 1969.

TSK

For Precision Electronic Measuring and Automatic Control Devices—Namely, Electronic Gauges, Gauge Heads and Comparator Stands Therefor, Electronic Instruments to Measure Surface Roughness, Recorders for Use With Electronic Gauges and Measuring Instruments, Electronic Measuring and Control Devices for Controlling Machine Tools; Air Gauges, Automatic Electronic Testing, Inspecting, Sorting and Assembling Devices and Machines for Testing, Inspecting, Sorting and Assembling Transistors, Germanium and Silicon Pellets, Silicon Wafers, Integrated Circuits and the Like; Digital Measuring Equipment—Namely, Cam Profile Digital Measuring Equipment, Funnel Measuring Equipment for Color Braun Tube and Rocket Posture Control Equipment (Int. Cl. 9).
First use 1956; in commerce at least as early as 1960.

SN 337,830. Qualitrol Corporation, Fairport, N.Y. Filed Sept. 12, 1969.

QUALITHERM

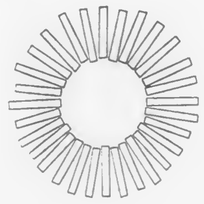
The term "Therm" is disclaimed apart from the mark as a whole.
For Thermometers (Int. Cl. 9).
First use Mar. 1, 1945.

SN 357,904. Computervision Corporation, Burlington, Mass. Filed Apr. 27, 1970.



For Electro-Optical Automatic Mask Aligner and Electronically Controlled, Computer Compatible Photo Plotter (Int. Cl. 9).
First use August 1969.

SN 359,176. American Optical Corporation, Southbridge, Mass. Filed May 8, 1970.



For Sunglasses (Int. Cl. 9).
First use September 1964.

SN 359,181. Paillard Incorporated, Linden, N.J. Filed May 8, 1970.

HERMES PRECISA

Owner of Reg. Nos. 346,923, 748,758, and others.
For Electronic Printing Calculators (Int. Cl. 9).
First use Mar. 30, 1970.

Class 27 — Horological Instruments

SN 300,698. France Ebauches, Besancon, France. Filed June 18, 1968.

FRANCEBAUCHE



Priority claimed under Sec. 44(d) on French Reg. No. 734,254, dated Dec. 20, 1967.
For Watches and Clocks and Movements and Parts Therefor (Int. Cl. 14).

SN 330,765. Nivada A.G. (Nivada, S.A., Nivada, Ltd.), Solothurn, Switzerland. Filed June 23, 1969.

TARAVANA

Priority claimed under Sec. 44(d) on Swiss Reg. No. 236,793, dated Feb. 14, 1969.
For Watches and Parts Thereof (Int. Cl. 14).

SN 351,323. Fortis-Uhren A.G. (Montres Fortis S.A.), Grenchen, Switzerland. Filed Feb. 13, 1970.

FORTIS

Owner of Swiss Reg. No. 200,874, dated Nov. 26, 1963.
For Watches and Parts Thereof (Int. Cl. 14).
First use 1957; in commerce 1957.

SN 352,394. Waltham Watch Company, Chicago, Ill. Filed Feb. 25, 1970.

TRANSPORTATION

For Watches (Int. Cl. 14).
First use Sept. 17, 1946.

SN 352,545. Waltham Watch Company, Chicago, Ill. Filed Feb. 26, 1970.

CLICK-SET

For Watches (Int. Cl. 14).
First use Feb. 12, 1970.

Class 28 — Jewelry and Precious-Metal Ware

SN 329,510. Raffine Creations, Inc., Bronx, N.Y. Filed June 9, 1969.

Raffiné

For Costume Jewelry (Int. Cl. 14).
First use May 19, 1969.

SN 344,998. John M. Lewis, d.b.a. John Lewis Jewelry or J. M. Lewis or John M. Lewis or John Lewis or The Weaver and the Silversmith, Boston, Mass. Filed Dec. 1, 1969.



For Jewelry (Int. Cl. 14).
First use Mar. 1, 1959.

SN 350,474. Robert S. Frielich, New York, N.Y. Filed Feb. 4, 1970.



The mark is a fanciful representation of the letters "RF."
For Jewelry (Int. Cl. 14).
First use Aug. 1, 1967.

SN 352,370. Oneida Ltd., Oneida, N.Y. Filed Feb. 25, 1970.

SPANISH CROWN

For Flatware Made of, or Coated With, Precious Metal (Int. Cl. 8).
First use Feb. 13, 1970.

SN 353,217. Pinta Products, Inc., Providence, R.I. Filed Mar. 5, 1970.



For Jewelry (Int. Cl. 14).
First use on or about Apr. 23, 1967.

SN 353,218. Pinta Products, Inc., Providence, R.I. Filed Mar. 5, 1970.



For Jewelry (Int. Cl. 14).
First use on or about Oct. 24, 1962.

Class 31 — Filters and Refrigerators

SN 348,922. Filterite Corporation, Township of Timonium, Baltimore County, Md. Filed Jan. 19, 1970.

DUO-FINE

For Fluid Filters and Housings Therefor (Int. Cl. 11).
First use Nov. 17, 1969.

SN 348,923. Filterite Corporation, Township of Timonium, Baltimore County, Md. Filed Jan. 19, 1970.

MULTI-CLEAN

For Fluid Filters and Housings Therefor (Int. Cl. 11).
First use July 17, 1969.

SN 354,265. Puritan Industries, Inc., Chicago, Ill. Filed Mar. 17, 1970.



For Commercial Dry Cleaning Machine Filters and Parts Therefor (Int. Cl. 7).
First use Aug. 3, 1963.

Class 32 — Furniture and Upholstery

SN 317,454. JG Furniture Company, Inc., New York, N.Y. Filed Jan. 24, 1969.

FILE FRAME

For Racks for Transfer Files (Int. Cl. 16).
First use Jan. 7, 1969.

SN 330,681. Akro-Mils, Inc., Akron, Ohio. Filed June 23, 1969.

QUIK/PIK 15

For Portable Storage Cabinets (Int. Cl. 20).
First use Nov. 15, 1968.

SN 333,147. The Lane Company, Inc., Altavista, Va. Filed July 22, 1969.

APOLLO

For Case Goods, Tables, Chairs, and Bedroom Furniture (Int. Cl. 20).
First use July 18, 1969.
Subj. to Intf. with SN 334,627.

SN 334,627. Southern Cross Industries, Inc., Atlanta, Ga. Filed Aug. 6, 1969.

APOLLO

For Mattresses and Box Springs (Int. Cl. 20).
First use July 15, 1969.
Subj. to Intf. with SN 333,147.

SN 342,827. Bristol-Myers Company, New York, N.Y. Filed Nov. 6, 1969.

carmen

Owner of Reg. Nos. 826,450, 875,447, and others.
For Electric Make-Up Mirrors (Int. Cl. 20).
First use at least as early as Oct. 28, 1968.

Class 33 — Glassware

SN 353,404. Anchor Hocking Corporation, Lancaster, Ohio. Filed Mar. 9, 1970.

COUNTRY ESTATE

For Table Glassware (Int. Cl. 21).
First use on or about Jan. 31, 1970.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 330,640. The Spra-Kleen Company, Inc., Annandale, Va. Filed June 20, 1969.

SPRA-KLEEN

For Humidifier Units for Domestic Use (Int. Cl. 11).
First use October 1964.

SN 333,798. Intertherm, Inc., St. Louis, Mo. Filed July 29, 1969.

i international thermal

Owner of Reg. Nos. 794,063 and 794,795.
For Oil, Gas and Electric Furnaces and Stoves, Including Those for Mobile Homes and Travel Trailers, Electric Baseboard Wall and Undercabinet Heaters and Air Conditioners (Int. Cl. 11).
First use Mar. 26, 1969.

SN 341,189. Oxytrol Corporation, Los Angeles, Calif. Filed Oct. 20, 1969.

OXYTROL

Owner of Reg. Nos. 863,675 and 864,356.
For Environmental Control Equipment Used Primarily for Preserving Perishable Products, and Comprised of Gas Storage Vessels, Hardware and Electronic Sensing and Control Equipment (Int. Cl. 11).
First use on or about Feb. 1, 1966.

SN 341,190. Oxytrol Corporation, Los Angeles Calif. Filed Oct. 20, 1969.

OXYTROL

Owner of Reg. Nos. 863,675 and 864,356.
For Environmental Control Equipment Used Primarily for Preserving Perishable Products, and Comprised of Gas Storage Vessels, Hardware and Electronic Sensing and Control Equipment (Int. Cl. 11).
First use on or about Jan. 29, 1966.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 353,170. Doral Tire & Rubber Co., Inc., Stowe, Ohio. Filed Mar. 5, 1970.

STRATABOSS

For Pneumatic Tires (Int. Cl. 12).
First use Feb. 19, 1970.

SN 353,328. J. C. Penney Company, Inc., New York, N.Y. Filed Mar. 6, 1970.

SURVIVOR

For Automobile Tires (Int. Cl. 12).
First use Oct. 17, 1969.

Class 36 — Musical Instruments and Supplies

SN 323,722. Musical Instrument Corporation of America, Syosset, N.Y. Filed Apr. 4, 1969.

ESTRADA

The Spanish word "Estrada" means "road" or "highway."
For Guitars and Guitar Accessories—Namely, Pics and Strings Therefor (Int. Cl. 15).
First use May 1, 1968.

SN 349,386. Rainbow Sound, Inc., Dallas, Tex. Filed Jan. 22, 1970.

RAINBOW
A WORLD OF COLORFUL SOUND

For Phonograph Records (Int. Cl. 9).
First use Oct. 7, 1966.

SN 359,285. Arai & Company, Inc., Chikusaku, Nagoya, Japan. Filed May 11, 1970.

ARIA

Owner of U.S. Reg. No. 885,891.
For Fretted Stringed Musical Instruments—Namely, Flat Top Guitars Including Classic Guitars, Western Guitars, Folk Guitars and 12-String Guitars, Electric and Nonelectric Arched Top Guitars, Solid Body and Acoustic Body Electric Guitars, Tenor, Standard and Baritone Ukuleles, Round Back and Flat Back Mandolines, Lutes and 4-String, 5-String and 6-String Banjos (Int. Cl. 15).
First use Apr. 10, 1960; in commerce Apr. 10, 1960.

Class 37 — Paper and Stationery

SN 326,690. Sanford Ink Company, Bellwood, Ill. Filed May 7, 1969.

FOR WRITING OUT LOUD

Without waiving any common law rights, the words "For Writing" are disclaimed apart from the mark as shown.
For Porous Tip Pens (Int. Cl. 16).
First use Feb. 26, 1969.

SN 332,345. Robert H. Hallowell Industries, Inc., New York, N.Y. Filed July 11, 1969.

SELF TEACHER

For Jacket or Portfolio Made of Paper or Cardboard for Receiving Printed Material (Int. Cl. 16).
First use in or about February 1969.

SN 336,104. Ethyl Corporation, Richmond, Va. Filed Aug. 25, 1969.

GEMINI GLOSS

Applicant disclaims the term "Gloss" apart from the mark as shown.
For Offset Enamel Printing Paper (Int. Cl. 16).
First use Aug. 4, 1969.

SN 344,257. Publix Office Supplies, Inc., Chicago, Ill. Filed Nov. 21, 1969.

MASTER POINT

For Ball Point Pens (Int. Cl. 16).
First use June 23, 1969.

SN 348,139. Elta Industries, Inc., New York, N.Y. Filed Jan. 9, 1970.

MOODPENS

For Marking Pens—Namely, Felt Tip Pens (Int. Cl. 16).
First use Dec. 16, 1969.

Class 38 — Prints and Publications

SN 318,691. Whitney Enterprises, Inc., New York, N.Y. Filed Feb. 7, 1969.

GRAPHIC SCIENCE

For Magazine (Int. Cl. 16).
First use Sept. 28, 1959.

SN 330,637. William B. Shell, Auburn, Ala. Filed June 20, 1969.

SEEK-IT

For Periodically Published Teaching Manuals on Various Subjects (Int. Cl. 16).
First use Mar. 2, 1968.

SN 334,044. Carrollton Press, Inc., Washington, D.C. Filed July 31, 1969.

BOOKFILE

For Looseleaf Collections of Patent Application Information, and Supplemental Information Sheets Issued From Time to Time (Int. Cl. 16).
First use Mar. 3, 1968.

SN 336,976. Computer Utilization, Inc., Austin, Tex. Filed Sept. 4, 1969.

BEEF ENTERPRISE CATTLE-LOG

Without waiver of any common law rights therein, and for purposes of registration, applicant disclaims the words "Beef Enterprise" apart from the mark as shown.
For Periodically Published Magazine in the Nature of a Business Directory for the Beef Industry (Int. Cl. 16).
First use at least as early as July 16, 1969.

SN 337,131. Computer Utilization, Inc., Austin, Tex. Filed Sept. 5, 1969.

GREAT PLAINS FEEDER

For Newspaper About the Cattle Feeding Industry (Int. Cl. 16).
First use at least as early as July 16, 1969.

SN 337,132. Computer Utilization, Inc., Austin, Tex. Filed Sept. 5, 1969.

BEEF
ENTERPRISE
PUBLICATIONS

Without waiver of any common law rights therein, and for purposes of registration hereof, applicant disclaims the words "Beef Enterprises Publication" apart from the mark as shown.
For Periodically Published Magazine in the Nature of a Business Directory for the Beef Industry (Int. Cl. 16).
First use at least as early as July 16, 1969.

SN 339,526. Adpac Computing Languages Corporation, San Francisco, Calif. Filed Oct. 2, 1969.

adpac

For Tapes of Computer Language for General Purpose Computer Processing (Int. Cl. 16).
First use Mar. 18, 1965.

SN 340,516. Continental Oil Company, Ponca City, Okla. Filed Oct. 13, 1969.

PLANAIDE

For Booklet Constituting a Desk Calendar and Memo Planner (Int. Cl. 16).
First use Oct. 1, 1969.

SN 343,597. Sportsworld Communications Corp., New York, N.Y. Filed Nov. 14, 1969.

For Magazine Published Periodically (Int. Cl. 16).
First use Sept. 25, 1969.

SN 343,605. Twinlock Limited, Beckenham, England. Filed Nov. 14, 1969.

TWINLOCK

Owner of U.S. Reg. No. 799,305.
For Labels, Label Holders, Letters and Numerals, All Being Self-Adhesive Articles of Stationery; Maps and Charts; Self-Adhesive Tapes for Application to Charts; and Pencils for Use on Charts Sold in Kit Form With Replacement Items Sold Separately (Int. Cl. 16).
First use July 1969; in commerce July 1969.

SN 344,430. Rogers Publishing Company, Inc., Denver, Colo. Filed Nov. 24, 1969.

DESIGN NEWS ANNUAL

Owner of Reg. Nos. 503,302, 837,172, and others.
For Yearly Magazine Devoted to New Engineering, Scientific and Technological Ideas, Design and Development and Problem Solution Idea File, Product Specifier and Supplier Locator (Int. Cl. 16).
First use Sept. 30, 1969.

SN 344,459. Tara, Inc., Lubbock, Tex. Filed Nov. 24, 1969.

Market Master

For Agricultural Marketing Newsletters (Int. Cl. 16).
First use Jan. 6, 1969.

SN 345,173. Insight Publishing Co., Inc., Manhasset, N.Y. Filed Dec. 3, 1969.

MEDICAL INSIGHT

For Periodical Magazine for Circulation to Medical Doctors for Informative and Educational Purposes (Int. Cl. 16).
First use on or about July 1, 1969.

SN 345,820. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Dec. 10, 1969.

VALENTINE REDDIES

The word "Valentine" is disclaimed apart from the mark as shown.
For Greeting Cards (Int. Cl. 16).
First use Oct. 6, 1969.

SN 345,844. H. Clifton Morse & Associates, Inc., Chicago, Ill. Filed Dec. 10, 1969.

A "SLIDE SHOWS" PRODUCT

No claim is made to the exclusive right to use "Product," but applicant waives none of its common law rights therein.
For Pocket Size Computer Slide Charts (Int. Cl. 16).
First use Sept. 4, 1967.

SN 346,048. Association for the Advancement of Psychoanalysis, Inc., New York, N.Y. Filed Dec. 12, 1969.

THE AMERICAN JOURNAL OF PSYCHOANALYSIS

For Journal Relating to Theory and Practices of Psychoanalysis (Int. Cl. 16).
First use about 1941.

SN 348,089. Southampton Press Publishing Co., Inc., Southampton, N.Y. Filed Jan. 9, 1970.

THE BEACHCOMBER

For Newspaper Column (Int. Cl. 16).
First use on or about July 2, 1959.

SN 351,369. Council for Management of Change, Inc., New York, N.Y. Filed Feb. 16, 1970.

THE HOWARD CHASE INNOVATION AND THE MANAGEMENT OF CHANGE LETTER

"Howard Chase" is the name of the chairman of the board of applicant, whose consent is of record. Applicant disclaims the word "Letter" apart from the mark as shown.
For Newsletter (Int. Cl. 16).
First use March 1965.

SN 354,181. Franklin K. Howard College Boards Institute, Inc., Mineola, N.Y. Filed Mar. 16, 1970.

FKH

For Educational Books and Booklets (Int. Cl. 16).
First use Jan. 2, 1970.

SN 355,249. Franklin X. McCormick, Incorporated, Milwaukee, Wis. Filed Mar. 27, 1970.



For Liturgical Calendars (Int. Cl. 16).
First use year 1941.

SN 355,531. The McNaught Syndicate, Inc., New York, N.Y. Filed Mar. 31, 1970.

BUMPER STICKER

Newspaper Comic Panel (Int. Cl. 16).
First use Feb. 24, 1970.

SN 356,071. Frederick Harvey, d.b.a. Metro-Atlas-Photo System, Baltimore, Md. Filed Mar. 25, 1970.

M.A.P.S.

For Charts, Maps, Atlases, Film Slides, and Aerial Photographs (Int. Cl. 16).
First use Mar. 21, 1970.

SN 357,306. American Psychological Association, Washington, D.C. Filed Apr. 20, 1970.

NISP

For Printed Reports Periodically Published and Distributed to Members and to Other Persons in the Science Community (Int. Cl. 16).
First use July 18, 1969.

SN 357,479. Windsor Publications, Inc., Chicago, Ill. Filed Apr. 9, 1970.

CORNWALL PRESS

For Maps (Int. Cl. 16).
First use Oct. 1, 1969.

SN 357,728. Keller Publishing Corporation, New York, N.Y Filed Apr. 23, 1970.

SOFT DRINKS SCOPE

Owner of Ser. No. 604,640.
For Monthly Newsletter and a Section of a Magazine (Int. Cl. 16).
First use September 1969.

SN 358,673. Success Motivation Institute, Inc., Waco, Tex. Filed May 4, 1970.

The motivator

For House Magazine (Int. Cl. 16).
Owner of Reg. No. 866,434, and others.
First use at least as early at February 1970.

SN 358,826. Success Motivation Institute, Inc. Waco, Tex. Filed May 5, 1970.

AMI WORLD

Owner of Reg. Nos. 794,469, 794,821, and others.
For House Magazine (Int. Cl. 16).
First use at least as early as February 1970.

SN 359,303. The New American Library, Inc., New York, N.Y. Filed May 11, 1970.



Owner of Reg. No. 760,378.
For Books (Int. Cl. 16).
First use Apr. 1, 1970.

SN 359,304. The New American Library, Inc., New York, N.Y. Filed May 11, 1970.



Owner of Reg. No. 697,844.
For Books (Int. Cl. 16).
First use Oct. 1, 1969.

SN 359,692. Yoder Brothers, Inc., Barberton, Ohio. Filed May 14, 1970.

GROWER CIRCLE NEWS

For Horticultural Newsletter Issued Periodically (Int. Cl. 16).
First use April 1960.

Class 39 — Clothing

SN 281,212. William R. Moore, Inc., Memphis, Tenn. Filed Sept. 26, 1967.

"AS YOU LIKE IT"

For Ladies' and Girls' Lingerie and Sleepwear, Ladies' Gloves, and Ladies' and Girls' Hosiery (Int. Cl. 25).
First use Sept. 19, 1967.

SN 320,130. Swan Original S.p.A., Milan, Italy, by change of name from Delmar di Daniele Massa & C. S.a.S., Milan, Italy. Filed Feb. 26, 1969.



The drawing is lined for red, but no claim is made to color.
For Beach Wear for Men and Women—Namely, Bathing Suits, Sun Suits, Beach Robes, Long Pants and Short Pants; and Women's Dresses, Blouses, Skirts, Robes, Corsets and Underwear (Int. Cl. 25).
First use September 1964; in commerce February 1965.

SN 321,992. Shift Shack, Inc., Lake Worth, Fla. Filed Mar. 17, 1969.

SHIFT SHACK

The term "Shift" is disclaimed separate and apart from the mark as used.
For Dresses, Pants, Shorts, Shirts, Jumpers, Blouses, Hosiery, and Skirts (Int. Cl. 25).
First use Jan. 1, 1967.

SN 322,463. Oneita Knitting Mills, New York, N.Y. Filed Mar. 21, 1969.

DEVKNIT

For Infants' Wear, More Particularly Sleeveless Pull-Over Shirts, Snapside Shirts, Gowns, Kimonos, Sacques, Training Pants, and Sleepers, all Made of Knitted Cotton (Int. Cl. 25).
First use Feb. 24, 1969.

SN 329,893. Sphairistike, Ltd., New York, N.Y. Filed June 12, 1969.



The expression "First Name in Tennis" is disclaimed separate and apart from the mark as shown. The portrait on the drawing is of a fictitious character.
For Women's Sportwear—Namely, Tennis Skirts, Shorts, Caps, Hats, Sweaters, Dresses, Socks, Stockings, Shirts, Blouses, and Panties (Int. Cl. 25).
First use on or about June 10, 1965.

SN 333, 293. J. C. Penney Company, Inc., New York, N.Y. Filed July 23, 1969.

penn set

For Men's, Boys', Women's, Girls' and Infants' Underwear, Knit Shirts, Gowns, Kimonos, Sleepwear; and Infants' Sleeping Sacks (Int. Cl. 25).
First use June 1963.

SN 337,179. H. Lubovsky, Inc., Boston, Mass. Filed Sept. 5, 1969.

PIQUE

For Women's Shoes (Int. Cl. 25).
First use June 10, 1969.

SN 338,125. Harry Brahm, Miami, Fla. Filed Sept. 17, 1969.
The term "Shoe" is disclaimed apart from the mark as shown.

WALKOOL SHOE AIR CONDITIONER

For Insoles of the Air Conditioner Type for Shoes (Int. Cl. 25).
First use July 3, 1969.

SN 338,513. White Stag Manufacturing Co., Portland, Oreg. Filed Sept. 22, 1969.

White Stag
Young Casuals

The term "Young Casuals" is disclaimed apart from the mark as shown.
Owner of Reg. Nos. 369,881, 868,238, and others.
For Pants, Skirts, Tops, Shirts, Knitted Shirts and Sweaters, Jumpers, Suits, and Coats (Int. Cl. 25).
First use Aug. 23, 1962.

SN 338,741. Art Anson, Inc., Allentown, Pa. Filed Sept. 24, 1969.

CRY-TIE

Applicant disclaims the word "Tie" apart from the mark as shown.
For Novelty Neckties (Int. Cl. 25).
First use Apr. 22, 1968.

SN 339,071. Dow Badische Company, Williamsburg, Va. Filed Sept. 29, 1969.

ZEFGUARD

Owner of Reg. No. 864,761.
For Reflective Clothing for Protective Purposes—Namely, Coveralls, Overalls, Aprons, Gloves, Headwear, Glassless Face and Head Shields, Leg Guards, Arm Guards, Jackets, Vests, Coats, Insulating Underwear, Underpants, Undershirts, and Interliners Used in Insulating Underwear, Shirts, Trousers, Jackets, Coveralls, Overalls, and Vests (Int. Cl. 25).
First use Sept. 22, 1969.

SN 339,151. D'Antonio Shoe Corporation, New York, N.Y. Filed Sept. 29, 1969.

Is

For Shoes (Int. Cl. 25).
First use Mar. 15, 1965.

SN 339,434. Howard Stores Corporation, Brooklyn, N.Y. Filed Oct. 1, 1969.

GROUP II

For Men's and Young Men's Suits, Topcoats, Overcoats, Sportcoats, Outerwear Jackets, Shirts, Ties, Sweaters and Shoes; Ladies' Blouses, Skirts, Sweaters, Coats, Dresses and Slacks (Int. Cl. 25).
First use Sept. 15, 1969.

SN 342,340. Work Wear Corporation, Cleveland, Ohio. Filed Oct. 31, 1969.

WATER LILY'S

The drawing is lined for the color green.
For Women's All Weather Coats and Women's Raincoats (Int. Cl. 25).
First use Oct. 10, 1969.

SN 342,818. Baracuta (Clothiers) Limited, Manchester, England. Filed Nov. 6, 1969.

BARACUTA

Owner of U.S. Reg. Nos. 444,069, 567,093, and others.
For All Types of Outerwear, Both Men's and Ladies', i.e. Rainwear, Overcoats, Beachwear, Bath Robes, Car Coats, Golf Jackets, Golf Suits, Anoraks and Detachable Liners for Raincoats (Int. Cl. 25).
First use 1947; in commerce 1947.

SN 344,514. Maidenform, Inc., New York, N.Y. Filed Nov. 25, 1969.

PANTA-PLUS

For Foundation Garments and Lingerie (Int. Cl. 25).
First use Aug. 28, 1969.

SN 344,744. Susan Thomas Incorporated, New York, N.Y. Filed Nov. 26, 1969.

DALANI

For Ladies', Misses', and Girls' Blouses, Skirts, Jackets, Dresses, Pants, Sweaters, Suits, Coats, Raincoats, Shorts and Vests (Int. Cl. 25).
First use Oct. 30, 1969.

SN 347,799. Twentieth Century Imports, Inc., Honolulu, Hawaii. Filed Jan. 5, 1970.

"YULE TYE"

Applicant disclaims the word "Tye" apart from the balance of the mark as shown.
For Neckties (Int. Cl. 25).
First use Oct. 23, 1969.

SN 348,345. A. H. Schreiber, Incorporated, New York, N.Y. Filed Jan. 12, 1970.

WINDMILLS

For Ladies', Young Ladies' and Children's Swimsuits, Slacks, Blouses-Tops, and Underwear (Int. Cl. 25).
First use November 1969.

SN 349,410. Jeanne West Fashions, Inc., Chicago, Ill. Filed Jan. 22, 1970.

ACT YOUNG

For Women's Dresses (Int. Cl. 25).
First use on or about Dec. 31, 1969.

SN 355,182. Dan River Mills, Incorporated, Danville, Va. Filed Mar. 27, 1970.



The mark consists of the letters "DR" in design form.
For Hosiery for Men, Women and Children and Woven and Knitted Fabrics Made Up Into Wearing Apparel for Men, Women and Children Including Slacks, Shirts, Skirts, Shorts, Dresses, Coats, Pants, Suits, Coats, Jackets, Sweaters, Blouses, Bathing Suits, Underwear and Lingerie (Int. Cl 25).
First use Mar. 11, 1970.

SN 358,498. Consolidated Foods Corporation, Chicago, Ill. Filed May 1, 1970.

THE HASTINGS

For Outer Dress and Sport Shirts (Int. Cl. 25).
First use Apr. 9, 1970.

SN 358,514. Peyton's, Inc., Louisville, Ky. Filed May 1, 1970.

PEYTON HALL

For Hosiery and Panty Hose (Int. Cl. 25).
First use Apr. 3, 1970.

SN 358,911. Hillcrest Shoe Corp., New York, N.Y. Filed May 6, 1970.

HAV' HAV'NOT

For Shoes (Int. Cl. 25).
First use Dec. 20, 1969.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 334,274. Carmine Merlino Hair Creations, Inc., Brooklyn, N.Y. Filed Aug. 4, 1969.

"SICUREZZA"

The translation of the Italian word "Sicurezza" is "assurance."
For Transparent Adhesive Tape Utilized for Adhering Hair Pieces to the Scalp (Int. Cl. 26).
First use May 15, 1969.

SN 349,798. Giffen Corp., Miami, Fla. Filed Jan. 28, 1970.

COLOR-TEL

For Carpet Seaming Tapes (Int. Cl. 26).
First use Jan. 6, 1970.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 332,544. Wul-Lesco, Inc., New York, N.Y. Filed July 14, 1969.

FORTY CARATS

For Piece Goods of Natural and/or Synthetic Fibers Intended for Making Up Into Dresses, Shirts and Other Apparel for Men and Women (Int. Cl. 24).
First use Apr. 1, 1969.

SN 333,294. J. C. Penney Company, Inc., New York, N.Y. Filed July 23, 1969.

pennset

For Knitted Sheets (Int. Cl. 24).
First use April 1964.

SN 337,056. Kanegafuchi Boseki Kabushiki Kaisha, d.b.a. Kanegafuchi Spinning Co., Ltd., Miyakojima-ku, Osaka, Japan. Filed Sept. 4, 1969.

BELLSHINE

Owner of U.S. Reg. Nos. 352,559, 806,977, and others.
For Woven Knitted Textile Fabrics Made of Synthetic Fibers (Int. Cl. 24).
First use Dec. 20, 1968; in commerce Jan. 28, 1969.

SN 344,199. Union Carbide Corporation, New York, N.Y. Filed Nov. 21, 1969.

ZIRCAR

For Textile Fibrous Ceramic Fabric for Industrial Use (Int. Cl. 24).
First use on or about Oct. 28, 1969.

SN 353,616. Dan River Mills, Incorporated, Danville, Va. Filed Mar. 10, 1970.



The mark consists of the letters "DR" in design form.
For Textile Fabrics in the Piece of Cotton or Synthetic Fibers or Any Combination Thereof, Including Woven Fabrics and Knitted Fabrics, Both Warp Knitted Fabrics and Circular Knitted Fabrics, and Sheets, Sheeting and Pillowcases, Drapery Fabrics, Drapes, Curtains, Towels, Bedspreads and Upholstery Fabrics (Int. Cl. 24).
First use Feb. 16, 1970.

SN 358,920. Richloom Fabrics Corp., New York, N.Y. Filed May 6, 1970.

SAFE-T-LINE

For Drapery Lining (Int. Cl. 24).
First use on or about Apr. 1, 1970.

Class 43 — Thread and Yarn

SN 337,692. Roselon Industries, Inc., Philadelphia, Pa. Filed Sept. 11, 1969.

INTERESTA

For Yarns (Int. Cl. 23).
First use July 22, 1969.

Class 44 — Dental, Medical, and Surgical Appliances

SN 359,794. National Cancer Detection Centers, Inc., North Hollywood, Calif. Filed May 15, 1970.

PREVETTE

For Vaginal Syringes Containing Fluid for Injection and Removal of Samples for Cytology Purposes (Int. Cl. 10).
First use November 1969.

Class 46 — Foods and Ingredients of Foods

SN 305,731. Fairway Foods, Inc., St. Paul, Minn. Filed Aug. 22, 1968.

FAIRWAY

Owner of Reg. No. 808,909.
For Fresh Meat Carcasses and Primal Portions Thereof (Int. Cl. 29).
First use Aug. 7, 1967.

SN 317,635. Smith's Pride Foods, Inc., Birmingham, Ala. Filed Jan. 27, 1969.



For Fresh and Frozen Poultry (Int. Cl. 29).
First use 1949.
Subj. to Intf. with SN 317,332 and SN 317,333.

SN 324,906. Fisher Cheese Company, Wapakoneta, Ohio. Filed Apr. 18, 1969.

FISHER

Owner of Reg. Nos. 606,510, 878,344, and others.
For Cheese and Cheese Foods (Int. Cl. 29).
First use Aug. 1, 1967.

SN 325,501. McCormick & Company, Incorporated, Cockeysville, Md. Filed Apr. 24, 1969.

McCORMICK

Owner of Reg. Nos. 362,407, 862,096, and others.
For Mexican Style Food Products—Namely, Cartons Containing Meatless Ingredients for Making Tamale Pie and Taco Casserole; and Enchilada Sauce Mix, Taco Seasoning Mix, Taco Casserole Seasoning Mix, Tamale Pie Seasoning Mix, Corn Meal, Tomato Sauce, Whole Kernel Corn, and Tortilla Chips (Int. Cls. 29 and 30).
First use Feb. 4, 1969.

SN 335,783. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Aug. 20, 1969.

MAN on the MOON

For Chewing Gum, Sold in Conjunction With Picture Cards (Int. Cl. 30).
First use July 16, 1969.

SN 339,909. Meister Brau, Inc., Chicago, Ill. Filed Oct. 6, 1969.

BONANZA

For Peanut Butter (Int. Cl. 29).
First use on or about Apr. 1, 1966.

SN 345,423. Rod's Food Products, Inc., Los Angeles, Calif. Filed Dec. 5, 1969.



Owner of Reg. Nos. 646,185, 806,438, and others.
For Salad Dressings; Vegetable Oil Base Food Dips; Vegetable Derived Aerated Topping for Decorating or Topping Desserts; Cheese Food Spreads; Vegetable Base Food Dressing in the Nature of a Sour Cream Substitute (Int. Cl. 29).
First use at least as early as 1963; October 1953 in a different form.

Class 47 — Wines

SN 359,803. Thomasser & Associates, d.b.a. Cellars of Thomas Thomasser Wines and Spirits, San Francisco, Calif. Filed May 15, 1970.

Cellar Sale

For Wines and Champagnes (Int. Cl. 33).
First use Dec. 18, 1969.

Class 49 — Distilled Alcoholic Liquors

SN 360,195. Continental Distilling Corporation, d.b.a. J. MacArthur Jr. & Co., Philadelphia, Pa. Filed May 19, 1970.

MAC ARTHUR'S

For Scotch Whisky (Int. Cl. 33).
First use at least as early as Jan. 7, 1964.

Class 50 — Merchandise Not Otherwise Classified

SN 315,611. Veped Traffic Controls, Inc., Oklahoma City, Okla. Filed Jan. 2, 1969.

HI-VU

For Warning Devices, Including an Upwardly Extending, Telescoping Standard for Mounting Either on Motor Vehicles or for Use as a Free-Standing Road Marker, to Apprise Pedestrians and Vehicles of Road Construction and Repair Work and Accident Sites (Int. Cl. 6).
First use Jan. 1, 1962.

Class 51 — Cosmetics and Toilet Preparations

SN 353,084. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Mar. 4, 1970.

RATED X

For Men's Cologne (Int. Cl. 3).
First use Jan. 12, 1970.
Subj. to Intf. with SN 356,928.

Class 52 — Detergents and Soaps

SN 309,852. Economics Laboratory, Inc., St. Paul, Minn. Filed Oct. 17, 1968.

LIQUID TOWEL

For Liquid Drying Agent Used in Hand Dishwashing (Int. Cl. 3).
First use Oct. 2, 1968.

SN 317,690. Inner Cities Chemical Products, Inc., Jamaica, N.Y. Filed Jan. 28, 1969.

SOUL POWER

For General Household Cleaner (Int. Cl. 3).
First use Jan. 10, 1969.
Subj. to Intf. with SN 330,110.

SN 323,336. Chemtrust Industries Corporation, Maywood, Ill. Filed Apr. 1, 1969.

BONAFIDE

For Cleaner and Deodorizer for Garbage Waste Containers (Int. Cl. 3).
First use Jan. 8, 1964.

SN 323,338. Chemtrust Industries Corporation, Maywood, Ill. Filed Apr. 1, 1969.

BLUE NOTE

For Porcelain Cleaner and Polisher (Int. Cl. 3).
First use Aug. 26, 1962.

SN 323,339. Chemtrust Industries Corporation, Maywood, Ill. Filed Apr. 1, 1969.

LIFEBELT

For Solvent for Use as a Sandbelt Cleaner (Int. Cl. 3).
First use Nov. 10, 1968.

SN 325,887. Noxell Corporation, Baltimore, Md. Filed Apr. 29, 1969.

noxzema
THE SKIN CARE PEOPLE

Applicant disclaims the term "The Skin Care People" separate and apart from the mark as shown, reserving its common law rights therein.
Owner of Reg. Nos. 225,012, 872,879, and others.
For Liquid Dishwashing Detergent (Int. Cl. 3).
First use Feb. 25, 1969.

SN 332,806. Crown Zellerbach Corporation, San Francisco, Calif. Filed July 17, 1969.

MAGIC STRIPES

For Paper Windshield Towels Treated With a Detergent and Grit Additive (Int. Cl. 3).
First use May 23, 1969.

SN 338,300. Colgate-Palmolive Company, New York, N.Y. Filed Sept. 19, 1969.

hyperpHaze

The drawing is lined for the color blue.
Owner of Reg. No. 862,122.
For Liquid Anti-Bacterial Skin Cleanser for Personal Use (Int. Cl. 3).
First use Jan. 14, 1969.

SN 341,492. Motive Suppliers, Inc., Philadelphia, Pa. Filed Oct. 23, 1969.

MOTIVE AID

For Glass Cleaner (Int. Cl. 3).
First use on or about Sept. 18, 1967.

SN 347,757. Lien Chemical Company, Franklin Park, Ill. Filed Jan. 5, 1970.

BLU CLIEN

Without waiver of any common law rights, applicant disclaims "Clien" apart from the mark as shown.
For Toilet Bowl Cleaner (Int. Cl. 3).
First use Apr. 11, 1953.

SN 347,758. Lien Chemical Company, Franklin Park, Ill. Filed Jan. 5, 1970.

KEEP CLEAN—WITH LIEN

Without waiver of any common law rights, applicant hereby disclaims "Keep Clean" apart from the mark as shown.
Owner of Reg. Nos. 585,575, 615,466, and others.
For All Purpose Cleaners and Detergents; Drain Pipe Opener; Preparations for Removing Spots From Hard Surfaces; Rugs, Upholstery and Fabrics; Rust, Lime and Stain Remover; Wax Stripping Preparation; Machine Dishwashing Compound; Preparation for Cleaning Trucks; Toilet Bowl Cleaner; Hand Cleaners; Medicated Lotion Soap; Hand Soaps; Preparation for Cleaning and Preserving Leather and Plastic Upholstery; and Sweeping Compounds (Int. Cls. 3 and 4).
First use Apr. 11, 1953.

SN 349,541. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 26, 1970.

DÉDORIL

For Toilet Soap (Int. Cl. 3).
First use Dec. 9, 1969.

SN 355,085. The Procter & Gamble Company, Cincinnati, Ohio. Filed Mar. 26, 1970.



The portrait shown on the drawing is fanciful. The lining on the drawing reproduces the lining appearing on the specimens and does not represent color.
Owner of Reg. Nos. 523,607, 653,933, and others.
For Toilet and Bath Soap (Int. Cl. 3).
First use Nov. 14, 1969.

SERVICE MARKS

Class 100 — Miscellaneous

SN 308,638. Spa International, Inc., Houston, Tex. Filed Oct. 1, 1968.

FIRST LADY

For Supervised Physical Training for Women Designed To Promote Physical Fitness and Weight Reduction and To Enhance Facial Beauty and Figure Contour (Int. Cl. 42).
First use in about July 1961.

SN 333,678. Chic 'N Take Systems, Inc., Columbus, Miss. Filed July 25, 1969.



For Drive-In and Take-Out Restaurant Services (Int. Cl. 42).
First use November 1965.

SN 338,294. Association for Children with Learning Disabilities, Inc., Pittsburgh, Pa. Filed Sept. 19, 1969.

ACLD

For Association Services—Namely, Promotion of Education and Training of Children With Learning Disabilities (Int. Cl. 42).
First use in or before March 1966.

Class 101 — Advertising and Business

SN 308,563. Litho Prepsters, Inc., New York, N.Y. Filed Oct. 1, 1968.

Litho Prepsters Inc.

For Lithographic Printing Services for Others (Int. Cl. 35).
First use February 1968.

SN 335,045. The Miller Publishing Company, Minneapolis, Minn. Filed Aug. 11, 1969.

ACTIONCARD

For Direct Mailing for Advertising Services (Int. Cl. 35).
First use Dec. 17, 1968.

SN 336,126. William La Scala, d.b.a. La Scala's Clothes Closet, Jefferson Valley, N.Y. Filed Aug. 25, 1969.



For Retail Ladies' Apparel Store Services (Int. Cl. 25).
First use Apr. 1, 1968.

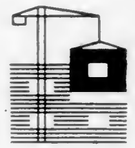
Class 103 — Construction and Repair

SN 297,208. Norman Industries, Inc., Chicago, Ill. Filed May 2, 1968.

TELE-TECTOR

Owner of Reg. Nos. 707,631 and 849,041.
For Services of Installing and Maintaining Automated Observing Mechanisms for Purpose of Actual and Apparent Observation, all for the Purpose of Deterring or Detecting Shop Lifting or Other Types of Theft and Reducing Pilferage Losses (Int. Cl. 37).
First use Nov. 30, 1959.

SN 307,968. Raymond Camus & Cie, Paris, France. Filed Sept. 23, 1968.



Priority claimed under Sec. 44(d) on French Reg. No. 758,398, dated July 11, 1968.
For Building Construction and Repair Services (Int. Cl. 37).

Class 104 — Communication

SN 294,697. Television Presentations, Inc., New York, N.Y. Filed Apr. 1, 1968.

ALPHAMATIC NEWS

The word "News" is disclaimed apart from the mark as shown.
For Broadcasting and Distribution of News and Information to Subscribers via Closed-Circuit Television (Int. Cl. 38).
First use Jan. 13, 1968.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

896,251. SPUNSTRON. Imperial Chemical Industries Limited. SN 295,737. Pub. 9–16–69. Filed 4–16–68.

896,252. PICCO. Pennsylvania Industrial Chemical Corporation. SN 302,956. Pub. 5–26–70. Filed 7–17–68.

896,253. RYTON. Phillips Petroleum Company. SN 314,455. Pub. 5–26–70. Filed 12–13–68.

896,254. METALTEC. Dayco Corporation. SN 316,626. Pub. 1–20–70. Filed 1–15–69.

896,255. SSS SCHLESSMAN "SUPERIOR" SEED AND DESIGN. J. Schlessman & Sons, Inc. SN 318,104. Pub. 5–26–70. Filed 1–31–69.

896,256. HOSTAPHAN. Canadian Hoechst Limited. SN 323,677. Pub. 5–26–70. Filed 4–4–69.

896,257. WI DESIGN. Winfield Industries, Inc. SN 338,455. Pub. 5–26–70. Filed 9–19–69.

896,258. CELGARD. Celanese Corporation. SN 338,537. Pub. 5–26–70. Filed 9–22–69.

896,259. GIGAS. Gigas Mink, Inc. SN 339,010. Pub. 5–26–70. Filed 9–26–69.

896,260. CAMEL-KOTE. The Flintkote Company. SN 339,426. Pub. 5–26–70. Filed 10–1–69.

896,261. CASTCOR. Mobil Oil Corporation. SN 339,585. Pub. 5–26–70. Filed 10–2–69.

Class 2 — Receptacles

896,262. SEAL SAC. Protex Products, Corp. MULTIPLE CLASS (Classes 2 and 50). SN 308,139. Pub. 5–26–70. Filed 9–24–68.

896,263. DAPCO. Dapco Leather Products, Inc. MULTIPLE CLASS (Classes 2, 8, 32, 37, and 38). SN 322,127. Pub. 5–26–70. Filed 3–19–69.

896,264. READI-BAND. Parke, Davis & Company. SN 324,360. Pub. 5–26–70. Filed 4–14–69.

896,265. B AND DESIGN. Beacon Products Corp. SN 336,510. Pub. 5–26–70. Filed 8–28–69.

896,266. SUPERTAINER (DESIGN). Bemis Company, Inc. SN 345,295. Pub. 5–26–70. Filed 12–4–69.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

896,267. HYDE PARK. Swank, Inc. MULTIPLE CLASS (Classes 3, 8, 28, and 51). SN 322,776. Pub. 5–26–70. Filed 3–26–69.

896,268. NO NONSENSE. Welsh Sporting Goods Corp. SN 332,273. Pub. 5–26–70. Filed 7–10–69.

Class 4 — Abrasives and Polishing Materials

896,269. INSTAMATIC. Dustikins Products, Inc. SN 341,799. Pub. 5–26–70. Filed 10–27–69.

Class 6 — Chemicals and Chemical Compositions

896,270. POLARIS. The Sherwin-Williams Company. SN 309,112. Pub. 5–26–70. Filed 10–7–68.

896,271. LIQUID MONITOR. The Thermocor Company Incorporated. SN 313,743. Pub. 5–26–70. Filed 12–5–68.

896,272. BIG BOY AND B DESIGN. Escambia Chemical Corporation, by assignment and change of name from Escambia Chemical Corporation. MULTIPLE CLASS (Classes 6 and 10). SN 315,174. Pub. 5–26–70. Filed 12–26–68.

896,273. UNICROME. The Mearl Corporation. SN 319,393. Pub. 5–26–70. Filed 2–17–69.

896,274. ENZOBRITE. General Foods Corporation. SN 322,855. Pub. 1–13–70. Filed 3–26–69.

896,275. ENZOWHITE. General Foods Corporation. SN 322,856. Pub. 1–13–70. Filed 3–26–69.

896,276. ENZOBLEACH. General Foods Corporation. SN 322,857. Pub. 1–13–70. Filed 3–26–69.

896,277. NAP. Apter Industries, Inc. MULTIPLE CLASS (Classes 6 and 52). SN 323,049. Pub. 5–26–70. Filed 3–28–69.

896,278. AUTOLOAD. Bell & Howell Company. MULTIPLE CLASS (Classes 6, 21, and 26). SN 323,902. Pub. 5–26–70. Filed 4–7–69.

896,279. RNI AND DESIGN. W. R. Grace & Co. SN 326,648. Pub. 5–26–70. Filed 5–7–69.

896,280. ERAMOX. Geigy Chemical Corporation. SN 334,319. Pub. 5–26–70. Filed 8–4–69.

896,281. RABON. Shell Oil Company. SN 334,384. Pub. 5–26–70. Filed 8–4–69.

896,282. PAMOLYN. Hercules Incorporated. SN 335,220. Pub. 5–26–70. Filed 8–13–69.

896,283. VACUTHERM. Exomet, Inc. SN 336,560. Pub. 5–26–70. Filed 8–28–69.

896,284. LUTEONOSTICON. Organo Inc. SN 336,709. Pub. 5–26–70. Filed 8–29–69.

896,285. ALBALITE. Pfizer Inc., by change of name from Chas. Pfizer & Co., Inc. SN 337,413. Pub. 5–26–70. Filed 9–9–69.

896,286. OSTOBON. Pettibone Laboratories, Inc. SN 337,686. Pub. 5–26–70. Filed 9–11–69.

896,287. CYASTAB. American Cyanamid Compnay. SN 338,108. Pub. 5–26–70. Filed 9–17–69.

896,288. EPISTATIC. Eagle-Picher Industries, Inc. SN 339,163. Pub. 5–26–70. Filed 9–29–69.

896,289. VULKACIT. Farbenfabriken Bayer Aktiengesellschaft. SN 339,425. Pub. 5–26–70. Filed 10–1–69.

896,290. TRIMZIT. The Ansul Company. SN 339,531. Pub. 5–26–70. Filed 10–2–69.

896,291. AUTUMN MORNING. Avon Products, Inc. SN 339,699. Pub. 5–26–70. Filed 10–3–69.

896,292. HERCAMINE. Hercules Incorporated. SN 339,889. Pub. 5–26–70. Filed 10–6–69.

896,293. LANDALL. Shell Oil Company, SN 340,284. Pub. 5–26–70. Filed 10–9–69.

896,294. SAFE-ON. International Minerals & Chemical Corporation. SN 349,276. Pub. 5–26–70. Filed 1–22–70.

896,295. VYDATE. E. I. du Pont de Nemours and Company. SN 349,547. Pub. 5–26–70. Filed 1–26–70.

896,296. EVIK. Geigy Chemical Corporation. SN 349,548. Pub. 5–26–70. Filed 1–26–70.

Class 8 — Smokers' Articles, Not Including Tobacco Products

896,263. (See Class 2 for this trademark.)

896,267. (See Class 3 for this trademark.)

896,297. FLAME (DESIGN). Flaminaire Marcel Quercia. SN 319,829. Pub. 5–26–70. Filed 3–14–69.

896,298. ROYAL COPENHAGEN DENMARK AND DESIGN. Den Kongelige Porcelainsfabrik A/S, d.b.a. Royal Copenhagen Porcelain Manufactory Ltd. SN 322,871. Pub. 5–26–70. Filed 3–26–69.

896,299. SUNDAY COB. Buescher's Industries, Inc. SN 345,132. Pub. 5–26–70. Filed 12–3–69.

896,300. HEAD GEAR AND DESIGNS. Head Gear, Inc. SN 346,247. Pub. 5–26–70. Filed 12–15–69.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

896,301. SPESCO AND DESIGN. The Spesco Corporation. SN 337,366. Pub. 5–26–70. Filed 9–8–69.

Class 10 — Fertilizers

896,272. (See Class 6 for this trademark.)

896,302. POLYPEL. Chevron Chemical Company. SN 282,438. Pub. 12–3–68. Filed 10–13–67.

896,303. FLORASOIL. U.F. Chemical Corporation. SN 307,883. Pub. 7–8–69. Filed 9–20–68.

896,304. WEGRO AND DESIGN. Wegro, Incorporated. SN 339,376. Pub. 5–26–70. Filed 9–30–69.

Class 12 — Construction Materials

896,305. MARIMEKKO. Marimekko Oy. SN 303,916. Pub. 5–26–70. Filed 7–30–68.

896,306. MISCELLANEOUS DESIGN. The H. M. Harper Company. MULTIPLE CLASS (Classes 12, 13, and 14). SN 323,753. Pub. 5–26–70. Filed 4–1–69.

896,307. EVERYMAN AND DESIGN. Richard E. Bell. SN 324,169. Pub. 5–26–70. Filed 4–10–69.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

896,306. (See Class 12 for this trademark.)

896,308. UNI-CLAMP AND DESIGN. Universal Metal Products, Inc. SN 284,954. Pub. 8–12–69. Filed 11–15–67.

896,309. SSV. Rohn Mnufacturing Co. MULTIPLE CLASS (Classes 13 and 21). SN 289,372. Pub. 5–26–70. Filed 1–23–68.

896,310. BETA VALVE AND DESIGN. Beta-Valve, Inc. SN 321,762. Pub. 5–26–70. Filed 3–14–69.

896,311. STOPNOIS. Oy Wartsila AB. SN 323,007. Pub. 5–26–70. Filed 3–27–69.

896,312. ERLAU ROCK-SCRAPER. Eisen- und Drahtwerk Erlau AG. SN 323,691. Pub. 5–26–70. Filed 4–4–69.

896,313. THERMO-RACK. William Perez. SN 338,429. Pub. 5–26–70. Filed 9–19–69.

896,314. DESTROILET. La Mere Industries, Inc. SN 339,283. Pub. 5–26–70. Filed 10–1–69.

896,315. LOCK-LIP. Selfix, Inc. SN 339,457. Pub. 5–26–70. Filed 10–1–69.

896,316. MASS MERCHANDISING. Joseph J. D'Jay. SN 340,086. Pub. 5–26–70. Filed 10–8–69.

896,317. MISCELLANEOUS DESIGN. Byron Chain Mfg. Co. SN 344,671. Pub. 5–26–70. Filed 11–26–69.

896,318. BEAUTI BRADS. Visador Company. SN 345,788. Pub. 5–26–70. Filed 12–9–69.

896,319. SPOTSTRIPS. Spotnails, Inc. SN 352,576. Pub. 5–26–70. Filed 2–27–70.

Class 14 — Metals and Metal Castings and Forgings

896,306. (See Class 12 for this trademark.)

896,320. HYTRON. Fina Metal Ltd. SN 330,595. Pub. 5–26–70. Filed 6–20–69.

896,321. PRECISIONEERED. Gould Inc., by change of name from Gould-National Batteries, Inc. MULTIPLE CLASS (Classes 14 and 23). SN 331,976. Pub. 5–26–70. Filed 7–8–69.

896,322. SUPER 22H. Blaw-Knox Company. SN 345,711. Pub. 5–26–70. Filed 12–9–69.

896,323. MO-RE. Blaw-Knox Company. SN 345,712. Pub. 5–26–70. Filed 12–9–69.

Class 15 — Oils and Greases

896,324. GYROLUBE. Mist Products, Inc. SN 321,979. Pub. 5–26–70. Filed 3–17–69.

896,325. FACTOGARD. The Standard Oil Company. SN 325,409. Pub. 5–26–70. Filed 4–23–69.

896,326. KROIL. Kano Laboratories, Inc. SN 332,109. Pub. 5–26–70. Filed 7–9–69.

896,327. KREEN. Kano Laboratories, Inc. SN 332,110. Pub. 5–26–70. Filed 7–9–69.

896,328. ICE-TANES. The Standard Oil Company. SN 336,024. Pub. 5–26–70. Filed 8–22–69.

896,329. ICE TANES AND DESIGN. The Standard Oil Company. SN 336,025. Pub. 5–26–70. Filed 8–22–69.

Class 16 — Protective and Decorative Coatings

896,330. FROSTIQUE. The Sherwin-Williams Company. SN 319,642. Pub. 5–26–70. Filed 2–19–69.

896,331. POLY-CLEEN CC. Polyastics Corporation. SN 319,944. Pub. 5–26–70. Filed 2–24–69.

896,332. POXY-FINISH. Polyastics Corporation. SN 319,945. Pub. 5–26–70. Filed 2–24–69.

Class 17 — Tobacco Products

896,333. ROTHMANS KING SIZE AND DESIGN. Rothmans of Pall Mall Limited. SN 316,242. Pub. 5–26–70. Filed 1–9–69.

896,334. ASSEMBLY. St. Regis Tobacco Corporation Limited. SN 318,984. Pub. 5–26–70. Filed 2–12–69.

896,335. BANDMASTER. Rembrandt Tobacco Corporation (Overseas) Limited. SN 339,354. Pub. 5–26–70. Filed 9–30–69.

896,336. PROMINENCE. Lane Limited. SN 340,024. Pub. 5–26–70. Filed 10–7–69.

896,337. "GARAFINOS." A. Garfinkel, Incorporated. SN 351,696. Pub. 5–26–70. Filed 2–18–70.

896,338. CRADOCK. St. Regis Tobacco Corporation Limited. SN 352,523. Pub. 5–26–70. Filed 2–26–70.

Class 18 — Medicines and Pharmaceutical Preparations

896,339. FURAMIDE. Boots Pure Drug Company Limited. SN 325,954. Pub. 5–26–70. Filed 4–30–69.

896,340. AMYLOFENE. First Texas Pharmaceuticals, Inc. SN 328,423. Pub. 5–26–70. Filed 5–27–69.

896,341. SKF. Smith Kline & French Laboratories. SN 339,685. Pub. 5–26–70. Filed 10–3–69.

896,342. PAVACAP. Reid-Provident Laboratories Inc. SN 339,960. Pub. 5–26–70. Filed 10–7–69.

896,343. ESKAPHEN B. Smith Kline & French Laboratories. SN 340,743. Pub. 5–26–70. Filed 10–15–69.

896,344. SLIM'N LOVELY. Thompson Medical Company, Inc. SN 341,340. Pub. 5–26–70. Filed 10–22–69.

896,345. HAPPY DAY. Thompson Medical Company, Inc. SN 341,342. Pub. 4–21–70. Filed 10–22–69.

896,346. ESKAY'S. Smith Kline & French Laboratories. SN 341,606. Pub. 5–26–70. Filed 10–24–69.

896,347. IBUSIN. The Upjohn Company. SN 348,617. Pub. 5–26–70. Filed 1–15–70.

896,348. BISODOL PLUS. American Home Products Corporation. SN 349,096. Pub. 5–26–70. Filed 1–21–70.

896,349. NUMOTIZINE. Hobart Laboratories, Inc. SN 350,359. Pub. 5–26–70. Filed 2–3–70.

Class 19 — Vehicles

896,350. CANNED SAND. Bob Schmidt, Inc. SN 302,247. Pub. 5–26–70. Filed 7–8–68.

896,351. SUN KAMPER. Skamper Corporation. SN 319,967. Pub. 5–26–70. Filed 2–24–69.

896,352. MISCELLANEOUS DESIGN. Great Dane Trailers, Inc. SN 331,744. Pub. 5–26–70. Filed 7–3–69.

896,353. SWINGER. Edwin P. Monroe. SN 332,842. Pub. 5–26–70. Filed 7–17–69.

896,354. SUBARU FF-1. Fuji Jyukogyo Kabushiki Kaisha, d.b.a. Fuji Heavy Industries, Ltd. SN 333,119. Pub. 5–26–70. Filed 7–22–69.

896,355. VYKAN. Monsanto Company. SN 334,359. Pub. 5–26–70. Filed 8–4–69.

896,356. CASTAWAY. Fireball Trailer Mfg., Inc. SN 334,573. Pub. 5–26–70. Filed 8–6–69.

896,357. PROWLER. Eliminator Tire & Rubber Co., Inc. SN 334,822. Pub. 5–26–70. Filed 8–8–69.

896,358. SEA ROVER AND DESIGN. Sea Rover Marine, Inc., by change of name from Bosworth Marine Corporation. SN 341,136. Pub. 5–19–70. Filed 10–20–69.

896,359. SPRINGBOK AND ANIMAL HEAD (DESIGN). Aluminum Goods Limited. SN 342,387. Pub. 5–26–70. Filed 11–3–69.

896,360. UNISHELL. Avco Corporation. SN 342,718. Pub. 5–26–70. Filed 11–5–69.

896,361. CHEROKEE. American Photocopy Equipment Company. SN 350,849. Pub. 5–26–70. Filed 2–9–70.

896,362. COMANCHE. American Photocopy Equipment Company. SN 350,850. Pub. 5–26–70. Filed 2–9–70.

896,363. INCA. American Photocopy Equipment Company. SN 350,851. Pub. 5–26–70. Filed 2–9–70.

896,364. NAVAJO. American Photocopy Equipment Company. SN 350,852. Pub. 5–26–70. Filed 2–9–70.

896,365. AQUA-JET. Aquasonics Incorporated. SN 350,857. Pub. 5–26–70. Filed 2–9–70.

896,366. UNISTAR. International Harvester Company. SN 351,758. Pub. 5–26–70. Filed 2–19–70.

896,367. JUMBO JET AND DESIGN. D. P. Harris Hardware & Manufacturing Co., Inc. SN 351,870. Pub. 5–26–70. Filed 2–20–70.

Class 21 — Electrical Apparatus, Machines, and Supplies

896,278. (See Class 6 for this trademark.)

896,309. (See Class 13 for this trademark.)

896,368. TERM-I-LITE. Security Electric Corporation. SN 295,076. Pub. 5–26–70. Filed 4–17–68.

896,369. ONE-OVER-ONE. Superior Continental Corporation. SN 303,360. Pub. 5–26–70. Filed 7–22–68.

896,370. FONE-TONE. Leon Davidson, d.b.a. Metroprocessing Associates. SN 309,163. Pub. 5–26–70. Filed 10–8–68.

896,371. VEPED. Veped Traffic Controls, Inc. MULTIPLE CLASS (Classes 21, 23, and 50). SN 315,613. Pub. 5–26–70. Filed 1–2–69.

896,372. METALERT. FRL, Incorporated. SN 319,851. Pub. 5–26–70. Filed 2–24–69.

896,373. VALTEC. Valtec Corporation. SN 325,796. Pub. 5–26–70. Filed 4–28–69.

896,374. FOUL-PAC. Engelhard Minerals & Chemicals Corporation. SN 330,376. Pub. 5–26–70. Filed 6–18–69.

896,375. TWI. Tek-Wave, Inc. SN 330,788. Pub. 5–26–70. Filed 6–23–69.

896,376. CI AND DESIGN. Connectron Incorporated. SN 331,669. Pub. 5–26–70. Filed 7–2–69.

896,377. LECLANCHE AND DESIGN. Leclanché, S.A. SN 334,728. Pub. 5–26–70. Filed 8–7–69.

896,378. FOUR STAR AND DESIGN. Union Oil Company of California. SN 336,960. Pub. 5–26–70. Filed 9–3–69.

896,379. MONOTRODE. Great Lakes Carbon Corporation. SN 338,149. Pub. 5–26–70. Filed 9–17–69.

896,380. REGAL LINE. Mulberry Metal Products, Inc. SN 338,162. Pub. 5–26–70. Filed 9–17–69.

896,381. AV AND DESIGN. Chamberlain Manufacturing Corporation, d.b.a. Perma-Power Company. SN 340,510. Pub. 5–26–70. Filed 10–13–69.

896,382. TUFFY. Clevite Corporation. SN 342,415. Pub. 5–26–70. Filed 11–3–69.

896,383. QUADRANT. H. H. Scott, Inc. SN 343,760. Pub. 5–26–70. Filed 11–17–69.

896,384. XYNETICS. Xynetics, Inc. SN 344,938. Pub. 4–14–70. Filed 12–1–69.

896,385. VIBRALARM. American District Telegraph Company. SN 345,286. Pub. 5–26–70. Filed 12–4–69.

896,386. POWER-LIFE. Uniroyal, Inc. SN 346,985. Pub. 5–26–70. Filed 12–22–69.

896,387. CALL-MOR. James F. Divietro, d.b.a. Collmer Brothers. SN 347,085. Pub. 5–26–70. Filed 12–24–69.

896,388. COPPERDROP. Superior Continental Corporation. SN 347,125. Pub. 5–26–70. Filed 12–24–69.

896,389. CAC AND DESIGN. Continental Telephone Corporation. SN 349,593. Pub. 5–26–70. Filed 1–26–70.

896,390. NANOHEX AND DESIGN. Sealectro Corporation. SN 351,593. Pub. 5–26–70. Filed 2–17–70.

896,391. ARMOR-GRIP. Preformed Line Products Company. SN 351,875. Pub. 5–26–70. Filed 2–20–70.

896,392. GAF. GAF Corporation. SN 352,022. Pub. 5–26–70. Filed 2–24–70.

Class 22 — Games, Toys, and Sporting Goods

896,393. NIMROD SPORTSMAN. Nimrod Products, Inc. SN 287,668. Pub. 12–31–68. Filed 12–27–67.

896,394. SPORTSMAN. Skaggs Pay Less Drug Stores. SN 292,736. Pub. 3–11–69. Filed 3–8–68.

896,395. TACKLEMASTER. Stratton & Terstegge Company, Inc. SN 309,310. Pub. 9–9–69. Filed 10–9–68.

896,396. HUSKIE DEVLE. Lou J. Eppinger Mfg. Co. SN 312,989. Pub. 5–26–70. Filed 11–25–68.

896,397. PLAY MATE. United Crayon Co., Inc. SN 313,038. Pub. 10–7–69. Filed 11–25–68.

896,398. FIREBALL. Falls Resources Corporation. SN 313,564. Pub. 5–26–70. Filed 12–4–68.

896,399. SWING BANG. Ralph E. Ward, d.b.a. R. E. Ward and Sons Mfg. Co. SN 314,638. Pub. 5–26–70. Filed 12–16–68.

896,400. MERIT. Complex (Japan), Ltd., assignee of Arrow International, Ltd., d.b.a. Complex, Japan. SN 316,588. Pub. 5–26–70. Filed 1–15–69.

896,401. HOLLYWOOD BASES. Pittman Products, Inc., d.b.a. Sportsways. SN 321,075. Pub. 5–26–70. Filed 3–7–69.

896,402. SPORTSWAYS. Pittman Products, Inc., d.b.a. Sportsways. SN 321,076. Pub. 5–26–70. Filed 3–7–69.

896,403. POPPIN' PUPPETS. J. Swedlin, Inc., d.b.a. Gund Manufacturing Co. SN 322,004. Pub. 5–26–70. Filed 3–17–69.

896,404. WINE 'N' ROSES. Raybestos-Manhattan, Inc. SN 325,221. Pub. 5–26–70. Filed 4–22–69.

896,405. FEELING. Sensitivity Games, Inc. SN 326,135. Pub. 5–26–70. Filed 5–1–69.

896,406. PASSPORT ROD. Abercrombie & Fitch Co. SN 326,489. Pub. 5–26–70. Filed 5–6–69.

896,407. FIGURAMA. MacLevy Enterprises, Inc. SN 326,663. Pub. 5–26–70. Filed 5–7–69.

896,408. MAX TRAX AND DESIGN. Kusan, Inc. SN 327,389. Pub. 5–26–70. Filed 5–15–69.

896,409. APEX. Ben Hogan Company. SN 327,626. Pub. 5–26–70. Filed 5–19–69.

896,410. SCOOTABOUT. Mattel, Inc. SN 330,060. Pub. 5–26–70. Filed 6–16–69.

896,411. POLISTIL AND DESIGN. Polistil di Agrati Eugenio & Sala Ennio S.n.C. SN. 330,191. Pub. 5–26–70. Filed 6–16–69.

896,412. FLAPS. American Molded Products, Ltd. SN 330,343. Pub. 5–26–70. Filed 6–18–69.

896,413. TWIDDLER. Mattel, Inc. SN 331,124. Pub. 5–26–70. Filed 6–27–69.

896,414. COPY-SCOPE. Bar Zim Toy Mfg. Co., Inc. SN 331,271. Pub. 5–26–70. Filed 6–30–69.

896,415. SPACE-COPTER. Play Products International, Inc. SN 336,470. Pub. 5–26–70. Filed 8–27–69.

896,416. TICKER TRADING. Robard Company. SN 336,471. Pub. 5–26–70. Filed 8–27–69.

896,417. TEMPERGLAS TG AND DESIGN. True Temper Corporation. SN 336,482. Pub. 5–26–70. Filed 8–27–69.

896,418. 1 PUTT. James F. Lamont. SN 337,178. Pub. 5–26–70. Filed 9–5–69.

896,419. INVADER. Mattel, Inc. SN 337,229. Pub. 5–26–70. Filed 9–8–69.

896,420. HI-LITE. Ideal Fishing Float Company, Inc. SN 337,447. Pub. 5–26–70. Filed 9–9–69.

896,421. WORRY WART. House of Paradise, Inc. SN 337,937. Pub. 5–26–70. Filed 9–15–69.

896,422. SWINGY. Mattel, Inc. SN 338,320. Pub. 5–26–70. Filed 9–19–69.

896,423. THOMAS. Mattel, Inc. SN 345,560. Pub. 5–26–70. 12–8–69.

896,424. JAMIE. Mattel, Inc. SN 346,569. Pub. 5–26–70. Filed 12–18–69.

896,425. COMPETITION. Bancroft Racket Company. SN 347,546. Pub. 5–26–70. Filed 1–2–70.

896,426. FRS. Bancroft Racket Company. SN 347,547. Pub. 5–26–70. Filed 1–2–70.

896,427. RED GARTER. Hillstrom Enterprises, Inc. SN 348,776. Pub. 5–26–70. Filed 1–16–70.

896,428. PIP SQUEEKS. Reuben B. Klamer, d.b.a. Reuben Klamer & Associates. SN 352,565. Pub. 5–26–70. Filed 2–27–70.

896,429. CLASIDEN. Victor Sports, Inc. SN 352,584. Pub. 5–26–70. Filed 2–27–70.

896,430. WITCH PITCH. Parker Brothers, Inc. SN 352,912. Pub. 5–26–70. Filed 3–3–70.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

896,321. (See Class 14 for this trademark.)

896,371. (See Class 21 for this trademark.)

896,431. TRAMAC. Tramac Corporation, by change of name from American Tradex Corporation. SN 270,980. Pub. 5–19–70. Filed 5–8–67.

896,432. MOBILITY. Mobility Systems, Inc. SN 305,472. Pub. 5–26–70. Filed 8–19–68.

896,433. FIGHTS FRICTION TO THE FINISH. Vasco Metals Corp. SN 307,254. Pub. 5–26–70. Filed 9–12–68.

896,434. FILARMONICA NOVODUR AND DESIGN. Jose Monserrat Pou. SN 315,486. Pub. 5–26–70. Filed 12–31–68.

896,435. SLACK LOOP. Rodney Hunt Company. SN 322,236. Pub. 5–26–70. Filed 3–20–69.

896,436. HAWK AND BIRD DESIGN. Hawkins Mfg., Inc., assignee of Roy I. Hawkins. SN 322,437. Pub. 5–26–70. Filed 3–21–69.

896,437. ULTRA-KUT. The Weldon Tool Company. SN 323,872. Pub. 5–26–70. Filed 4–7–69.

896,438. PERMA-LACH. Otis Engineering Corporation. SN 323,961. Pub. 5–26–70. Filed 4–8–69.

896,439. FLEXPIPE. Flexpipe Company. SN 324,286. Pub. 5–26–70. Filed 4–11–69.

896,440. HYDRA JAC. Reese Products, Inc. SN 324,493. Pub. 5–26–70. Filed 4–14–69.

896,441. BEACON STAR. Vincent Anderson, d.b.a. Beacon Engineering Company of Minnesota. SN 324,789. Pub. 5–26–70. Filed 4–17–69.

896,442. STAT. Toyoda Koki Kabushiki Kaisha, d.b.a. Toyoda Machine Works, Ltd. SN 324,851. Pub. 5–26–70. Filed 4–17–69.

896,443. HORTON HYDRO-CHAMP. Horton Manufacturing Co., Inc. SN 325,360. Pub. 5–26–70. Filed 4–23–69.

896,444. QUAD-DRILL. Excellon Industries. SN 327,247. Pub. 5–26–70. Filed 5–14–69.

896,445. POWR POD. Blount Marine Corporation. SN 334,513. Pub. 5–26–70. Filed 8–6–69.

896,446. EDG E. D. GREEN CORP AND DESIGN. E. D. Green Corp. SN. 334,924. Pub. 5–26–70. Filed 8–11–69.

896,447. PRODUCTO. The Producto Machine Company. SN 338,323. Pub. 5–26–70. Filed 9–19–69.

896,448. ARM-LOK. Drafto Corporation. SN 342,962. Pub. 5–26–70. Filed 11–7–69.

896,449. VITAL AND DESIGN. Toa Chain Block Manufacturing Company, Limited. SN 343,604. Pub. 5–26–70. Filed 11–14–69.

896,450. TRI-STATE. Garlock Inc. SN 344,366. Pub. 5–26–70. 11–24–69.

896,451. VOSS. Garlock Inc. SN 344,367. Pub. 5–26–70. Filed 11–24–69.

896,452. TENNANT. Tennant Company. SN 344,461. Pub. 5–26–70. Filed 11–24–69.

896,453. DISPAT-U-VEYOR. White Machine Co. SN 344,484. Pub. 5–26–70. Filed 11–24–69.

896,454. MAXAIR. Dresser Industries, Inc. SN 344,703. Pub. 5–26–70. Filed 11–26–69.

896,455. GOLDEN T. T.G. & Y. Stores Company. SN 344,902. Pub. 5–26–70. Filed 11–28–69.

896,456. TIMEMASTER. Hermes Machine Tool Co. Inc. SN 344,981. Pub. 5–26–70. Filed 12–1–69.

896,457. EQUALIZOR. Superior Spray Corporation. SN 345,689. Pub. 5–26–70. Filed 12–8–69.

896,458. SWINGER. The Joyce-Cridland Company. SN 345,829. Pub. 5–26–70. Filed 12–10–69.

896,459. TURNEX. The Motch & Merryweather Machinery Company. SN 345,969. Pub. 5–26–70. Filed 12–11–69.

896,460. FLOATING FUN. Paramount Textile Machinery Company. SN 345,975. Pub. 5–26–70. Filed 12–11–69.

896,461. PNEUMOTIVE. International Telephone and Telegraph Corporation. SN 350,820. Pub. 5–26–70. Filed 2–9–70.

896,462. STABLE BOY. The Union Fork and Hoe Company. SN 352,045. Pub. 5–26–70. Filed 2–24–70.

Class 24 — Laundry Appliances and Machines

896,463. MR. PRESS. B.K.G., Inc. SN 334,686. Pub. 5–26–70. Filed 8–7–69.

Class 25 — Locks and Safes

896,464. IDENTI-KEY. Eaton Yale & Towne Inc., assignee of Digital Identification Systems, Inc. SN 343,905. Pub. 4–7–70. Filed 11–19–69.

Class 26 — Measuring and Scientific Appliances

896,278. (See Class 6 for this trademark.)

896,465. LEARNING LABORATORY. Technical Training International, Inc. SN 312,239. Pub. 5–26–70. Filed 11–14–68.

896,466. ED-4. Owens-Illinois, Inc. SN 317,678. Pub. 5–26–70. Filed 1–28–69.

896,467. NAMOC. The Photo-Marker Corporation. SN 339,594. Pub. 5–26–70. Filed 10–2–69.

896,468. HOLOBEAM. Holobeam, Inc. SN 343,975. Pub. 5–26–70. Filed 11–19–69.

896,469. PLUG-STAT. Control Products, Inc. SN 345,602. Pub. 5–26–70. Filed 12–8–69.

896,470. IMPERIUM AND DESIGN. R.A. Precision, Inc. SN 345,857. Pub. 5–26–70. Filed 12–10–69.

Class 27 — Horological Instruments

896,471. "OVAL." Feurer Bros., Inc. SN 285,828. Pub. 5–26–70. Filed 11–29–67.

896,472. DAVID G. STEVEN. David G. Steven, Inc. SN 321,407. Pub. 5–26–70. Filed 3–11–69.

896,473. SMOKE WATCHER. Montres Sicura S.A. SN 324,734. Pub. 5–26–70. Filed 4–16–69.

896,474. STATESMAN. Gruen Industries, Inc. SN 343,555. Pub. 5–26–70. Filed 11–14–69.

Class 28 — Jewelry and Precious-Metal Ware

896,267. (See Class 3 for this trademark.)

896,475. BETSY PATTERSON. The Stieff Company. SN 323,145. Pub. 5–26–70. Filed 3–28–69.

896,476. MACH 1. Textron Inc. SN 342,082. Pub. 5–26–70. Filed 10–29–69.

Class 31 — Filters and Refrigerators

896,477. T3. Union Tank Car Company. SN 314,741. Pub. 5–26–70. Filed 12–17–68.

896,478. GOLDEN T. T.G. & Y. Stores Company. SN 330,019. Pub. 5–26–70. Filed 6–13–69.

896,479. PROFITGARD. Streater Industries, Inc. SN 330,857. Pub. 5–26–70. Filed 6–24–69.

896,480. EDG E. D. GREEN CORP AND DESIGN. E. D. Green Corp. SN 334,925. Pub. 5–26–70. Filed 8–11–69.

896,481. KONTAK. Frick Company. SN 342,630. Pub. 5–26–70. Filed 11–4–69.

896,482. THERMO-GLIDE. Display Fixtures, Inc. SN 344,223. Pub. 5–26–70. Filed 11–21–69.

Class 32 — Furniture and Upholstery

896,263. (See Class 2 for this trademark.)

896,483. POP-ARTS. Pop Arts, Inc. SN 285,255. Pub. 9–3–68. Filed 11–20–67.

896,484. BESTLINE. Sperry Rand Corporation. SN 293,411. Pub. 5–26–70. Filed 3–15–68.

896,485. RIGID-X. Gladwin Industries, Inc. SN 320,716. Pub. 5–26–70. Filed 3–4–69.

896,486. FRA MEX. Frank Kirkpatrick. SN 322,870. Pub. 5–26–70. Filed 3–26–69.

Class 33 — Glassware

896,487. DEMA. Dema Glass Limited. SN 328,041. Pub. 5–26–70. Filed 5–22–69.

896,488. THE EVERYTHING GLASS. Lancaster Colony Corporation. SN 335,042. Pub. 5–26–70. Filed 8–11–69.

896,489. PARALLEL-O-FLOAT. Libbey-Owens-Ford Company. SN 342,055. Pub. 5–26–70. Filed 10–29–69.

Class 34 — Heating, Lighting, and Ventilating Apparatus

896,490. MICROVENT. Selby, Battersby & Co. SN 311,621. Pub. 5–26–70. Filed 11–7–68.

896,491. ORBITORT. FMC Corporation. SN 315,068. Pub. 5–26–70. Filed 12–23–68.

896,492. TRECO. Texas Refrigeration and Engineering Company. SN 317,647. Pub. 5–26–70. Filed 1–27–69.

896,493. SCRAPE-A-FIRE. Phil Herbert, d.b.a. Flint Stick. SN 324,194. Pub. 5–26–70. Filed 4–10–69.

896,494. DIAMOND GLITTER. Plastics, Inc. SN 327,672. Pub. 5–26–70. Filed 5–19–69.

896,495. SEXAUER PRODUCTS AND DESIGN. J. A. Sexauer Mfg. Co., Inc. SN 328,598. Pub. 5–26–70. Filed 5–28–69.

896,496. THE COOK-IN. Gourmet Grills, Inc. SN 330,382. Pub. 5–26–70. Filed 6–18–69.

896,497. OLSON INDUSTRIES, CORP. OIC AND DESIGN. Olson Industries Corp. SN 330,620. Pub. 5–26–70. Filed 6–20–69.

896,498. CVB. Loren Cook Company. SN 331,400. Pub. 5–26–70. Filed 6–30–69.

896,499. POLYHARD. Weld Mold Company. SN 342,562. Pub. 5–26–70. Filed 11–3–69.

896,500. VANAX. American Coolair Corporation. SN 343,483. Pub. 5–26–70. Filed 11–14–69.

896,501. COOLAIR. American Coolair Corporation. SN 343,484. Pub. 5–26–70. Filed 11–14–69.

896,502. MIGHTY-MINI. Cities Service Oil Company. SN 343,945. Pub. 5–26–70. Filed 11–19–69.

896,503. MM (DESIGN). Cities Service Oil Company. SN 345,797. Pub. 5–26–70. Filed 12–10–69.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

896,504. OK AND DESIGN. O.K. Tire and Rubber Co., Inc. SN 338,058. Pub. 5–26–70. Filed 9–16–69.

896,505. GLO-BELT. The Firestone Tire & Rubber Company. SN 345,329. Pub. 5–26–70. Filed 12–4–69.

896,506. ORCOHESION. Oliver Tire & Rubber Company. SN 351,383. Pub. 5–26–70. Filed 2–16–70.

Class 36 — Musical Instruments and Supplies

896,507. TEENY BOPPER. Gulbransen Company. SN 324,062. Pub. 4–7–70. Filed 4–9–69.

896,508. EMMONS. Emmons Guitar Company, Inc. SN 326,295. Pub. 5–26–70. Filed 5–5–69.

896,509. NO NO PEE PAW's PAINT SHOP AND MALE DESIGN. Andrew Lee Jackson, d.b.a. Andrew Jackson Records. SN 341,033. Pub. 5–26–70. Filed 10–17–69.

896,510. BLACK PRINCE. The Shelby Singleton Corporation. SN 350,131. Pub. 5–26–70. Filed 1–30–70.

896,511. PICK OF PEACHTREE. Cartwheel Records, Inc. SN 350,223. Pub. 5–26–70. Filed 2–2–70.

896,512. DISCOS TORRE AND DESIGN. Capitol Records, Inc. SN 351,588. Pub. 5–26–70. Filed 2–17–70.

Class 37 — Paper and Stationery

896,263. (See Class 2 for this trademark.)

896,513. RAPID RECORD. National Church Supply Company. SN 299,575. Pub. 5–26–70. Filed 6–3–68.

896,514. CARILLON. Hammermill Paper Company. SN 309,582. Pub. 5–26–70. Filed 10–14–68.

896,515. FUSSY. Fort Howard Paper Company. SN 319,040. Pub. 5–26–70. Filed 2–13–69.

896,516. CUM LAUDE. Nekoosa Edwards Paper Company, Inc., assignee, by mesne assignment, from Nekoosa-Edwards Paper Company. SN 310,345. Pub. 5–26–70. Filed 2–17–69.

896,517. PRE-LITH. The Progress Lithographing Co. SN 324,606. Pub. 5–26–70. Filed 4–15–69.

896,518. POCKET-PLANNER. Regency Crafts, Inc. SN 326,131. Pub. 5–26–70. Filed 5–1–69.

896,519. MAGNE-BOUND. Textron Inc. SN 327,787. Pub. 5–26–70. Filed 5–20–69.

896,520. PLASTOTHEN. Follenfabrik Forchheim G.m.b.H. SN 329,802. Pub. 5–26–70. Filed 6–12–69.

896,521. LEVI'S. Levi Strauss & Co. SN 335,589. Pub. 5–26–70. Filed 8–18–69.

Class 38 — Prints and Publications

896,263. (See Class 2 for this trademark.)

896,522. MOTIV-AID. N.H.A., Inc. SN 312,487. Pub. 5–26–70. Filed 11–18–68.

896,523. CHOOSE LIFE! Argus Press, Inc. SN 313,479. Pub. 5–26–70. Filed 12–3–68.

896,524. CALIFORNIA EDITION OF AMERICAN HOME. Downe Publishing Inc. SN 316,006. Pub. 5–26–70. Filed 1–7–69.

896,525. WARD'S AUTO WORLD. Powers and Company, Inc. SN 321,267. Pub. 3–3–70. Filed 3–10–69.

896,526. STOOPID STICK-ONS. American Greetings Corporation. SN 322,952. Pub. 4–7–70. Filed 3–27–69.

896,527. METALWORKING DIGEST. Gordon Publications, Inc. SN 323,701. Pub. 5–26–70. Filed 4–4–69.

896,528. BINAR. Binary Systems, Inc. SN 338,992. Pub. 5–26–70. Filed 9–26–69.

896,529. TPRI AND DESIGN. Time Pattern Research Institute Incorporated. SN 339,251. Pub. 4–7–70. Filed 9–29–69.

896,530. MEMENTOES. Hallmark Cards, Incorporated. SN 343,112. Pub. 5–26–70. Filed 11–10–69.

896,531. FESTIVAL. Hallmark Cards, Incorporated. SN 343,113. Pub. 5–26–70. Filed 11–10–69.

896,532. SKIPPY. Hallmark Cards, Incorporated. SN 343,114. Pub. 5–26–70. Filed 11–10–69.

896,533. REVERIE. Hallmark Cards, Incorporated. SN 343,115. Pub. 5–26–70. Filed 11–10–69.

896,534. MISCELLANEOUS DESIGN. The Reader's Digest Association, Inc. SN 346,112. Pub. 5–26–70. Filed 12–12–69.

896,535. THE AMERICAN SALESMAN. National Research Bureau, Inc. SN 347,954. Pub. 5–26–70. Filed 1–7–70.

896,536. SOFT TOUCH. American Greetings Corporation. SN 348,747. Pub. 5–26–70. Filed 1–16–70.

896,537. PYRAMID (DESIGN). The Walter Reade Organization, Inc. SN 350,440. Pub. 5–26–70. Filed 2–4–70.

896,538. INNOVATION AND THE MANAGEMENT OF CHANGE. Council for Management of Change, Inc. SN 351,368. Pub. 5–26–70. Filed 2–16–70.

Class 39 — Clothing

896,539. AQUAVANTI AND DESIGN. Scharff Corporation. SN 288,356. Pub. 12–10–68. Filed 1–8–68.

896,540. ALLIED CLOTHIERS AND DESIGN. N.W. Buyers and Jobbers, Incorporated. SN 301,818. Pub. 5–26–70. Filed 7–2–68.

896,541. A PALLAS PRODUCT AND DESIGN. Pallas Manufacturing Co. Ltd. SN 303,434. Pub. 5–26–70. Filed 7–23–68.

896,542. GALE 'N JILL. Etablissements Andre Gillier Societe Anonyme, assignee of Wilroy Inc. SN 321,440. Pub. 8–5–69. Filed 3–12–69.

896,543. ARLI ISLANDERS. Arthur R. Lewis, Inc. SN 325,263. Pub. 5–26–70. Filed 3–10–69.

896,544. COUNTRY WEAVE. Palm Beach Company. SN 326,420. Pub. 11–25–69. Filed 5–5–69.

896,545. LILLI ANN. Lilli Ann Corporation. SN 329,099. Pub. 5–26–70. Filed 6–4–69.

896,546. GREAT LENGTHS. U.S. Industries, Inc. SN 331,452. Pub. 4–28–70. Filed 6–30–69.

896,547. AROUND THE GREEN AND DESIGN. Norman K. Neddermeyer. MULTIPLE CLASS (Classes 39 and 42). SN 336,047. Pub. 5–26–70. Filed 8–25–69.

896,548. VERA. Scarves By Vera, Inc. MULTIPLE CLASS (Classes 39 and 42). SN 336,731. Pub. 5–26–70. Filed 9–2–69.

896,549. SKI BOUTIQUE BY WHITE STAG AND DESIGN. White Stag Manufacturing Co. SN 338,501. Pub. 5–26–70. Filed 9–22–69.

896,550. ACTIVE STRETCHWEAR WHITE STAG AND DESIGN. White Stag Manufacturing Co. SN 338,503. Pub. 5–26–70. Filed 9–22–69.

896,551. FAMOUS BRAND WHITE STAG AND DESIGN. White Stag Manufacturing Co. SN 338,510. Pub. 5–26–70. Filed 9–22–69.

896,552. ORBIT AND DESIGN. Orbit Manufacturing, Inc. SN 340,036. Pub. 5–26–70. Filed 10–7–69.

896,553. WEBDRI. Uniroyal, Inc., SN 340,851. Pub. 5–26–70. Filed 10–15–69.

896,554. NABHOLZ. Nabholz Ltd. SN 341,184. Pub. 5–26–70. Filed 10–20–69.

896,555. KOTIQUE. Kimberly-Clark Corporation. SN 346,909. Pub. 5–26–70. Filed 12–22–69.

896,556. OSTERGATORS. Frontier Importers, Inc. SN 347,021. Pub. 5–26–70. Filed 12–23–69.

896,557. STC AND DESIGN. Seoul Trading Company Ltd. SN 347,327. Pub. 5–26–70. Filed 12–29–69.

896,558. PRO-AM. Colfax Industries. SN 347,477. Pub. 5–26–70. Filed 12–31–69.

896,559. WRANGLER WRANCH. Blue Bell, Inc. SN 350,025. Pub. 5–26–70. Filed 1–30–70.

896,560. PRECEPT AND DESIGN. Precept, Incorporated. MULTIPLE CLASS (Classes 39 and 42). SN 350,642. Pub. 5–26–70. Filed 2–6–70.

Class 40 — Fancy Goods, Furnishings, and Notions

896,561. PEPACON. Kabushikikaisha Shosando. SN 260,162. Pub. 5–26–70. Filed 12–6–66.

896,562. KIRBY BEARD. George Goodman Limited. SN 311,592. Pub. 5–26–70. Filed 11–7–68.

896,563. DELTRESS. Delbanco Meyer Wigs Limited. SN 330,558. Pub. 5–26–70. Filed 6–20–69.

896,564. MIRACLE WIG CREATIONS. Miracle Wig Creations, Inc. SN 337,614. Pub. 5–26–70. Filed 9–11–69.

896,565. TINTA. Tinta Industries, Inc. SN 345,773. Pub. 5–26–70. Filed 12–10–69.

896,566. HAIR FIRE. Curiel Products Corporation. SN 348,830. Pub. 5–26–70. Filed 1–19–70.

896,567. INSTA GRIP. Cournoyer Industries, Inc. SN 350,811. Pub. 5–26–70. Filed 2–9–70.

896,568. INSTA HOLD. Cournoyer Industries, Inc. SN 350,813. Pub. 5–26–70. Filed 2–9–70.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

896,547. (See Class 39 for this trademark.)

896,548. (See Class 39 for this trademark.)

896,560. (See Class 39 for this trademark.)

896,569. CALAIS. Quaker Fabric Corporation. SN 340,189. Pub. 5–26–70. Filed 10–8–69.

896,570. EYE-SPY. Klopman Mills, Inc. SN 342,289. Pub. 5–26–70. Filed 10–31–69.

Class 44 — Dental, Medical, and Surgical Appliances

896,571. EASY UP. N & H Instruments, Inc. SN 330,759. Pub. 5–26–70. Filed 6–23–69.

896,572. NBIH. United States Catheter & Instrument Corporation. SN 335,804. Pub. 5–26–70. Filed 8–20–69.

896,573. KOTIQUE. Kimberly-Clark Corporation. SN 346,910. Pub. 5–26–70. Filed 12–22–69.

Class 45 — Soft Drinks and Carbonated Waters

896,574. GAY 90. Drake Food Products, Inc. SN 294,381. Pub. 6–10–69. Filed 3–28–68.

896,575. DELAWARE PUNCH ETC. AND DESIGN. Delaware Punch Company. SN 331,169. Pub. 5–26–70. Filed 6–27–69.

Class 46 — Foods and Ingredients of Foods

896,576. REDDI-WIP. Reddi-Wip, Inc. SN 264,851. Pub. 12–19–67. Filed 2–16–67.

896,577. STA-WIP. Sta-Whip, Inc. SN 266,599. Pub. 4–9–68. Filed 3–13–67.

896,578. CATTLE-PAK. Iowa Beef Packers, Inc. MULTIPLE CLASS (Classes 46 and 100). SN 304,033. Pub. 5–26–70. Filed 8–1–68.

896,579. BI-NAMIC. Charles River Breeding Laboratories, Inc. SN 317,932. Pub. 5–26–70. Filed 1–30–69.

896,580. JERO. Meister Brau, Inc., assignee of Jero Products Company. SN 319,906. Pub. 5–26–70. Filed 2–24–69.

896,581. GROTESQUE OF A BOY, GIRL AND COW. Eskimo Pie Corporation. SN 326,643. Pub. 5–26–70. Filed 5–7–69.

896,582. TROPCO. Carver Tropical Products, Inc. SN 329,605. Pub. 5–26–70. Filed 6–10–69.

896,583. SPEARDENT. Wm. Wrigley Jr. Company. SN 330,439. Pub. 5–26–70. Filed 6–18–69.

896,584. TENDERBURST. The Pillsbury Company. SN 330,770. Pub. 5–26–70. Filed 6–23–69.

896,585. SECOND WIND. The Nestle Company, Inc. SN 331,769. Pub. 5–26–70. Filed 7–3–69.

896,586. MORNING FRESH. Morning Fresh Dairy, Inc. SN 334,277. Pub. 5–26–70. Filed 8–4–69.

896,587. CARRINA. Gervais-Danone AG. SN 339,564. Pub. 5–26–70. Filed 10–2–69.

896,588. CHUN KING AND DESIGN. R. J. Reynolds Foods, Inc. SN 339,962. Pub. 5–26–70. Filed 10–7–69.

896,589. FRESH CATCH. General Mills, Inc. SN 342,359. Pub. 5–26–70. Filed 11–3–69.

896,590. CLASSIC CHEESE. Thomas J. Lipton, Inc. SN 343,914. Pub. 5–26–70. Filed 11–19–69.

Class 47 — Wines

896,591. GOURMET. Ralph Pingitore, d.b.a. National Products Distributors. SN 309,786. Pub. 5–27–69. Filed 10–16–68.

Class 50 — Merchandise Not Otherwise Classified

896,262. (See Class 2 for this trademark.)

896,371. (See Class 21 for this trademark.)

896,592. GUILD HALL AND DESIGN. Guild Hall Studios, Inc. SN 301,748. Pub. 5–26–70. Filed 7–1–68.

896,593. OLD FASHIONED CHRISTMAS NAPCOWARE AND DESIGN. National Potteries Corporation. SN 326,784. Pub. 5–26–70. Filed 5–8–69.

896,594. VISU-TROL. Wassell Organization, Inc. SN 327,312. Pub. 5–26–70. Filed 5–14–69.

896,595. TOKETTE. Greenwald Industries, Inc. SN 338,907. Pub. 5–26–70. Filed 9–25–69.

896,596. CREMORIAL. Jas. H. Matthews & Co. SN 339,030. Pub. 5–26–70. Filed 9–26–69.

896,597. EMPRESS. Principle Business Enterprises, Inc. SN 339,037. Pub. 5–26–70. Filed 9–26–69.

896,598. SPUR. Willcox & Gibbs, Inc. SN 339,265. Pub. 5–26–70. Filed 9–29–69.

896,599. STA-FLEX. Medline Industries, Inc. SN 339,339. Pub. 5–26–70. Filed 9–30–69.

896,600. PIC-A-SIP. Sweetheart Plastics, Inc. SN 341,607. Pub. 5–26–70. Filed 10–24–69.

Class 51 — Cosmetics and Toilet Preparations

896,267. (See Class 3 for this trademark.)

896,601. LORILU. Lorenzo Lechner, d.b.a. L. C. Lechner-Cosmetica Senese di Lorenzo Lechner. SN 264,555. Pub. 5–21–68. Filed 2–13–67.

896,602. CHAPARRAL. Cosmetics International, Ltd., d.b.a. Accent Nine Dist. SN 300,332. Pub. 5–26–70. Filed 6–13–68.

896,603. LONDON LASHES. Yardley of London, Inc. SN 301,870. Pub. 5–26–70. Filed 7–2–68.

896,604. MOISTURA. Cyclax Limited. SN 304,843. Pub. 5–26–70. Filed 8–21–68.

896,605. GOLBA. Laboratorios Azteca, S.A. SN 309,392. Pub. 5–26–70. Filed 10–10–68.

896,606. PACO RABANNE. Paco Rabanne Parfums. SN 316,237. Pub. 5–26–70. Filed 1–9–69.

896,607. DANICE. Lynn-Leigh. SN 322,996. Pub. 5–26–70. Filed 3–27–69.

896,608. SISSIMO. Products of Excellence Ltd. SN 325,505. Pub. 5–26–70. Filed 4–24–69.

896,609. FLOWER OF HAWAII. Products of Excellence Ltd. SN 325,506. Pub. 5–26–70. Filed 4–24–69.

896,610. CA' D'ORO. A. Vidal S.a.S., d.b.a. Vidal. SN 327,423. Pub. 5–26–70. Filed 5–15–69.

896,611. SHADES OF LONDON. Yardley of London, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 333,994. Pub. 5–26–70. Filed 7–31–69.

896,612. EQUALIZING. Elizabeth Arden Sales Corporation, d.b.a. Elizabeth Arden. SN 341,258. Pub. 5–26–70. Filed 10–21–69.

896,613. MOISTING. Elizabeth Arden Sales Corporation, d.b.a. Elizabeth Arden. SN 341,259. Pub. 5–26–70. Filed 10–21–69.

896,614. DRY SPELL. Leon Products, Inc. SN 342,120. Pub. 5–26–70. Filed 10–30–69.

896,615. CRISTINA OF LONDON. Lano Corporation. SN 342,793. Pub. 5–26–70. Filed 11–6–69.

896,616. STAR-SIGNS. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 344,495. Pub. 5–26–70. Filed 11–25–69.

896,617. THE END. Warner-Lambert Pharmaceutical Company. SN 346,195. Pub. 5–26–70. Filed 12–15–69.

896,618. SCENTSLESS. Carter-Wallace, Inc. SN 348,725. Pub. 5–26–70. Filed 1–16–70.

896,619. ORION THE HUNTER AND DESIGN. The Gillette Company. MULTIPLE CLASS (Classes 51 and 52). SN 350,412. Pub. 5–26–70. Filed 2–4–70.

896,620. GOOD DEED. Dairimetics, Ltd. SN 351,072. Pub. 5–26–70. Filed 2–11–70.

Class 52 — Detergents and Soaps

896,277. (See Class 6 for this trademark.)

896,611. (See Class 51 for this trademark.)

896,616. (See Class 51 for this trademark.)

896,619. (See Class 51 for this trademark.)

896,621. JIFFY WHITE. Curley Company, Inc. SN 306,123. Pub. 5–26–70. Filed 8–27–68.

896,622. ENZODET. Enviro Systems, Incorporated. SN 321,203. Pub. 1–13–70. Filed 3–10–69.

896,623. BATHGROOM. David, Oksner & Mitchneck, Inc. SN 338,548. Pub. 5–26–70. Filed 9–22–69.

896,624. MAGIC WAND. Andrea Charles Sales Incorporated. SN 339,135. Pub. 5–26–70. Filed 9–29–69.

896,625. ZAYRE. Zayre Corp. SN 339,522. Pub. 5–26–70. Filed 10–2–69.

Service Marks

Class 100 — Miscellaneous

896,578. (See Class 46 for this trademark.)

896,626. AMERICAS CHOICE AND DESIGN. Ernest C. Cassill. SN 294,348. Pub. 5–26–70. Filed 3–28–68.

896,627. READY WORK-FACTOR. Science Management Corporation. MULTIPLE CLASS (Classes 100, 101, and 107). SN 294,860. Pub. 5–26–70. Filed 4–3–68.

896,628. ABBREVIATED WORK-FACTOR. Science Management Corporation. MULTIPLE CLASS (Classes 100, 101, and 107). SN 294,861. Pub. 5–26–70. Filed 4–3–68.

896,629. CHICKEN HUT. Chicken Hut Systems, Inc. SN 301,606. Pub. 5–26–70. Filed 6–28–68.

896,630. AID. Steve S. Brown Publishing Co., Inc. SN 303,269. Pub. 5–26–70. Filed 7–22–68.

896,631. PPC AND DESIGN. Paperboard Packaging Council. SN 311,297. Pub. 5–26–70. Filed 11–4–68.

896,632. MISCELLANEOUS DESIGN. The Frank Lloyd Wright Foundation. MULTIPLE CLASS (Classes 100 and 107). SN 317,793. Pub. 5–26–70. Filed 1–29–69.

896,633. DATALEASE. Frederick Electronics Corporation. SN 319,156. Pub. 5–26–70. Filed 2–14–69.

896,634. ASK YOUR NEIGHBOR. Genovese Drug Stores, Inc. SN 320,586. Pub. 5–26–70. Filed 3–3–69.

896,635. GROTESQUE OF A MAN AND STRAW HAT (DESIGN). The Straw Hat Restaurant Corporation, by change of name and merger from The Straw Hat Restaurant Corporation. SN 322,000. Pub. 5–26–70. Filed 3–17–69.

896,636. THE ORIGINAL LEONARD'S PIT BARBECUE AND DESIGN. Leonard's Pit Barbecue, Inc. SN 326,659. Pub. 5–26–70. Filed 5–7–69.

896,637. HOMESTEAD AND DESIGN. Benjamin E. Hodgin. SN 326,877. Pub. 5–26–70. Filed 5–9–69.

896,638. PERMA MARC. National Pet Registration Center, Inc. SN 327,291. Pub. 5–26–70. Filed 5–14–69.

896,639. AIS. Automated Information Systems, Inc. MULTIPLE CLASS (Classes 100 and 101). SN 328,001. Pub. 5–26–70. Filed 5–22–69.

896,640. BACHELORS III. Monday Night Inc., d.b.a. Bachelors III. SN 335,889. Pub. 5–26–70. Filed 8–21–69.

896,641. INFOTON AND DESIGN. Infoton, Incorporated. MULTIPLE CLASS (Classes 100 and 101). SN 339,675. Pub. 5–26–70. Filed 10–3–69.

896,642. INFOTON. Infoton, Incorporated. MULTIPLE CLASS (Classes 100 and 101). SN 339,677. Pub. 5–26–70. Filed 10–3–69.

896,643. DIAL-A-HOROSCOPE. Dial-A-Horoscope, Incorporated. SN 340,911. Pub. 5–26–70. Filed 10–16–69.

896,644. DILLY SHOPS AND DESIGN. Dilly Shops, Inc. SN 348,911. Pub. 5–26–70. Filed 1–19–70.

896,645. PEGITY'S AND DESIGN. Arby's, Inc. SN 350,545. Pub. 5-26-70. Filed 2-5-70.

896,646. SPATS (DESIGN). Restaurant Associates Industries, Inc. SN 351,877. Pub. 5-26-70. Filed 2-20-70.

896,647. HICKORY BELL. Taco Bell, Inc. SN 352,577. Pub. 5-26-70. Filed 2-27-70.

Class 101 — Advertising and Business

896,627. (See Class 100 for this trademark.)

896,628. (See Class 100 for this trademark.)

896,639. (See Class 100 for this trademark.)

896,641. (See Class 100 for this trademark.)

896,642. (See Class 100 for this trademark.)

896,648. IMAGINACTION. Exhibits, Inc. SN 289,495. Pub. 5-26-70. Filed 1-24-68.

896,649. SEAFOAME AND DESIGN. Seafoame Corporation. SN 293,644. Pub. 5-26-70. Filed 3-19-68.

896,650. QUICK AS THE DEVIL AND DESIGN. Quick Print Shops, Inc. SN 308,531. Pub. 5-26-70. Filed 9-30-68.

896,651. SCE MAP (DESIGN). SCE Personnel Services, Inc. SN 311,305. Pub. 5-26-70. Filed 11-4-68.

896,652. TURTLE CREEK AND TURTLE (DESIGN). Turtle Creek Management, Inc. SN 313,619. Pub. 5-26-70. Filed 12-4-68.

896,653. INSTA-SEARCH. Max Leach, Jr., d.b.a. Insta-Search International Agency. SN 317,070. Pub. 5-26-70. Filed 1-21-69.

896,654. 7-ELEVEN. The Southland Corporation. SN 323,138. Pub. 5-26-70. Filed 3-28-69.

896,655. FILL-N-WASH. Fill-N-Wash Centers of America, Inc. SN 325,657. Pub. 5-26-70. Filed 4-28-69.

896,656. CAR-NETT. Southeast Toyota Distributors, Inc. SN 328,358. Pub. 5-26-70. Filed 5-26-69.

896,657. JETSERV. Arthur S. Kranzley and Company Incorporated. SN 328,706. Pub. 5-26-70. Filed 5-29-69.

896,658. CLOVER FARM. Clover Farm Stores Corporation. SN 328,819. Pub. 5-26-70. Filed 6-2-69.

896,659. SAVE WAY AND SCISSORS (DESIGN). Save Way Barber and Beauty Supplies, Inc. SN 329,943. Pub. 5-26-70. Filed 6-13-69.

896,660. ON THE SPOT AND DESIGN. John P. McCormick. SN 330,609. Pub. 5-26-70. Filed 6-20-69.

896,661. MORNING FRESH. Morning Fresh Dairy, Inc. SN 334,278. Pub. 5-26-70. Filed 8-4-69.

896,662. RAFT. Upper Midwest Research and Development Council and Citizens League. SN 341,343. Pub. 5-26-70. Filed 10-22-69.

896,663. SUNSHINE'S. Robert Sunshine, d.b.a. Sunshine's Trees. SN 342,375. Pub. 5-26-70. Filed 11-3-69.

896,664. SUNLIGHTING SYSTEMS. Sunlighting Systems, Inc. SN 345,426. Pub. 5-26-70. Filed 12-5-69.

896,665. IDC AND DESIGN. IDC, Inc., d.b.a. IDC Real Estate Brokers. SN 346,562. Pub. 5-26-70. Filed 12-18-69.

896,666. FAIRCO DRUG. Fairco Drug, Inc. SN 348,208. Pub. 5-26-70. Filed 1-12-70.

896,667. CHILD WORLD AND DESIGN. Child World, Inc. SN 348,829. Pub. 5-26-70. Filed 1-19-70.

896,668. VANGUARD. Melville Shoe Corporation. SN 350,032. Pub. 5-26-70. Filed 1-30-70.

896,669. COMPUMARKETING MEANS BUSINESS. Compumarketing Services Corporation. SN 350,177. Pub. 5-26-70. Filed 2-2-70.

896,670. A.C.T. A.C.T. Tax Service, Inc. SN 350,413. Pub. 5-26-70. Filed 2-4-70.

896,671. ADP AND DESIGN. Automatic Data Processing, Inc. SN 350,667. Pub. 5-26-70. Filed 2-6-70.

Class 102 — Insurance and Financial

896,672. AUTOCERT. Southern Home Insurance Company. SN 319,206. Pub. 5-26-70. Filed 2-14-69.

896,673. HOMESURE MATIC. Southern Home Insurance Company. SN 319,207. Pub. 5-26-70. Filed 2-14-69.

896,674. CONVENIENT PURCHASE PAYMENT PLAN, AND DESIGN. Capital Finance Corporation. SN 350,805. Pub. 5-26-70. Filed 2-9-70.

Class 103 — Construction and Repair

896,675. CESSNA. The Cessna Aircraft Company. SN 320,432. Pub. 5-26-70. Filed 3-3-69.

896,676. CONDO-MAXIMUM. Irving Z. Mann. SN 325,765. Pub. 5-26-70. Filed 4-28-69.

896,677. MLS (DESIGN). Montecito Manufacturing Company. SN 327,655. Pub. 5-26-70. Filed 5-19-69.

896,678. MISSION LINEN SUPPLY AND BUILDING DESIGN (COMPLETE). Montecito Manufacturing Company, SN 327,661. Pub. 5-26-70. Filed 5-19-69.

Class 106 — Material Treatment

896,679. UNTED FILM CLUB, INC. AND DESIGN. United Film Club, Inc. SN 298,372. Pub. 5-26-70. Filed 5-16-68.

Class 107 — Education and Entertainment

896,627. (See Class 100 for this trademark.)

896,628. (See Class 100 for this trademark.)

896,632. (See Class 100 for this trademark.)

896,680. DRIVE SAFE SYSTEMS AND DESIGN. Drive Safe Systems, Inc. SN 297,853. Pub. 5-26-70. Filed 5-10-68.

896,681. IN-GROUP STUDIOS. General Music Corporation, assignee of Elliott Associates, Inc. SN 299,010. Pub. 5-26-70. Filed 5-24-68.

896,682. VPI. Viatron Programming, Inc. SN 302,161. Pub. 5-26-70. Filed 7-5-68.

896,683. GPF AND DESIGN. Irene Webb, d.b.a. Gymnastics for Physical Fitness. SN 303,210. Pub. 5-26-70. Filed 7-19-68.

896,684. MID-AMERICA MAJORETTE ASSOC. AND DESIGN. Mid-America Majorette Association, Inc. SN 318,081. Pub. 5-26-70. Filed 1-31-69.

Certification Mark

Class A — Goods

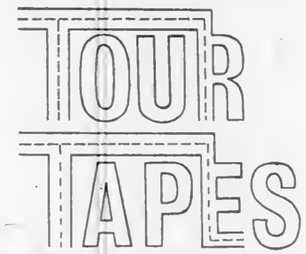
896,685. INTER RADIA AND DESIGN. Inter-Radia Services Association. SN 303,530. Pub. 5-26-70. Filed 7-24-68.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 36 — Musical Instruments and Supplies

896,686. Algerson Enterprises, Inc., Baltimore, Md. SN 326,492. Filed P.R. 5-6-69; Am. S.R. 2-27-70.



For Prerecorded Magnetic Tapes (Int. Cl. 9).
First use Feb. 15, 1968.

Class 38 — Prints and Publications

896,687. Texas Commerce Bank National Association, Houston, Tex., by change of name from Texas National Bank of Commerce of Houston, Houston, Tex. SN 339,106. Filed P.R. 9-29-69; Am. S.R. 4-17-70.

HOUSTON FACTS & FIGURES

For Magazines (Int. Cl. 16).
First use Mar. 15, 1968.

Class 46 — Foods and Ingredients of Foods

896,688. Leedpak, Incorporated, Lebanon, Pa. SN 296,329. Filed P.R. 4-23-68; Am. S.R. 6-2-69.



For Non-Dairy Substitute for Milk or Cream (Int. Cl. 29).
First use Dec. 1, 1967.

Class 103 — Construction and Repair

896,689. Kirchdorfer & Howell, Inc., Louisville, Ky. SN 328,864. Filed P.R. 6-2-69; Am. S.R. 5-8-70.

THE BITTERNESS OF POOR QUALITY KILLS THE SWEETNESS OF LOW PRICE

For Painting Services (Int. Cl. 37).
First use 1950.

TRADEMARK REGISTRATIONS RENEWED

77,683. SCARLET KING AND REPRESENTATION OF BIRD. Cl. 46 (Int. Cls. 29, 30, and 31). 4-26-10.
77,811. HOPE. Cl. 37 (Int. Cl. 16). 5-10-10.
77,862. F. & W. Cl. 13 (Int. Cl. 6). 5-10-10.
77,982. BESSON. Cl. 36 (Int. Cl. 15). 5-24-10.
78,944. APEXIOR. Cl. 16 (Int. Cl. 2). 7-26-10.
79,877. PRODUCERS. Cl. 37 (Int. Cl. 16). 10-11-10.
269,339. VELOTEX. Cl. 46 (Int. Cl. 29). 4-1-30.
269,753. MEDINAL. Cl. 18 (Int. Cl. 5). 4-15-30.
269,754. UROTROPIN. Cl. 18 (Int. Cl. 5). 4-15-30.
270,416. "FACEL" AND DESIGN. Cl. 37 (Int. Cl. 16). 5-6-30.
270,971. FLEISCHMANN'S. Cl. 46 (Int. Cl. 30). 5-20-30.
271,167. GM. Cl. 21 (Int. Cl. 9). 5-27-30.
271,192. ROLLEIFLEX. Cl. 26 (Int. Cl. 9). 5-27-30.
271,456. DIAMOND. Cl. 2 (Int. Cl. 21). 6-3-30.
271,534. "GE" AND DRAWING. Cl. 50 (Int. Cl. 17). 6-10-30.
272,424. "DUREX PRODUCTS INC." AND DESIGN. Cl. 44 (Int. Cl. 10). 7-8-30.
272,523. PARAMOUNT. Cl. 43 (Int. Cl. 23). 7-8-30.
272,633. "GOLDEN ROD" AND REPRESENTATION OF PLANT. (Cl. 46 (Int. Cl. 31). 7-8-30.
273,181. "S" AND REPRESENTATION OF ANCHOR. Cl. 52 (Int. Cl. 3). 7-22-30.
273,198. HOTSUDS SOAP 2011. Cl. 52 (Int. Cl. 3). 7-22-30.
274,718. NEOBOVININE 20. Cl. 18 (Int. Cl. 5). 9-2-30.
275,251. SELBATEX. Cl. 12 (Int. Cls. 19 and 27). 9-16-30.
275,466. STERILO. Cl. 6 (Int. Cl. 1). 9-23-30.
276,001. "KOWAXO" ETC. AND DESIGN. Cl. 6 (Int. Cl. 3). 10-7-30.
277,220. "RED HEART" AND DRAWING. Cl. 12 (Int. Cl. 19). 11-11-30.
443,836. TREASURE-STICK. Cl. 51 (Int. Cl. 3). 3-14-50.
443,906. ST. PATRICK'S TWEED AND DESIGN. Cl. 42 (Int. Cl. 24). 4-11-50.
443,943. ALTEPOS. Cl. 18 (Int. Cl. 5). 4-25-50.
443,997. RED OVAL WREATH (DESIGN). Cl. 46 (Int. Cl. 29). 5-23-50.
444,001. WOOD OF TEXAS. Cl. 39 (Int. Cl. 25). 5-30-50.
444,220. STIK-GUM. Cl. 6 (Int. Cl. 1). 9-12-50.
444,233. TRIPLE AAA. Cl. 12 (Int. Cl. 19). 9-19-50.
521,237. PARAGON REVERSE AND REDUCTION GEARS. Cl. 23 (Int. Cl. 7). 2-21-50.
521,342. EVERSOFT. Cl. 46 (Int. Cl. 30). 2-21-50.
521,386. GEORG JENSEN INC. AND DESIGN. Cl. 51 (Int. Cl. 3). 2-28-50.
521,632. GRINDTEX. Cl. 15 (Int. Cl. 4). 2-28-50.
521,920. DIXIANA. Cl. 46 (Int. Cls. 29 and 31). 3-7-50.
522,052. SOFDDO. Cl. 46 (Int. Cl. 30). 3-7-50.
522,109. HAMPTON. Cl. 39 (Int. Cl. 25). 3-14-50.
522,192. DE CISCO. Cl. 46 (Int. Cl. 29). 3-14-50.
522,283. CLOUDKIST. Cl. 46 (Int. Cls. 29 and 31). 3-14-50.
522,465. SPOKSTEEL. Cl. 19 (Int. Cl. 12). 3-14-50.
522,977. KNO-DRAFT DIFFUSER. Cl. 34 (Int. Cl. 11). 3-28-50.
522,989. ALLADDIN. Cl. 21 (Int. Cl. 11). 3-28-50.
522,990. ALLADDIN. Cl. 21 (Int. Cl. 11). 3-28-50.
523,210. FLO-MULS. Cl. 46 (Int. Cl. 30). 3-28-50.
523,568. GOLD NOTE AND DESIGN. Cl. 46 (Int. Cl. 29). 4-4-50.
523,744. WELD MASTER. Cl. 50 (Int. Cls. 6 and 20). 4-11-50.
524,289. GEORG JENSEN INC. AND DESIGN. Cl. 33 (Int. Cl. 21). 4-25-50.
525,035. SLEEPY-BYE. Cl. 39 (Int. Cl. 25). 5-9-50.
525,037. ATLAS STORM GRIP AND DESIGN. Cl. 35 (Int. Cl. 12). 5-9-50.
525,083. LYO. Cl. 18 (Int. Cl. 5). 5-9-50.
525,360. CELLHORMONE. Cl. 51 (Int. Cl. 3). 5-16-50.
525,534. EVALEN. Cl. 18 (Int. Cl. 5). 5-23-50.
525,536. SEAL OF AHA. Cl. 107 (Int. Cl. 41). 5-23-50.

525,593. RINGLOCK. Cl. 23 (Int. Cl. 7). 5-30-50.
525,743. SILVER LEAF AND DESIGN. Cl. 46 (Int. Cl. 1). 5-30-70.
526,686. "ACRA-CUT." Cl. 15 (Int. Cl. 4). 6-20-50.
526,824. ALEXON. Cl. 39 (Int. Cl. 25). 6-27-50.
527,045. CHOC TREAT. Cl. 45 (Int. Cl. 32). 6-27-50.
527,062. ATOMIC BALM. Cl 18 (Int. Cl. 5). 7-4-50.
527,069. DUOASPIRATOR. Cl. 23 (Int. Cl. 7). 7-4-50.
527,330. HABLEMOS. Cl. 38 (Int. Cl. 16). 7-4-50.
527,337. THE BULL DOGGER. Cl. 39 (Int. Cl. 25). 7-4-50.
527,388. PUSSY WILLOW. Cl. 42 (Int. Cl. 24). 7-4-50.
527,475. "MOST H.P. HOURS WISCONSIN HEAVY DUTY AIR-COOLED ENGINES" CLOCK AND HORSE (DESIGN). Cl. 23 (Int. Cl. 7). 7-11-50.
527,775. TRA-COR-CHEK. Cl. 44 (Int. Cl. 10). 7-18-50.
528,055. FORSTER. Cl. 23 (Int. Cl. 8). 7-25-50.
528,234. BRITE STAR. Cl. 50 (Int. Cl. 28). 8-1-50.
528,236. G IN DIAMOND. Cl. 28 (Int. Cl. 14). 8-1-50.
528,364. MAGIC. Cl. 4 (Int. Cl. 16). 8-1-50.
528,372. MAGNISET. Cl. 28 (Int. Cl. 14). 8-1-50.
528,461. LE CULTRA. Cl. 28 (Int. Cl. 14). 8-1-50.
528,900. SUPER SPEED. Cl. 23 (Int. Cl. 8). 8-8-50.
529,0[illegible]. THE WORTMORE SHOE AND DESIGN. Cl. 39 (Int. Cl. 25). 8-15-50.
529,108. SKYDRO. Cl. 6 (Int. Cl. 1). 8-15-50.
529,110. SKYTROL. Cl. 6 (Int. Cl. 1). 8-15-50.
529,152. LARCLIFF. Cl. 26 (Int. Cl. 9). 8-15-50.
529,208. CHROMTAR. Cl. 26 (Int. Cl. 9). 8-15-50.
529,357. AMBASSADOR. Cl. 23 (Int. Cl. 16). 8-22-50.
529,423. FOSTORIA AND DESIGN. Cl. 8 (Int. Cl. 34). 8-22-50.
529,534. TUFTOE. Cl. 39 (Int. Cl. 25). 8-22-50.
529,565. GOLDEN HARVEST. Cl. 28 (Int. Cl. 14). 8-22-50.
530,631. SALON. Cl. 1 (Int. Cl. 31). 9-12-50.
529,677. BLACK BEAR AND DESIGN. Cl. 46 (Int. Cl. 31). 8-29-50.
529,691. BROOKINS. Cl. 2 (Int. Cl. 21). 8-29-50.
529,764. DELLBURY. Cl. 39 (Int. Cl. 25). 8-29-50.
529,869. CRINKLE CUPS AND DESIGN. Cl. 2 (Int. Cls. 21 and 16). 8-29-50.
529,972. LEWISPUN. Cl. 39 (Int. Cl. 25). 8-29-50.
530,268. SEISMEX. Cl. 9 (Int. Cl. 13). 9-5-50.
530,289. EXORBIN. Cl. 18 (Int. Cl. 5). 9-5-50.
530,348. EQUINEX. Cl. 18 (Int. Cl. 5). 9-5-50.
530,481. YALE. Cl. 44 (Int. Cls. 9 and 10). 9-12-50.
530,483. PRESSTITE. Cl. 35 (Int. Cl. 6). 9-12-50.
530,555. ALLSTATE. Cl. 15 (Int. Cl. 4). 9-12-50.
530,628. MONOFAST. Cl. 6 (Int. Cl. 2). 9-12-50.
530,732. MISCELLANEOUS DESIGN. Cl. 100 (Int. Cl. 42). 9-12-50.
531,005. MARSH. Cl. 23 (Int. Cl. 7). 9-19-50.
531,092. "KEARNEY & TRECKER MILWAUKEE" AND DESIGN. Cl. 23 (Int. Cl. 7). 9-19-50.
531,159. DUN'S. Cl. 38 (Int. Cl. 16). 9-26-50.
531,178. CONTINENTAL. Cl. 42 (Int. Cl. 24). 9-26-50.
531,478. ARIPERM. Cl. 6 (Int. Cl. 1). 10-3-50.
531,679. BITUCOTE. Cl. 12 (Int. Cl. 19). 10-10-50.
531,833. ELECTROLUX. Cl. 21 (Int. Cl. 9). 10-10-50.
532,251. PERMANENTE. Cl. 12 (Int. Cl. 19). 10-17-50.
532,519. LAUREL. Cl. 38. 10-24-50.
532,648. FOOD MILL. Cl. 23 (Int. Cl. 23). 10-31-50.
532,659. FRANK'S. Cl. 46 (Int. Cls. 29 and 32). 10-31-50.
532,772. COLORTREAD. Cl. 16 (Int. Cl. 2). 10-31-50.
533,000. INTERNATIONAL. Cl. 21 (Int. Cl. 9). 11-7-50.
533,198. CROWN. Cl. 21 (Int. Cl. 9). 11-7-50.
533,242. PERMANENTE. Cl. 10 (Int. Cl. 1). 11-7-50.
533,243. "MUMM'S THE WORD." Cl. 47 (Int. Cl. 33). 11-7-50.
533,293. MC KEM. Cl. 39 (Int. Cl. 25). 11-14-50.
533,322. MANCHESTER. Cl. 16 (Int. Cls. 2, 3, and 4). 11-14-50.
533,328. KING'S ROYAL COLLECTION OF FINE CHOCOLATE. Cl. 46 (Int. Cl. 30). 11-14-50.
533,424. SMOKE SHOP. Cl. 23 (Int. Cl. 9). 11-14-50.
533,460. CAROLINA BELLE. Cl. 39 (Int. Cl. 25). 11-14-50.
533,473. PRO-TEK-TIV. Cl. 39 (Int. Cl. 25). 11-14-50.
533,519. GRAVY QUIK. Cl. 46 (Int. Cl. 30). 11-14-50.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

500,599. FORRELL. Cl. 42. 6-8-48.

Section 8

744,798. OUTLINE OF A HEART IN THE LETTER M. Cl. 28. 2-5-63.
747,833. SUPER "C.M." AND DESIGN. Cl. 23. 4-9-63.
749,085. WLS. Cl. 28. 5-7-63.
749,290. META-MOLD. Cl. 12. 5-14-63.
749,623. GREETING CARD-TAINERS. Cl. 6. 5-21-63.
750,581. TRANSFOIL. Cl. 37. 6-4-63.
750,600. MR. BOB. Cl. 39. 6-4-63.
751,023. FROSTOP. Cl. 100. 6-11-63.
751,208. POCKET-GYM. Cl. 22. 6-18-63.
751,642. LAUNDRY-MATE. Cl. 24. 6-25-63.
751,841. TRANSENE. Cl. 52. 6-25-63.
769,683. ROGUE. Cl. 51. 5-12-64.

The following registrations issued June 23, 1964

771,654. SPARKLE NO. 6. Cl. 1.
771,655. GLOW-CORE. Cl. 1.
771,662. DISPOZIT. Cl. 2.
771,664. WISP. Cl. 4.
771,690. O AND DESIGN. Cl. 9.
771,691. OHIO BLUE TIP O AND DESIGN. Cl. 9.
771,695. SUPERIOR PORTLAND CEMENT OBOURG AND DESIGN. Cl. 12.
771,697. TRU-BOND. Cl. 12.
771,698. ADJUST-O VINYL. Cl. 12.
771,703. GLOW-CORE. Cl. 12.
771,704. DU-KAST AND DESIGN. Cl. 12.
771,707. DUO-VINA. Cl. 12.
771,709. TYLERTILT AND DESIGN. Cl. 12.
771,710. CON-CRYSTA. Cl. 12.
771,715. ROLLSIDE. Cl. 12.
771,717. ADJUST-O VINYL. Cl. 13.
771,725. CLEADE. Cl. 13.
771,729. ELIMINATE THE RISK—USE THERM-O-DISC AND DESIGN. Cl. 13.
771,733. TIDY HOME AND DESIGN. Cl. 14.
771,738. FLAME (DESIGN). Cl. 15.
771,740. JET FLAME AND DESIGN. Cl. 15.
771,741. B/4. Cl. 15.
771,747. ARO/GLAZE. Cl. 16.
771,759. LIV-RITE. Cl. 18.
771,760. ATTAPECTATE. Cl. 18.
771,761. ENDERM. Cl. 18.
771,770. MULTIBRON. Cl. 18.
771,775. HS 35. Cl. 18.
771,777. PROLERGIC. Cl. 18.
771,779. ESKARESE. Cl. 18.
771,780. CELESTAFORM. Cl. 18.
771,782. GRAVICAL. Cl. 18.
771,783. GRAVIMINE. Cl. 18.
771,787. WENGER BANDWAGON AND DESIGN. Cl. 19.
771,788. DYNA-MITE. Cl. 19.
771,792. LOK-MOBILE. Cl. 19.
771,793. GRASSBUGGY. Cl. 19.
771,798. PAGEFONE. Cl. 21.
771,800. SEL-A-RAMA. Cl. 21.
771,802. TEACO. Cl. 21.
771,810. CLIFF DWELLER. Cl. 21.
771,813. HOKEY POKEY. Cl. 22.
771,814. ALL AMERICAN AND DESIGN. Cl. 22.
771,820. BOTTOMS UP. Cl. 22.
771,824. ALONE BARNES CLOSED CIRCUIT AND DESIGN. Cl. 23.
771,826. JET-AIR. Cl. 23.
771,827. MURALMASTER. Cl. 23.
771,828. IMEA. Cl. 23.
771,832. DRI-PAK. Cl. 23.
771,837. LIQUORMATIC. Cl. 23.
771,839. FONTAN. Cl. 23.
771,840. A AND DESIGN. Cl. 23.
771,841. THE ARLO CRANE AND DESIGN. Cl. 23.

771,850. PANASEW. Cl. 23.
771,856. PHASETRONIK. Cl. 26.
771,857. COMPOSITAPE. Cl. 26.
771,862. PASS MASTER. Cl. 26.
771,871. FAV. Cl. 28.
771,873. SKOOLY. Cl. 28.
771,878. ATTAFLO. Cl. 31.
771,881. MAYFAIR. Cl. 32.
771,884. ANNIVERSARY CONCERTO 75. Cl. 32.
771,888. WAV. Cl. 34.
771,899. DIP-N-HANG. Cl. 37.
771,908. SYNDIVIDUAL. Cl. 38.
771,910. CLING-EVER. Cl. 39.
771,913. BILLIE LEBOW. Cl. 39.
771,915. RAINTIMER. Cl. 39.
771,919. SS (FANCIFUL) AND DESIGN. Cl. 39.
771,922. CAIRNGORM. Cl. 39.
771,925. RAINETTE. Cl. 39.
771,926. HEATHGATE. Cl. 39.
771,929. HIP-ZIP. Cl. 39.
771,931. PANTSWEATER. Cl 39.
771,933. MT. TOP AND DESIGN. Cl. 39.
771,937. POWER SLEEVE. Cl. 39.
771,939. FURBELOW. Cl. 39.
771,941. POLAR GUARD AND DESIGN. Cl. 39.
771,944. LADY BASCOM. Cl. 39.
771,948. TWETER. Cl. 39.
771,950. PILGRIM'S PRIDE. Cl. 42.
771,956. MONO-TACHE. Cl. 42.
771,957. RUGMASTER. Cl. 42.
771,958. MELO-GLO. Cl. 42.
771,961. SUPERMA BRUSHWAVE. Cl. 44.
771,967. RECTALATOR. Cl. 44.
771,972. NJAM-NJAM. Cl. 46.
771,974. CHOCOROUND. Cl. 46.
771,975. VITEXTURE. Cl. 46.
771,979. BEEVILLE. Cl. 46.
771,983. YOUR HICKORY HOST AND DESIGN. Cl. 46.
771,996. BETTY LOU. Cl. 46.
772,006. COCKTAIL PARTY. Cl. 49.
772,009. HOUSE-BOY. Cl. 50.
772,010. TEACHER'S PAL. Cl. 50.
772,013. "FORM-ALLY YOURS." Cl. 50.
772,014. FLASH-O-LANTERN. Cl. 50.
772,015. PORTA-PAINTER. Cl. 50.
772,016. BRUSHWAVE. Cl. 51.
772,018. THE COUNT. Cl. 51.
772,027. NCAS. Cl. 101.
772,030. IPR. Cl. 101.
772,034. KEYSTONE AND DESIGN. Cl. 102.
772,035. KEYSTONE (DESIGN). Cl. 102.
772,036. GROUTWALL AND DESIGN. Cl. 103.
772,039. HERTZ 3-R. Cl. 105.
772,040. DISTRICT PHOTO SUPPLY AND DESIGN. Cl. 106.

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743,270. FILM X-10. Cl. 15. 1-8-63.
758,317. FILM X-21. Cl. 15. 10-15-63.
758,318. FILM X-28DTH. Cl. 15. 10-15-63.
830,395. SAFE T PLUG AND DESIGN. Cl. 21. 6-13-67.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

321,984. BELMONT AND DESIGN. Cl. 35. 2-19-35. The Belmont Packing & Rubber Company. Garlock Inc., Palmyra, N.Y. Amended: In the statement, column 2, lines 3 and 4 are deleted, and the drawing is amended to appear:



661,670. BELMONT AND DESIGN. Cl. 35. 5-13-58. The Belmont Packing & Rubber Company. Garlock Inc., Palmyra, N.Y. Amended: In the statement, column 2, lines 7 and 8 are deleted, and the drawing is amended to appear:



750,903. THE WEATHER BOY. Cl. 38. 6-11-63. Francis & Lusky Co., Nashville, Tenn. Corrected: In the statement, column 1, line 1, "Company" should be deleted and *Co.* should be inserted.

750,904. HOT FAIR STORMY ETC. AND DESIGN. Cl. 38. 6-11-63. Francis & Lusky Co., Nashville, Tenn. Corrected: In the statement, column 1, line 1, "Company" should be deleted and *Co.* should be inserted.

801,231. AEROBAC. Cl. 19. 1-4-66. Societe Bertin & Co., Paris, France. Amended: In the statement, column 1, after line 3, *, now located at Rue Pierre Curie, Plaisir (Yvelines), France* is inserted.

843,592. NAVIPLANE. Cl. 19. 2-6-68. Bertin et Compagnie, Paris, France. Amended: In the statement, column 1, after line 3, *, now located at Rue Pierre Curie, Plaisir (Yvelines), France* is inserted.

855,919. WING ARCHERY AND COMPANY (DESIGN). Cl. 22. 9-3-68. Wing Archery Company. Head Ski Company, Inc., Timonium, Md. Amended: In the statement, column 2, lines 8 and 9 are deleted, and the drawing is amended to appear:



875,021. POLYGRAN. Cl. 18. 8-19-69. Keimdiat G.m.b.H., Augsburg, Germany. Corrected: In the statement, column 1, line 1, "Keim-Diat" should be deleted and *Keimdiat* should be inserted.

883,441. MANOR HOUSE. Cl. 46. 12-30-69. National Dairy Products Corporation. Kraftco Corporation, Chicago, Ill. Amended: In the statement, column 2, line 2, "salad oil; margarine; cheese;" is deleted and in lines 4 through 6, "chocolate flavored ice cream toppings; refrigerated fresh fruit salad; refrigerated orange juice;" is deleted.

891,468. JET-O-MATIC. Cl. 13. 5-26-70. Monogram Industries, Inc., Los Angeles, Calif. Corrected: In the statement, column 2, lines 1 and 2, ", electrically operated, portable" should be deleted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

631,079. HANDI CHARGE AND DESIGN. Cl. 101. The Plainfield Trust Company. 7–17–56. New Cert. Sec. 7(c) to United National Bank of Central Jersey, Plainfield, N.J.

746,760. UNI-CARD AND DESIGN. Cl. 102. Uni-Serv Corporation. 3–12–63. New Cert. Sec. 7(c) to The Chase Manhattan Bank, N.A., New York, N.Y.

747,072. UNI-CARD AND DESIGN. Cl. 102. Uni-Serv Corporation. 3–19–63. New Cert. Sec. 7(c) to The Chase Manhattan Bank, N.A., New York, N.Y.

775,631. FORDRIN. Cl. 14. Fort Wayne Metals, Inc. 8–25–64. New Cert. Sec. 7(c) to Sylvania Electric Products Inc., New York, N.Y.

806,516. UNI-CARD. Cl. 102. Uni-Serv Corporation. 3–29–66. New Cert. Sec. 7(c) to The Chase Manhattan Bank, N.A., New York, N.Y.

823,519. UNI-SURANCE. Cl. 102. Uni-Serv Corporation. 1–31–67. New Cert. Sec. 7(c) to The Chase Manhattan Bank, N.A., New York, N.Y.

856,738. UNI-SERV. Cl. 102. Uni-Serv Corporation. 9–10–68. New Cert. Sec. 7(c) to The Chase Manhattan Bank, N.A., New York, N.Y.

868,740. NUTRETS. Cl. 46. Mark Morris Associates, assignee of Mar-Ko Company. 4–29–69. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.

868,742. FELINE (DESIGN). Cl. 46. Mark Morris Associates, assignee of Mar-Ko Company. 4–29–69. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.

868,743. MARMOSET (DESIGN). Cl. 46. Mark Morris Associates, assignee of Mar-Ko Company. 4–29–69. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.

868,744. PRIMATE (DESIGN). Cl. 46. Mark Morris Associates, assignee of Mar-Ko Company. 4–29–69. New Cert. Sec. 7(c) to Riviana Foods Inc., Houston, Tex.

871,809. UNI-VERSE. Cl. 38. Uni-Serv Corporation. 6–24–69. New Cert. Sec. 7(c) to The Chase Manhattan Bank, N.A., New York, N.Y.

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(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

A.C.T. Tax Service, Inc., Chicago Heights, Ill. 896,670, pub. 5–26–70. Cl. 101.
A.T.U. Productions, Inc., New York, N.Y. 771,908, canc. Cl. 38.
Abercromble & Fitch Co., New York, N.Y. 896,406, pub. 5–26–70. Cl. 22.
Aberfoyle Mfg. Co., New York, N.Y. 771,948, canc. Cl. 39.
Aindbrooke Corp., New York, N.Y. 750,600, canc. Cl. 39.
Algerson Enterprise, Inc., Baltimore, Md. 896,686. Cl. 36.
Alladin Industries, Inc., Nashville, Tenn. 522,989–90, ren. 8–11–70. Cl. 21.
Allied Chemical Corp., New York, N.Y. 273,181, ren. 8–11–70. Cl. 52.
Aluminum Goods Ltd., Toronto, Ontario, Canada. 896,359, pub. 5–26–70. Cl. 19.
American Coolair Corp., Jacksonville, Fla. 896,500–1, pub. 5–26–70. Cl. 34.
American Cyanamid Co., Wayne, N.J. 896,287, pub. 5–26–70. Cl. 6.
American District Telegraph Co., New York, N.Y. 896,385, pub. 5–26–70. Cl. 21.
American Greetings Corp., Cleveland, Ohio. 532,519, canc. Cl. 38.
American Greetings Corp., Cleveland, Ohio. 896,526, pub. 4–7–70. Cl. 38.
American Greetings Corp., Cleveland, Ohio. 896,536, pub. 5–26–70. Cl. 38.
American Home Products Corp., New York, N.Y. 274,718, ren. 8–11–70. Cl. 18.
American Home Products Corp., New York, N.Y. 530,289, ren. 8–11–70. Cl. 18.
American Home Products Corp., New York, N.Y. 530,348, ren. 8–11–70. Cl. 18.
American Home Products Corp., New York, N.Y. 896,348, pub. 5–26–70. Cl. 18.
American Hospital Association, Chicago, Ill. 525,536, ren. 8–11–70. Cl. 107.
American Molded Products, Ltd., Sausalito, Calif. 896,412, pub. 5–26–70. Cl. 22.
American Photocopy Equipment Co., Evanston, Ill. 896,361–4, pub. 5–26–70. Cl. 19.
Ames Metal Moulding Co., Inc., Saddle Brook, N.J. 771,698, canc. Cl. 12.
Ames Metal Moulding Co., Inc., Saddle Brook, N.J. 771,717, canc. Cl. 13.
Anaconda American Brass Co., Waterbury, Conn. 530,483, ren. 8–11–70. Cl. 35.
Anderson, Vincent, d.b.a. Beacon Engineering Co. of Minn., Moorhead, Minn. 896,441, pub. 5–26–70. Cl. 23.
Ansul Co., The, Marinette, Wis. 896,290, pub. 5–26–70. Cl. 6.
Apter Industries, Inc., McKeesport, Pa. 896,277, pub. 5–26–70. Multiple Class (Classes 6 and 52).
Aquasonics Inc., Rochester, N.Y. 896,365, pub. 5–26–70. Cl. 19.
Arby's Inc., Youngstown, Ohio. 896,645, pub. 5–26–70. Cl. 100.
Archer, A. W., Co. Inc., Williston Park, N.Y. 272,523, ren. 8–11–70. Cl. 43.
Arden, Elizabeth, Sales Corp., d.b.a. Elizabeth Arden, New York, N.Y. 896,612–13, pub. 5–26–70. Cl. 51.
Argus Press, Inc., Chicago, Ill. 896,523, pub. 5–26–70. Cl. 38.
Arkansas Co., Inc., Newark, N.J. 531,478, ren. 8–11–70. Cl. 6.
Arlo Industries, Inc., Mount Vernon, N.Y. 771,840–1, canc. Cl. 23.
Atlantic Asphalt & Asbestos, Inc., Stratford, Conn. 444,233, ren. 8–11–70. Cl. 12.
Atlas Supply Co., Springfield, N.J. 525,037, ren. 8–11–70. Cl. 35.
Automated Information Systems, Inc., Edgewater, N.J. 896,639, pub. 5–26–70. Multiple Class (Classes 100 and 101).
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Automatic Products Co., St. Paul, Minn. 533,424, ren. 8–11–70. Cl. 23.
Avco Corp., Tulsa, Okla. 896,360, pub. 5–26–70. Cl. 19.
Aviation Educators Corp., Coral Gables, Fla. 771,862, canc. Cl. 26.
Avon Products, Inc., New York, N.Y. 896,291, pub. 5–26–70. Cl. 6.
Avon Products, Inc., New York, N.Y. 896,616, pub. 5–26–70. Multiple Class (Classes 51 and 52).
B.K.G., Inc., Los Angeles, Calif. 896,463, pub. 5–26–70. Cl. 24.
B.V.D. Co., Inc., The, New York, N.Y. 533,293, ren. 8–11–70. Cl. 39.
Bailey Wall Paper Co., The, Cleveland, Ohio. 771,899, canc. Cl. 37.
Bancroft Racket Co., Pawtucket, R.I. 896,425–26, pub. 5–26–70. Cl. 22.
Bar Zim Toy Mfg. Co., Inc., Jersey City, N.J. 896,414, pub. 5–26–70. Cl. 22.
Barnes, John S., Corp., Rockford, Ill. 771,824, canc. Cl. 23.
Barton Distilling Co., Chicago, Ill. 772,006, canc. Cl. 49.
Basic-Witz Furniture Industries, Inc., Waynesboro, Va. 771,884, canc. Cl. 32.
Bateman Co., Inc., Macon, Ga. 521,920, ren. 8–11–70. Cl. 46.
Bateman Co., Inc., Macon, Ga. 522,283, ren. 8–11–70. Cl. 46.
Bayers, George W., Jr., d.b.a. The Bayers Co., Denver, Colo. 771,837, canc. Cl. 23.
Beacon Products Corp., Newton Highlands, Mass. 896,265, pub. 5–26–70. Cl. 2.
Beatrice Foods Co., Chicago, Ill. 523,568, ren. 8–11–70. Cl. 46.
Becton, Dickinson & Co., East Rutherford, N.J. 530,481, ren. 8–11–70. Cl. 44.
Belindco, Inc., Atlanta, Ga. 771,950, canc. Cl. 42.
Bell & Howell Co., Chicago, Ill. 896,278, pub. 5–26–70. Multiple Class (Classes 6, 21, and 26).
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Belmont Packing & Rubber Co., The. Garlock Inc., Palmyra, N.Y. 661,670. Am. 7(d). Cl. 35.
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Berry Refining Co., Gary, Ind. 771,740, canc. Cl. 15.
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Besson & Co. Ltd., Edgware, England. 77,982, ren. 8–11–70. Cl. 36.
Best Rainwear, Inc., New York, N.Y. 771,915, canc. Cl. 39.
Beta-Valve, Inc., Cleveland, Ohio. 896,310, pub. 5–26–70. Cl. 13.
Binary Systems, Inc., Orinda, Calif. 896,528, pub. 5–26–70. Cl. 38.
Biscayne Mfg. Co. Inc., Hialeah, Fla. 749,623, canc. Cl. 6.
Bitucote Products Co., St. Louis, Mo. 531,679, ren. 8–11–70. Cl. 12.
Blaw-Knox Co., Pittsburgh, Pa. 896,322–3, pub. 5–26–70. Cl. 14.
Blount Marine Corp., Warren, R.I. 896,445, pub. 5–26–70. Cl. 23.
Blue Bell, Inc., Greensboro, N.C. 896,559, pub. 5–26–70. Cl. 39.
Bon Ami Co., The, New York, N.Y. 771,733, canc. Cl. 14.
Boots Pure Drug Co. Ltd., Nottingham, England. 896,339, pub. 5–26–70. Cl. 18.
Bosworth Marine Corp. : *See*—
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Bowes "Seal Fast" Corp., d.b.a. "B/4 Saboratories," Indianapolis, Ind. 771,741, canc. Cl. 15.
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Breddo-Food Products Corp., Inc., Kansas City, Kans. 521,342, ren. 8–11–70. Cl. 46.
Breddo-Food Products Corp. Inc., Kansas City, Kans. 522,052, ren. 8–11–70. Cl. 46.
Breddo-Foods Products Corp., Kansas City, Kans. 523,210, ren. 8–11–70. Cl. 46.
British Paints Ltd., Newcastle-on-Tyne, England. 78,944, ren. 8–11–70. Cl. 16.
Brown, George C., & Co., Inc., Greensboro, N.C. 277,220, ren. 8–11–70. Cl. 12.
Brown, Steve S., Publishing Co., Inc., Lakeport, Calif. 896,630, pub. 5–26–70. Cl. 100.
Buescher's Industries, Inc., Washington, Mo. 896,299, pub. 5–26–70. Cl. 8.
Byron Chain Mfg. Co., Schiller Park, Ill. 896,317, pub. 5–26–70. Cl. 13.
Campus Sweater & Sportswear Co., d.b.a. Sampus Sweater & Sportswear Co., Cleveland, Ohio. 771,937, canc. Cl. 39.
Canadian Hoechst Ltd., Montreal, Quebec, Canada. 896,256, pub. 5–26–70. Cl. 1.
Capital Finance Corp., Columbus, Ohio. 896,674, pub. 5–26–70. Cl. 102.
Capitol Records, Inc., Los Angeles, Calif. 896,512, pub. 5–26–70. Cl. 36.
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Carter-Wallace, Inc., New York, N.Y. 896,618, pub. 5–26–70. Cl. 51.
Cartwheel Records, Inc., Gainsville, Ga. 896,511, pub. 5–26–70. Cl. 36.
Carver Tropical Products, Inc., Muscatine, Iowa. 896,582, pub. 5–26–70. Cl. 46.
Cassili, Ernest C., Pompano Beach, Fla. 896,626, pub. 5–26–70. Cl. 100.
Celanese Corp., New York, N.Y. 896,258, pub. 5–26–70. Cl. 1.
Central Foundry Co., The, New York, N.Y. 77,862, ren. 8–11–70. Cl. 13.
Centromint Co. (Establishment), Vaduz, Liechtenstein. 771,974, canc. Cl. 46.
Cessna Aircraft Co., The, Wichita, Kans. 896,675, pub. 5–26–70. Cl. 103.
Chamberlain Mfg. Corp., d.b.a. Perma-Power Co., Chicago, Ill. 896,381, pub. 5–26–70. Cl. 21.
Charles, Andrea, Sales, Inc., Cherry Hill, N.J. 896,624, pub. 5–26–70. Cl. 52.
Chevron Chemical Co., San Francisco, Calif. 896,302, pub. 12–3–68. Cl. 10.

Chicken Hut Systems, Inc., Fayetteville, Ark. 896,629, pub. 5–26–70. Cl. 100.
Child World, Inc., Avon, Mass. 896,667, pub. 5–26–70. Cl. 101.
Ciments d'Obourg, Societe Anonyme, Obourg, Belgium. 771,695, canc. Cl. 12.
Cities Service Oil Co., Tulsa, Okla. 896,502–3, pub. 5–26–70. Cl. 34.
Clevite Corp., Cleveland, Ohio. 896,382, pub. 5–26–70. Cl. 21.
Clincal Specialties, Inc., Tulsa, Okla. 771,782–3, canc. Cl. 18.
Clover Farm Stores Corp., Cleveland, Ohio. 896,658, pub. 5–26–70. Cl. 101.
Cognitronics Corp., Briarcliff Manor, N.Y. 771,857, canc. Cl. 26.
Colfax Industries, Clifton, N.J. 896,558, pub. 5–26–70. Cl. 39.
Complex (Japan), Ltd., from Arrow International, Ltd., d.b.a. Complex, Kobe, Japan. 896,400, pub. 5–26–70. Cl. 22.
Compumarketing Services Corp., Chicago, Ill. 896,669, pub. 5–26–70. Cl. 101.
Connectron Inc., South Amboy, N.J. 896,376, pub. 5–26–70. Cl. 21.
Connor Engineering Corp., Danbury, Conn. 522,977, ren. 8–11–70. Cl. 34.
Consolidated Foods Corp., Chicago, Ill. 531,833, ren. 8–11–70. Cl. 21.
Consolidated Sewing Machine Corp., New York, N.Y. 771,850, canc. Cl. 23.
Continental Telephone Corp., St. Louis, Mo. 896,389, pub. 5–26–70. Cl. 21.
Control Products, Inc., East Hanover, N.J. 896,469, pub. 5–26–70. Cl. 26.
Cook, Loren, Co., Berea, Ohio. 896,498, pub. 5–26–70. Cl. 34.
Cosmetics International, Ltd., d.b.a. Accent Nine Dist., Tulsa, Okla. 896,602, pub. 5–26–70. Cl. 51.
Council for Management of Change, Inc., New York, N.Y. 896,538, pub. 5–26–70. Cl. 38.
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Cournoyer Industries, Inc., Hialeah, Fla. 896,567–8, pub. 5–26–70. Cl. 40.
Cramer Products, Inc., Gardner, Kans. 527,062, ren. 8–11–70. Cl. 18.
Crown Controls Corp., New Bremen, Ohio. 533,198, ren. 8–11–70. Cl. 21.
Curiel Products Corp., Scottsdale, Ariz. 896,566, pub. 5–26–70. Cl. 40.
Curley Co., Inc., Camden, N.J. 896,621, pub. 5–26–70. Cl. 52.
Curtis-Stephens-Emry Co., Inc., Reading, Pa. 533,473, ren. 8–11–70. Cl. 39.
Cyclax Ltd., London W. 1, England. 896,604, pub. 5–26–70. Cl. 51.
Dairimetics, Ltd., Venice, Calif. 896,620, pub. 5–26–70. Cl. 51.
Dapco Leather Products, Inc., Los Angeles, Calif. 896,263, pub. 5–26–70. Multiple Class (Classes 2, 8, 32, 37, and 38).
David, Oksner, Mitchneck, Inc., New York, N.Y. 896,623, pub. 5–26–70. Cl. 52.
Davidson, Leon, d.b.a. Metroprocessing, White Plains, N.Y. 896,370, pub. 5–26–70. Cl. 21.
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Delaware Punch Co., San Antonio, Tex. 896,575, pub. 5–26–70. Cl. 45.
Delbanco Meyer Wigs Ltd., London NW. 5, England. 896,563, pub. 5–26–70. Cl. 40.
Dema Glass Ltd., Surrey, England. 896,487, pub. 5–26–70. Cl. 33.
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Dilly Shops, Inc., Knoxville, Tenn. 896,644, pub. 5–26–70. Cl. 100.
Display Fixtures, Inc., St. Paul, Minn. 896,482, pub. 5–26–70. Cl. 31.
District Photo, Inc., Washington, D.C. 772,040, canc. Cl. 106.
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Downe Publishing Inc., New York, N.Y. 896,524, pub. 5–26–70. Cl. 38.
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Etablissements Andre Gillier Societe Anonyme, Troyes, Aube, France, from Wilroy Inc., New York, N.Y. 896,542, pub. 8–5–69. Cl. 39.
Ethical Veterinary Supply Co., d.b.a. Evsco Pharmaceutical Co., Long Island City, N.Y. 771,761, canc. Cl. 18.
Excelion Industries, Torrance, Calif. 896,444, pub. 5–26–70. Cl. 23.
Exhibits, Inc., Chicago, Ill. 896,648, pub. 5–26–70. Cl. 101.
Exomet, Inc., Conneaut, Ohio. 896,283, pub. 5–26–70. Cl. 6.
FMC Corp., San Jose, Calif. 896,491, pub. 5–26–70. Cl. 34.
FRL, Inc., Palo Alto, Calif. 896,372, pub. 5–26–70. Cl. 21.
Fairco Drug, Inc., Knoxville, Tenn. 896,666, pub. 5–26–70. Cl. 101.
Falls Resources Corp., Jamaica, N.Y. 896,398, pub. 5–26–70. Cl. 22.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 896,289, pub. 5–26–70. Cl. 6.
Feurer Bros., Inc., North White Plains, N.Y. 896,471, pub. 5–26–70. Cl. 27.
Fill-N-Wash Centers of America, Inc., Hollywood, Fla. 896,655, pub. 5–26–70. Cl. 101.
Fina Metal Ltd., Montreal, Quebec, Canada. 896,320, pub. 5–26–70. Cl. 14.
Fireball Trailer Mfg., Inc., San Fernando, Calif. 896,356, pub. 5–26–70. Cl. 19.
Firestone Tire & Rubber Co., The, Akron, Ohio. 896,505, pub. 5–26–70. Cl. 35.
First Texas Pharmaceuticals, Inc., Dallas, Tex. 896,340, pub. 5–26–70. Cl. 18.
Flaminaire Marcel Quercia, Paris, France. 896,297, pub. 5–26–70. Cl. 8.
Flexpipe Co., Dallas, Tex. 896,439, pub. 5–26–70. Cl. 23.
Flintkote Co., The, New York, N.Y. 771,707, canc. Cl. 12.
Flintkote Co., The, White Plains, N.Y. 896,260, pub. 5–26–70. Cl. 1.
Foley Mfg. Co., Minneapolis, Min. 532,648, ren. 8–11–70. Cl. 23.
Follenfabrik Forchheim G.m.b.H., Forchheim (Upper Franconia), Germany. 896,520, pub. 5–26–70. Cl. 37.
Forster Mfg. Co., Inc., Wilton, Maine. 528,955, ren. 8–11–70. Cl. 23.
Fort Howard Paper Co., Green Bay, Wis. 896,515, pub. 5–26–70. Cl. 37.
Fort Wayne Metals, Inc., to Sylvania Electric Products Inc., New York, N.Y. 775,631, new cert. Cl. 14.
Fostoria Glass Co., Moundsville, W. Va. 529,423, ren. 8–11–70. Cl. 8.
Francis & Lusky Co., Nashville, Tenn. 750,903–4, cor. Cl. 38.
Frank Pure Food Co., The, Franksville, Wis. 532,659, ren. 8–11–70. Cl. 46.
Frederick Electronics Corp., Frederick, Md. 896,633, pub. 5–26–70. Cl. 100.
Frick Co., Waynesboro, Pa. 896,481, pub. 5–26–70. Cl. 31.
Frontier Importers, Inc., El Paso, Tex. 896,556, pub. 5–26–70. Cl. 39.
Frostop Products, Inc., Humboldt, Tenn. 751,023, canc. Cl. 100.
Fuji Jyukogyo Kabushiki Kaisha, d.b.a. Fuji Heavy Industries, Tokyo, Japan. 896,354, pub. 5–26–70. Cl. 19.
GAF Corp., New York, N.Y. 896,392, pub. 5–26–70. Cl. 21.

Garfinkel, A., Inc., Washington, D.C. 896,337, pub. 5–26–70. Cl. 17.
Garlock Inc., Palmyra, N.Y. 896,450–1, pub. 5–26–70. Cl. 23.
Garrett Laboratories, Inc., Baltimore, Md. 771,775, canc. Cl. 18.
Geigy Chemical Corp., Ardsley, N.Y. 896,280, pub. 5–26–70. Cl. 6.
Geigy Chemical Corp., Ardsley, N.Y. 896,296, pub. 5–26–70. Cl. 6.
General Electric Co., Schenectady, N.Y. 271,534, ren. 8–11–70. Cl. 50.
General Foods Corp., White Plains, N.Y. 896,274–6, pub. 1–13–70. Cl. 6.
General Mills, Inc., Minneapolis, Minn. 896,589, pub. 5–26–70. Cl. 46.
General Motors Corp., Detroit, Mich. 271,167, ren. 8–11–70. Cl. 21.
General Music Corp., from Elliott Associates, Inc., Atlanta, Ga. 896,681, pub. 5–26–70. Cl. 107.
Genesco Inc., Nashville, Tenn. 444,001, ren. 8–11–70. Cl. 39.
Genovese Drug Stores, Inc., Long Island City, N.Y. 896,634, pub. 5–26–70. Cl. 100.
Gervais-Danone AG, Munich, Germany. 896,587, pub. 5–26–70. Cl. 46.
Gigas Mink, Inc., Duluth, Minn. 896,259, pub. 5–26–70. Cl. 1.
Gillette Co., The, Boston, Mass. 896,619, pub. 5–26–70. Multiple Class (Classes 51 and 52).
Gilman Paper Co., New York, N.Y. 771,662, canc. Cl. 2.
Gladwin Industries, Inc., Atlanta, Ga. 896,485, pub. 5–26–70. Cl. 32.
Gloversville-Continental Mill, Inc., Gloversville, N.Y. 531,178, ren. 8–11–70. Cl. 42.
Goodman & Co., Indianapolis, Ind. 528,236, ren. 8–11–70. Cl. 28.
Goodman & Co., Indianapolis, Ind. 528,372, ren. 8–11–70. Cl. 28.
Goodman, George, Ltd., Birmingham, England. 896,562, pub. 5–26–70. Cl. 40.
Gordon Publications, Inc., Morristown, N.J. 896,527, pub. 5–26–70. Cl. 38.
Gould Inc., from Gould-National Batteries, Inc., St. Paul, Minn. 896,321, pub. 5–26–70. Multiple Class (Classes 14 and 23).
Gould-National Batteries, Inc.: *See*—
Gould Inc.
Gourmet Grills, Inc., Baltimore, Md. 896,496, pub. 5–26–70. Cl. 34.
Grace, W. R., & Co., New York, N.Y. 896,279, pub. 5–26–70. Cl. 6.
Granny Goose Foods, Oakland, Calif. 771,096, canc. Cl. 46.
Grassbuggy, Inc., Elkhart, Ind. 771,793, canc. Cl. 19.
Great Dane Trailers, Inc., Savannah, Ga. 896,352, pub. 5–26–70. Cl. 19.
Great Lakes Carbon Corp., New York, N.Y. 896,379, pub. 5–26–70. Cl. 21.
Green, E. D., Corp., Forest Park, Ga. 896,446, pub. 5–26–70. Cl. 23.
Green, E. D., Corp., Forest Park, Ga. 896,480, pub. 5–26–70. Cl. 31.
Greenwald Industries, Inc., Brooklyn, N.Y. 896,595, pub. 5–26–70. Cl. 50.
Gruen Industries, Inc., New York, N.Y. 896,474, pub. 5–26–70. Cl. 27.
Guild Hall Studios, Inc., Paramus, N.J. 896,592, pub. 5–26–70. Cl. 50.
Gulbransen Co., Melrose Park, Ill. 896,507, pub. 4–7–70. Cl. 36.
Hall, J. C., Co., Inc., The, Pawtucket, R.I. 77,811, ren. 8–11–70. Cl. 37.
Hallmark Cards, Inc., Kansas City, Mo. 896,530–35, pub. 5–26–70. Cl. 38.
Hamilton, Sidney, Denton, Tex. 772,027, canc. Cl. 101.
Hammermill Paper Co., Erie, Pa. 896,514, pub. 5–26–70. Cl. 37.
Hampton Shirt Co., Inc., Kinston, N.C. 522,109, ren. 8–11–70. Cl. 39.
Hansen, George T., d.b.a. Boyden-Hansen Co., Alameda, Calif. 771,979, canc. Cl. 46.
Harper, H. M., 896,306, pub. 5–26–70. Multiple Class (Classes 12, 13, and 14).
Harris, D. P., Hardware & Mfg. Co. Inc., New York, N.Y. 896,367, pub. 5–26–70. Cl. 19.
Hassenfeld Bros., Inc., Central Falls, R.I. 771,813, canc. Cl. 22.
Hawkins Mfg., Inc., from Roy I. Hawkins, Pierce, Colo. 896,436, pub. 5–26–70. Cl. 23.
Hawkins, Roy I.: *See*—
Hawkins Mfg., Inc.
Head Gear, Inc., New York, N.Y. 896,300, pub. 5–26–70. Cl. 8.
Hecht, Charlotte F., d.b.a. Transene Co., Danvers, Mass. 751,841, canc. Cl. 52.
Herbert, Phil, d.b.a. Flint Stick, Lakewood, Calif. 896,493, pub. 5–26–70. Cl. 34.
Hercules Inc., Wilmington, Del. 896,282, pub. 5–26–70. Cl. 6.
Hercules Inc., Wilmington, Del. 896,292, pub. 5–26–70. Cl. 6.
Hermes Machine Tool Co., Inc., Woodside, N.Y. 896,456, pub. 5–26–70. Cl. 23.
Hertz System, Inc., New York, N.Y. 772,039, canc. Cl. 105.
Hillstrom Enterprises, Inc., Chicago, Ill. 896,427, pub. 5–26–70. Cl. 22.
Hobart Laboratories, Inc., Chicago, Ill. 896,349, pub. 5–26–70. Cl. 18.
Hodgin Benjamin E., Hartford City, Ind. 896,637, pub. 5–26–70. Cl. 100.
Hogan, Ben, Co., Fort Worth, Tex. 896,409, pub. 5–26–70. Cl. 22.
Holobeam, Inc., Paramus, N.J. 896,468, pub. 5–26–70. Cl. 26.
Horton Mfg. Co., Inc., Minneapolis, Minn. 896,443, pub. 5–26–70. Cl. 23.
House of Paradise, Inc., New York, N.Y. 896,421, pub. 5–26–70. Cl. 22.
Howard, Hugh, Jr., d.b.a. Jet-Air Sprayers, Inc., Oklahoma City, Okla. 771,826, canc. Cl. 23.
Hunt Foods & Industries, Inc., Fullerton, Calif. 771,690–91, canc. Cl. 9.
Hunt, Rodney, Co., Orange, Mass. 896,435, pub. 5–26–70. Cl. 23.
Hyster Co., Portland, Oreg. 523,744, ren. 8–11–70. Cl. 50.
IDC, Inc., d.b.a. IDC Real Estate Brokers, El Paso, Tex. 896,665, pub. 5–26–70. Cl. 101.
IMEA S.A., Neuchatel, Switzerland. 771,828, canc. Cl. 23.
Ideal Fishing Float Co., Inc., Richmond, Va. 896,420, pub. 5–26–70. Cl. 22.
Imperial Chemical Industries Ltd, British Ltd. Liability Co., to Imperial Chemical House, London, England. 896,251, pub. 9–16–69. Cl. 1.
Industrial Public Relations Ltd., New York, N.Y. 772,030, canc. Cl. 101.
Infoton, Inc., Burlington, Mass. 896,641–2, pub. 5–26–70. Multiple Class (Classes 100 and 101).
Interco Inc., Chicago, Ill. 529,095, ren. 8–11–70. Cl. 39.
International Electric Co., Chicago, Ill. 533,000, ren. 8–11–70. Cl. 21.
International Harvester Co., Chicago, Ill. 896,366, pub. 5–26–70. Cl. 19.
International Minerals & Chemical Corp., Skokie, Ill. 896,294, pub. 5–26–70. Cl. 6.
International Paper Co., New York, N.Y. 270,416, ren. 8–11–70. Cl. 37.
International Telephone & Telegraph Corp., New York, N.Y. 896,461, pub. 5–26–70. Cl. 23.
Inter-Radia Services Association, Basel, Switzerland. 896,685, pub. 5–26–70. Cl. A.
Iowa Beef Packers, Inc., Dakota City, Nebr. 896,578, pub. 5–26–70. Cl. 100.
Ipsen Industries, Inc., Rockford, Ill. 771,856, canc. Cl. 26.
Jackson, Andrew L., d.b.a. Andrew Jackson Records, Dallas, Tex. 896,509, pub. 5–26–70. Cl. 36.
Jensen, Georg, Inc., New York, N.Y. 521,386, ren. 8–11–70. Cl. 51.
Jensen, Georg, Inc., New York, N.Y. 524,289, ren. 8–11–70. Cl. 33.
Jero Products Co.: *See*—
Meister Brau, Inc.
Jersey Carpet Corp., Clifton, N.J. 771,957, canc. Cl. 42.
Johns-Manville Corp., New York, N.Y. 772,014, canc. Cl. 50.
Joyce-Cradland Co., The, Dayton, Ohio. 896,458, pub. 5–26–70. Cl. 23.
Kabushikikaisha Shosando, Toshima-ku, Tokyo, Japan. 896,561, pub. 5–26–70. Cl. 40.
Kaiser Aluminum & Chemical Corp., Oakland, Calif. 532,251, ren. 8–11–70. Cl. 12.
Kaiser Aluminum & Chemical Corp., Oakland, Calif. 533,242, ren. 8–11–70. Cl. 10.
Kalamazoo Pant Co., Kalamazoo, Mich. 771,929, canc. Cl. 39.
Kano Laboratories, Inc., Nashville, Tenn. 896,326–7, pub. 5–26–70. Cl. 15.
Karaway, Inc., New York, N.Y. 771,925, canc. Cl. 39.
Kearney & Trecker Corp., West Allis, Wis. 531,092, ren. 8–11–70. Cl. 23.
Keimdiat G.m.b.H., Augsburg, Germany. 875,021, cor. Cl. 18.
Keystone Custodian Funds, Inc., Boston, Mass. 772,034–5, canc. Cl. 102.
Kimball, A., Ltd., Toronto, Ontario, Canada. 771,664, canc. Cl. 4.
Kimberly-Clark Corp., Neenah, Wis. 896,555, pub. 5–26–70. Cl. 39.
Kimberly-Clark Corp., Neenah, Wis. 896,573, pub. 5–26–70. Cl. 44.
Kinderman, J., & Sons, d.b.a. Brite Star Mfg. Co., Philadelphia, Pa. 528,234, ren. 8–11–70. Cl. 50.
King Candy Co., Fort Worth, Tex. 533,328, ren. 8–11–70. Cl. 46.
Kirchdorfer & Howell, Inc., Louisville, Ky. 896,689. Cl. 103.
Klamer, Reuben B., d.b.a. Reuben Klamer, Beverly Hills, Calif. 896,428, pub. 5–26–70. Cl. 22.
Klopman Mills, Inc., Rockleigh, N.J. 527,388, ren. 8–11–70. Cl. 42.
Klopman Mills, Inc., Rockleigh, N.J. 896,570, pub. 5–26–70. Cl. 42.
Knoll Pharmaceutical Co., Orange, N.J. 525,534, ren. 8–11–70. Cl. 18.
Kohl Corp., The, Milwaukee, Wis. 771,944, canc. Cl. 39.
Kohnstamm, H., & Co., Inc., New York, N.Y. 273,198, ren. 8–11–70. Cl. 52.
Kohnstamm, H., & Co., Inc., New York, N.Y. 276,001, ren. 8–11–70. Cl. 6.
Kohnstamm, H., & Co., Inc., New York, N.Y. 530,628, ren. 8–11–70. Cl. 6.
Kranzley, Arthur S., & Co., Inc., Cherry Hill, N.J. 896,657, pub. 5–26–70. Cl. 101.
Kuckuk, Harold M., d.b.a. Beacon Products Co., Milwaukee, Wis. 771,654, canc. Cl. 1.
Kusan, Inc., Nashville, Tenn. 896,408, pub. 5–26–70. Cl. 22.
Laboratorios Azteca, S.A., Mexico City, Mexico. 896,605, pub. 5–26–70. Cl. 51.
Ladish Co., Cudihy, Wis. 528,900, ren. 8–11–70. Cl. 23.
La Mere Industries, Inc., Walworth, Wis. 896,314, pub. 5–26–70. Cl. 13.
Lamont, James F., Avon, Conn. 896,418, pub. 5–26–70. Cl. 22.
Lancaster Colony Corp., Columbus, Ohio. 896,488, pub. 5–26–70. Cl. 33.
Lane Ltd., New York, N.Y. 896,336, pub. 5–26–70. Cl. 17.

Lano Corp., New York, N.Y. 896,615, pub. 5–26–70. Cl. 51.
Larson, Clifford M., d.b.a. Larcliff, Ormond Beach, Fla. 529,-152, ren. 8–11–70. Cl. 26.
Laundry-Mate, Inc., Fort Lauderdale, Fla. 751,642, canc. Cl. 24.
Leach, Max, Jr., d.b.a. Insta-Search, Dallas, Tex. 896,653, pub. 5–26–70. Cl. 101.
Leakey, John E., and Harry O. Nyhus, d.b.a. Prosthetic Engineers, Seattle, Wash. 527,775, ren. 8–11–70. Cl. 44.
Lebow, Billie, Inc., New York, N.Y. 771,913, canc. Cl. 39.
Lechner, Lorenzo, d.b.a. L. C. Lechner-Cosmetica, Soviclde (Siena), Italy. 896,601, pub. 5–21–70. Cl. 51.
Leclanche, S.A., Yverdon, Switzerland. 896,377, pub. 5–26–70. Cl. 21.
Leedpak, Inc., Lebanon, Pa. 896,688. Cl. 46.
Leon Products, Inc., Jacksonville, Fla. 896,614, pub. 5–26–70. Cl. 51.
Leonard's Pit Barbecue, Inc., Memphis, Tenn. 896,636, pub. 5–26–70. Cl. 100.
Levinsohn Textile Co., Inc., New York, N.Y. 500,599, canc. Cl. 42.
Lewis, Arthur R., Inc., New York, N.Y. 896,543, pub. 5–26–70. Cl. 39.
Libbey-Owens-Ford Co., Toledo, Ohio. 896,489, pub. 5–26–70. Cl. 33.
Lilli Ann Corp., San Francisco, Calif. 896,545, pub. 5–26–70. Cl. 39.
Lipton, Thomas J., Inc., Englewood Cliffs, N.J. 896,590, pub. 5–26–70. Cl. 46.
Liv-Rite Products Co., Inc., Chicago, Ill. 771,759, canc. Cl. 18.
Lynn-Leigh, Beverly Hills, Calif. 896,607, pub. 5–26–70. Cl. 51.
MHQ Art Products, Inc., Stuart, Fla. 772,015, canc. Cl. 50.
Maclevy Enterprises, Inc., New York, N.Y. 896,407, pub. 5–26–70. Cl. 22.
Mann, Irving Z., North Miami, Fla. 896,676, pub. 5–26–70. Cl. 103.
Marimekko Oy, Helsinki, Finland. 896,305, pub. 5–26–70. Cl. 12.
Markson, Raya L., d.b.a. Gregory of Hollywood, Los Angeles, Calif. 772,013, canc. Cl. 50.
Marsh Stencil Machine Co., Belleville, Ill. 531,005, ren. 8–11–70. Cl. 23.
Mattel, Inc., Hawthorne, Calif. 896,410, pub. 5–26–70. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 896,413, pub. 5–26–70. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 896,419, pub. 5–26–70. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 896,422–4, pub. 5–26–70. Cl. 22.
Matthews, Jas. H., & Co., Pittsburgh, Pa. 896,596, pub. 5–26–70. Cl. 50.
McCormick, John P., Chicago, Ill. 896,660, pub. 5–26–70. Cl. 101
McCrory Corp., New York, N.Y. 529,972, ren. 8–11–70. Cl. 39.
Mearl Corp., The, Ossining, N.Y. 896,273, pub. 5–26–70. Cl. 6.
Medline Industries, Inc., Northbrook, Ill. 896,599, pub. 5–26–70. Cl. 50.
Meister Brau, Inc., Chicago, Ill., from Jero Products Co., Chicago, Ill. 896,580, pub. 5–26–70. Cl. 46.
Melville Shoe Corp., New York, N.Y. 771,939, canc. Cl. 39.
Melville Shoe Corp., New York, N.Y. 896,668, pub. 5–26–70. Cl. 101.
Merck & Co., Inc., Rahway, N.J. 443,943, ren. 8–11–70. Cl. 18.
Merck & Co., Inc., Rahway, N.J. 525,083, ren. 8–11–70. Cl. 18.
Meta-Mold Aluminum Co., Cedarburg, Wis. 749,290, canc. Cl. 12.
Mid-America Majorette Association, Inc., Celina, Ohio. 896,-684, pub. 5–26–70. Cl. 107.
Mienhardt & Co., New York, N.Y. 744,798, canc. Cl. 28.
Mifflin, McCambridge Co., The, Riverdale, Md. 275,466, ren. 8–11–70. Cl. 6.
Milberg, Jacques R., Riverdale, N.Y. 771,958, canc. Cl. 42.
Milini Foods, Inc., Melrose Park, Ill. 522,192, ren. 8–11–70. Cl. 46.
Million, Theodore L., d.b.a. Million Mfg. Co., Santa Barbara, Calif. 772,009, canc. Cl. 50.
Milwaukee Motive Mfg. Co., Milwaukee, Wis. 771,697, canc. Cl. 12.
Minerals & Chemicals Philipp Corp., Menlo Park, N.J. 771,-878, canc. Cl. 31.
Miracle Wig Creations, Inc., Wethersfield, Conn. 896,564, pub. 5–26–70. Cl. 40.
Mist Products, Inc., Huntington Station, N.Y. 896,324, pub. 5–26–70. Cl. 15.
Mobil Oil Corp., New York, N.Y. 896,261, pub. 5–26–70. Cl. 1.
Mobility Systems, Inc., Santa Clara, Calif. 896,432, pub. 5–26–70. Cl. 23.
Modella Mfg. Co., Inc., Port Chester, N.Y. 525,035, ren. 8–11–70. Cl. 39.
Moore Hat Co., Inc., Lawton, Okla. 527,337, ren. 8–11–70. Cl. 39.
Monday Night Inc., d.b.a. Bachelors III, New York, N.Y. 896,640, pub. 5–26–70. Cl. 100.
Monogram Industries, Inc., Los Angeles, Calif. 891,468, cor. Cl. 13.
Monroe, Edwin P., Cleveland, Ohio. 896,353, pub. 5–26–70. Cl. 19.
Monsanto Co., St. Louis, Mo. 529,108, ren. 8–11–70. Cl. 6.
Monsanto Co., St. Louis, Mo. 529,110, ren. 8–11–70. Cl. 6.
Monsanto Co., St. Louis, Mo. 896,355, pub. 5–26–70. Cl. 19.
Montecito Mfg. Co., Santa Barbara, Calif. 896,677–8, pub. 5–26–70. Cl. 103.
Montres Sicura S.A., Grenchen, Switzerland. 896,473, pub. 5–26–70. Cl. 27.
Morning Fresh Dairy, Inc., Minneapolis, Minn. 896,586, pub. 5–26–70. Cl. 46.
Morning Fresh Dairy, Inc., Minneapolis, Minn. 896,661 pub. 5–26–70. Cl. 101.
Morris, Mark Associates, assignee of Mar-Ko Co., to Riviana Foods Inc., Houston, Tex. 868,740, new cert. Cl. 46.
Morris, Mark Associates, assignee of Mar-Ko Co., to Riviana Foods Inc., Houston, Tex. 868,742–4, new cert. Cl. 46.
Most, Lucille M., d.b.a. Elysee Cosmetic Mfg. Co., San Francisco, Calif. 525,360, ren. 8–11–70. Cl. 51.
Motan G.m.b.H. zur Verwertung Technischer Entwicklungen, Uberlingen (Bodensee), Germany. 771,839, canc. Cl. 23.
Motch & Merryweather Machinery Co., The, Cleveland, Ohio. 896,459, pub. 5–26–70. Cl. 23.
Motor Wheel Corp., Lansing, Mich. 522,465, ren. 8–11–70. Cl. 19.
Mulberry Metal Products, Inc., Union, N.J. 896,380, pub. 5–26–70. Cl. 21.
Mumm, G. H., & Cie. Societe Vinicole De Champagne, Succr. of New York Inc., Katonah, N.Y. 533,243, ren. 8–11–70. Cl. 47.
N.H.A., Inc., Arlington, Tex. 896,522, pub. 5–26–70. Cl. 38.
N & H Instruments, Inc., Carrollton, Tex. 896,571, pub. 5–26–70. Cl. 44.
N.W. Buyers & Jobbers, Inc., Minneapolis, Minn. 896,540, pub. 5–26–70. Cl. 39.
Nabholz Ltd., Schonenwerd, Soleure, Switzerland. 896,554, pub. 5–26–70. Cl. 39.
Natcon Chemical Co. Inc., New York, N.Y. 769,683, canc. Cl. 51.
National Church Supply Co., Chester, W. Va. 896,513, pub. 5–26–70. Cl. 37.
National Dairy Products Corp., to Kraftco Corp., Chicago, Ill. 883,441. Am. 7(d). Cl. 46.
National Pet Registration Center, Inc., Gillette, N.J. 896,638, pub. 5–26–70. Cl. 100.
National Potteries Corp., Cleveland, Ohio. 896,593, pub. 5–26–70. Cl. 50.
National Research Bureau, Inc., Burlington, Iowa. 896,535, pub. 5–26–70. Cl. 38.
Neddermeyer, Norman K., Redlands, Calif. 896,547, pub. 5–26–70. Multiple Class (Classes 39 and 42).
Nekoosa-Edwards Paper Co.: *See*— Nekoosa Edwards Paper Co., Inc.
Nekoosa Edwards Paper Co., Inc., from Nekoosa-Edwards Paper Co., Port Edwards, Wis. 896,516, pub. 5–26–70. Cl. 37.
Nestle Co., Inc., The, White Plains, N.Y. 896,585, pub. 5–26–70. Cl. 46.
New-Tronics Corp., Cleveland, Ohio. 771,810, canc. Cl. 21.
Nimrod Products, Inc., New York, N.Y. 896,393, pub. 12–31–68. Cl. 22.
Nopco Chemical Co., d.b.a. Vitex Laboratories, Newark, N.J. 771,975, canc. Cl. 46.
Northern California Fruit Co., Victor, Calif. 529,677, ren. 8–11–70. Cl. 46.
O.K. Tire & Rubber Co., Inc., Littleton, Colo. 896,504, pub. 5–26–70. Cl. 35.
Old Mill Paper Products Corp., Long Island City, N.Y. 529,869, ren. 8–11–70. Cl. 2.
Oliver Tire & Rubber Co., Oakland, Calif. 896,506, pub. 5–26–70. Cl. 35.
Olson Industries Corp., Pittsburgh, Pa. 896,497, pub. 5–26–70. Cl. 34.
Orbit Mfg., Inc., Helen, Ga. 896,552, pub. 5–26–70. Cl. 39.
Organon Inc., West Orange, N.J. 896,284, pub. 5–26–70. Cl. 6.
Otis Engineering Corp., Dallas, Tex. 896,438, pub. 5–26–70. Cl. 23.
Owens-Illinois, Inc., Toledo, Ohio. 896,466, pub. 5–26–70. Cl. 26.
Oy Wartsila AB, Helsinki, Finland. 896,311, pub. 5–26–70. Cl. 13.
Pacific Union Association of Seventh Day Adventists, Riverside, Calif. 533,519, ren. 8–11–70. Cl. 46.
Paco Rabanne Parfums, Paris, France. 896,606, pub. 5–26–70. Cl. 51.
Paillard Inc., Linden, N.J. 529,357, ren. 8–11–70. Cl. 23.
Pallas Mfg. Co. Ltd., Dublin, Ireland. 896,541, pub. 5–26–70. Cl. 39.
Palm Beach Co., Portland, Maine. 896,544, pub. 11–25–69. Cl. 39.
Paperboard Packaging Council, Washington, D.C. 896,631, pub. 5–26–70. Cl. 100.
Paragon Gears, Inc., Taunton, Mass. 521,237, ren. 8–11–70. Cl. 23.
Paramount Textile Machinery Co., Chicago, Ill. 896,460, pub. 5–26–70. Cl. 23.
Parke, Davis & Co., Detroit, Mich. 896,264, pub. 5–26–70. Cl. 2.
Parker Bros., Inc., Salem, Mass. 896,430, pub. 5–26–70. Cl. 22.
Pendleton Detectives, Inc., New Orleans, La. 530,732, ren. 8–11–70. Cl. 100.
Pennsylvania Industrial Chemical Corp., Clairton, Pa. 896,252, pub. 5–26–70. Cl. 1.
Perez, William, Mineola, N.Y. 896,313, pub. 5–26–70. Cl. 13.
Pettibone Laboratories, Inc., New York, N.Y. 896,286, pub. 5–26–70. Cl. 6.
Peyton, Thomas R., Los Angeles, Calif. 771,967, canc. Cl. 44.
Pfizer, Chas., & Co., Inc.: *See*— Pfizer Inc.
Pfizer Inc., from Chas. Pfizer & Co., Inc., New York, N.Y. 896,285, pub. 5–26–70. Cl. 6.
Phillips Petroleum Co., Bartlesville, Okla. 896,253, pub. 5–26–70. Cl. 1.
Photo-Marker Corp., The, New York, N.Y. 896,467, pub. 5–26–70. Cl. 26.
Pillsbury Co., The, Minneapolis, Minn. 896,584, pub. 5–26–70. Cl. 46.

Pingitore, Ralph, d.b.a. National Products Distributors, Portland, Oreg. 896,591, pub. 5–26–70. Cl. 47.
Pittman Products, Inc., d.b.a. Sportsways, Huntington Park, Calif. 896,401–2, pub. 5–26–70. Cl. 22.
Plainfield Trust Co., The, to United National Bank of Central Jersey, Plainfield, N.J. 631,079, new cert. Cl. 101.
Plastics, Inc., St. Paul, Minn. 896,494, pub. 5–26–70. Cl. 34.
Plastilite Corp., Omaha, Nebr. 771,820, canc. Cl. 22.
Play Products International, Inc., Olive, Calif. 896,415, pub. 5–26–70. Cl. 22.
Plouf, R. Leo, d.b.a. Mercantile Co., Richfield, Minn. 771,941, canc. Cl. 39.
Polistil di Agrati Eugenio & Sala Ennio S.n.c., Milan, Italy. 896,411, pub. 5–26–70. Cl. 22.
Polyastics Corp., Croydon, Pa. 896,331–2, pub. 5–26–70. Cl. 16.
Pop Arts, Inc., New York, N.Y. 896,483, pub. 9–3–68. Cl. 32.
Pou, Jose M., Mataro, Barcelona, Spain. 896,434, pub. 5–26–70. Cl. 23.
Powers & Co., Inc., Detroit, Mich. 896,525, pub. 3–3–70. Cl. 38.
Powers, Joshua B., Inc., New York, N.Y. 527,330, ren. 8–11–70. Cl. 38.
Precept, Inc., Euless, Tex. 896,560, pub. 5–26–70. Multiple Class (Classes 39 and 42).
Preformed Line Products Co., Cleveland, Ohio. 896,391, pub. 5–26–70. Cl. 21.
Principle Business Enterprises, Inc., Waterville, Ohio. 896,-597, pub. 5–26–70. Cl. 50.
Producto Machine Co., The, Bridgeport, Conn. 896,447, pub. 5–26–70. Cl. 23.
Products of Excellence Ltd., New York, N.Y. 896,608–9, pub. 5–26–70. Cl. 51.
Progress Lithographing Co., Cincinnati, Ohio. 896,517, pub. 5–26–70. Cl. 37.
Protex Products Corp., Cincinnati, Ohio. 896,262, pub. 5–26–70. Multiple Class (Classes 2 and 50).
Pure Gold, Inc., Redlands, Calif. 272,633, ren. 8–11–70. Cl. 46.
Pure Oil Co., The, Palatine, Ill. 771,738, canc. Cl. 15.
Quaker Fabric Corp., New York, N.Y. 896,569, pub. 5–26–70. Cl. 42.
Quick Print Shops, Inc., Memphis, Tenn. 896,650, pub. 5–26–70. Cl. 101.
R.A. Precision, Inc., Hackensack, N.J. 896,470, pub. 5–26–70. Cl. 26.
Raybestos-Manhattan, Inc., Passaic, N.J. 896,404, pub. 5–26–70. Cl. 22.
Reade, Walter, Organization, Inc., The, Oakhurst, N.J. 896,-537, pub. 5–26–70. Cl. 38.
Reader's Digest Association, Inc., The, New Castle, N.Y. 896,-534, pub. 5–26–70. Cl. 38.
Redd-Wip, Inc., Los Angeles, Calif. 896,576, pub. 12–19–67. Cl. 46.
Reese Products, Inc., Elkhart, Ind. 896,440, pub. 5–26–70. Cl. 23.
Regency Crafts, Inc., Great Neck, N.Y. 896,518, pub. 5–26–70. Cl. 37.
Reid-Provident Laboratories Inc., Atlanta, Ga. 896,342, pub. 5–26–70. Cl. 18.
Rembrandt Tobacco Corp. (Overseas) Ltd., Zurich, Switzerland. 896,335, pub. 5–26–70. Cl. 17.
Restaurant Associates Industries, Inc., New York, N.Y. 896,-646, pub. 5–26–70. Cl. 100.
Reynolds, R. J., Foods, Inc., New York, N.Y. 896,588, pub. 5–26–70. Cl. 46.
Richelieu Corp., The, Holbrook, N.Y. 528,461, ren. 8–11–70. Cl. 28.
River, Charles, Breeding Laboratories, Inc., N. Wilmington, Mass. 896,579, pub. 5–26–70. Cl. 46.
Rivetti, Stefano, Maratea, Potenza, Italy. 771,725, canc. Cl. 13.
Robard Co., Wellesley Hills, Mass. 896,416, pub. 5–26–70. Cl. 22.
Robinson Mfg. Co., Elizabeth City, N.C. 533,460, ren. 8–11–70. Cl. 39.
Rohn Mfg. Co., Peoria, Ill. 896,309, pub. 5–26–70. Multiple Class (Classes 13 and 21).
Rollei, Inc., New York, N.Y. 271,192, ren. 8–11–70. Cl. 26.
Rollside Corp., The, Columbus, Ohio. 771,715, canc. Cl. 12.
Roovers-Lotsch, Inc., Old Forge, Pa. 750,581, canc. Cl. 37.
Rose, Phil of California, Inc., Los Angeles, Calif. 771,931, canc. Cl. 39.
Rothmans of Pall Mall Ltd., Zurich, Switzerland. 896,333, pub. 5–26–70. Cl. 17.
SCE Personnel Services, Inc., Summit, N.J. 896,651, pub. 5–26–70. Cl. 101.
St. Patrick's Woolen Mills Ltd., Douglas, Eire. 443,906, ren. 8–11–70. Cl. 42.
St. Regis Tobacco Corp. Ltd., Zurich, Switzerland. 896,334, pub. 5–26–70. Cl. 17.
St. Regis Tobacco Corp. Ltd., Zurich, Switzerland. 896,338, pub. 5–26–70. Cl. 17.
Sales Producers Associates, Inc., Memphis, Tenn. 77,683, ren. 8–11–70. Cl. 46.
San Lorenzo Nursery Co., Los Angeles, Calif. 530,631, ren. 8–11–70. Cl. 1.
Sarong, Inc., Dover, Del. 771,910, canc. Cl. 39.
Save Way Barber & Beauty Supplies, Inc., Hialeah, Fla. 896,-659, pub. 5–26–70. Cl. 101.
Scarves by Vera, Inc., New York, N.Y. 896,548, pub. 5–26–70. Multiple Class (Classes 39 and 42).
Scharff Corp., Los Angeles, Calif. 896,539, pub. 12–10–68. Cl. 39.
Schering Corp., Bloomfield, N.J. 771,777, canc. Cl. 18.
Schering Corp., Bloomfield, N.J. 771,780, canc. Cl. 18.
Schlessman, J., & Sons, Inc., Milan, Ohio. 896,255, pub. 5–26–70. Cl. 1.
Schmidt, Bob, Inc., Houston, Tex. 896,350, pub. 5–26–70. Cl. 19.
Science Management Corp., Moorestown, N.J. 896,627–8, pub. 5–26–70. Multiple Class (Classes 100, 101, and 107).
Scott, H. H., Inc., Maynard, Mass. 896,383, pub. 5–26–70. Cl. 21.
Sea Rover Marine, Inc., from Bosworth Marine Corp., Evanston, Ill. 896,358, pub. 5–19–70. Cl. 19.
Seafoame Corp., McLean, Va. 896,649, pub. 5–26–70. Cl. 101.
Sealectro Corp., Mamaroneck, N.Y. 896,390, pub. 5–26–70. Cl. 21.
Sears, Roebuck, & Co., Chicago, Ill. 530,555, ren. 8–11–70. Cl. 15.
Security Electric Corp., Pontiac, Mich. 896,368, pub. 5–26–70. Cl. 21.
Selby, Battersby, & Co., Philadelphia, Pa. 275,251, ren. 8–11–70. Cl. 12.
Selby, Battersby, & Co., Philadelphia, Pa. 896,490, pub. 5–26–70. Cl. 34.
Selfix, Inc., Chicago, Ill. 896,315, pub. 5–26–70. Cl. 13.
Sensitivity Games, Inc., Boston, Mass. 896,405, pub. 5–26–70. Cl. 22.
Seoul Trading Co. Ltd., Seoul, Korea. 896,557, pub. 5–26–70. Cl. 39.
Service Industries, Philadelphia, Pa. 444,220, ren. 8–11–70. Cl. 6.
Sexaner, J. A., Mfg. Co., Inc., White Plains, N.Y. 896,495, pub. 5–26–70. Cl. 34.
Shelby Singleton Corp., The, Nashville, Tenn. 896,510, pub. 5–26–70. Cl. 36.
Shell Oil Co., New York, N.Y. 896,281, pub. 5–26–70. Cl. 6.
Shell Oil Co., New York, N.Y. 896,293, pub. 5–26–70. Cl. 6.
Sherwin-Williams Co., The, Cleveland, Ohio. 525,593, ren. 8–11–70. Cl. 23.
Sherwin-Williams Co., The, Cleveland, Ohio. 896,270, pub. 5–26–70. Cl. 6.
Sherwin-Williams Co., The, Cleveland, Ohio. 896,330, pub. 5–26–70. Cl. 16.
Silicone Paper Company of America, Inc., The, New York, N.Y. 528,364, ren. 8–11–70. Cl. 4.
Silverberg, Aaron, d.b.a. Favorite Ring Co., New York, N.Y. 771,871, canc. Cl. 28.
Sivad Ceramic Corp., The, Oak Hill, Ohio. 771,704, canc. Cl. 12.
Skaggs Pay Less Drug Stores, Oakland, Calif. 896,394, pub. 3–11–69. Cl. 22.
Skamper Corp., Bristol, Ind. 896,351, pub. 5–26–70. Cl. 19.
Slezak, Vladimir Martin, and Anna Slezak, d.b.a. Valanna, Miami, Fla. 771,873, canc. Cl. 28.
Smarteens Blouses, Inc., New York, N.Y. 771,919, canc. Cl. 39.
Smith Kline & French Laboratories, Philadelphia, Pa. 771,-779, canc. Cl. 18.
Smith Kline & French Laboratories, Philadelphia, Pa. 896,-341, pub. 5–26–70. Cl. 18.
Smith Kline & French Laboratories, Philadelphia, Pa. 896,-343, pub. 5–26–70. Cl. 18.
Smith Kline & French Laboratories, Philadelphia, Pa. 896,-346, pub. 5–26–70. Cl. 18.
Societe Bertin & Co., Paris, France. 801,231. Am. 7(d). Cl. 19.
Southeast Toyota Distributors, Inc., Pompano Beach, Fla. 896,656, pub. 5–26–70. Cl. 101.
Southern Home Insurance Co., Greer, S.C. 896,672–3, pub. 5–26–70. Cl. 102.
Southern Packing Co., Inc., Baltimore, Md. 527,045, ren. 8–11–70. Cl. 45.
Southern Soda Works Co., New York, N.Y. 525,743, ren. 8–11–70. Cl. 46.
Southland Corp., The, Dallas, Tex. 896,654, pub. 5–26–70. Cl. 101.
Sperry Rand Corp., New York, N.Y. 896,484, pub. 5–26–70. Cl. 32.
Spesco Corp., The, Atlanta, Ga. 896,301, pub. 5–26–70. Cl. 9.
Speyside & Cairngorm Sportswear Ltd., Grantown-on-Spey, Moray, Scotland. 771,922, canc. Cl. 39.
Spotnails, Inc., Rolling Meadows, Ill. 896,319, pub. 5–26–70. Cl. 13.
Stacey Handprints, Inc., South El Monte, Calif. 771,827, canc. Cl. 23.
Standard Brands Inc., New York, N.Y. 270,971, ren. 8–11–70. Cl. 46.
Standard Oil Co., The, Cleveland, Ohio. 896,325, pub. 5–26–70. Cl. 15.
Standard Oil Co., The, Cleveland, Ohio. 896,328–9, pub. 5–26–70. Cl. 15.
Sta-Whip, Inc., Los Angeles, Calif. 896,577, pub. 4–9–68. Cl. 46.
Steinberg & Sons Ltd., London, England. 526,824, ren. 8–11–70. Cl. 39.
Steinberg & Sons Ltd., London, England. 529,764, ren. 8–11–70. Cl. 39.
Steven, David G., Inc., New York, N.Y. 896,472, pub. 5–26–70. Cl. 27.
Stevenson, Nanette B., d.b.a. Nancy Stevenson, Sarasota, Fla. 771,710, canc. Cl. 12.
Stieff Co., The, Baltimore, Md. 896,475, pub. 5–26–70. Cl. 28.
Stratton & Terstegge Co., Inc., Louisville, Ky. 896,395, pub. 9–9–69. Cl. 22.
Strauss, Levi, & Co., San Francisco, Calif. 896,521, pub. 5–26–70. Cl. 37.
Straw Hat Restaurant Corp., The, Menlo Park, from The Straw Hat Restaurant Corp., San Leandro, Calif. 896,635, pub. 5–26–70. Cl. 100.

Streater Industries, Inc., Albert Lea, Minn. 896,479, pub. 5–26–70. Cl. 31.
Sunlighting Systems, Inc., Chevy Chase, Md. 896,664, pub. 5–26–70. Cl. 101.
Sunshine, Robert, d.b.a. Sunshine's Trees, Dallas, Tex. 896,663, pub. 5–26–70. Cl. 101.
Superior Continental Corp., Hickory, N.C. 896,369, pub. 5–26–70. Cl. 21.
Superior Continental Corp., Hickory, N.C. 896,388, pub. 5–26–70. Cl. 21.
Superior Spray Corp., West Chester, Pa. 896,457, pub. 5–26–70. Cl. 23.
Superma Ltd., London, England. 771,961, canc. Cl. 44.
Superma Ltd., London, England. 772,016, canc. Cl. 51.
Sutton, W. L., Co., Jacksonville, Fla. 749,085, canc. Cl. 28.
Swank, Inc., Attleboro, Mass. 896,267, pub. 5–26–70. Multiple Class (Classes 3, 8, 28, and 51).
Swedlin, J., Inc., d.b.a. Gund Mfg. Co., Brooklyn, N.Y. 896,403, pub. 5–26–70. Cl. 22.
Sweetheart Plastics, Inc., Wilmington, Mass. 896,600, pub. 5–26–70. Cl. 50.
Swift & Co., Chicago, Ill. 269,339, ren. 8–11–70. Cl. 46.
T.G. & Y. Stores Co., Oklahoma City, Okla. 896,455, pub. 5–26–70. Cl. 23.
T.G. & Y. Stores Co., Oklahoma City, Okla. 896,478, pub. 5–26–70. Cl. 31.
Taco Bell, Inc., Torrance, Calif. 896,647, pub. 5–26–70. Cl. 100.
Taylor Provisions Co., The, Trenton, N.J. 443,997, ren. 8–11–70. Cl. 46.
Taylor, W. W., d.b.a. Your Hickory Host, Wichita, Kans. 771,983, canc. Cl. 46.
Technical Training International, Inc., Walnut Creek, Calif. 896,465, pub. 5–26–70. Cl. 26.
Tek-Wave, Inc., Princton, N.J. 896,375, pub. 5–26–70. Cl. 21.
Teledyne Industries, Inc., Los Angeles, Calif. 527,475, ren. 8–11–70. Cl. 23.
Tennant Co., Minneapolis, Min. 896,452, pub. 5–26–70. Cl. 23.
Texaco Inc., New York, N.Y. 521,632, ren. 8–11–70. Cl. 15.
Texas Commerce Bank National Association, from Texas National Bank of Commerce of Houston, Houston, Tex. 896,687. Cl. 38.
Texas National Bank of Commerce of Houston: *See*—
Texas Commerce Bank National Association.
Texas Refrigeration & Engineering Co., Dallas, Tex. 896,492, pub. 5–26–70. Cl. 34.
Textron Inc., Providence, R.I. 529,565, ren. 8–11–70. Cl. 28.
Textron Inc., Providence, R.I. 896,476, pub. 5–26–70. Cl. 28.
Textron Inc., Pittsfield, Mass. 896,519, pub. 5–26–70. Cl. 37.
Thermocor Co. Inc., The, Erlanger, Ky. 896,271, pub. 5–26–70. Cl. 6.
Therm-O-Disc, Inc., Mansfield, Ohio. 771,729, canc. Cl. 13.
Thompson Medical Co., Inc., New York, N.Y. 896,344–5, pub. 5–26–70. Cl. 18.
Time Pattern Research Institute Inc., Valley Stream, N.Y. 896,529, pub. 4–7–70. Cl. 38.
Tinta Industries, Inc., New York, N.Y. 896,565, pub. 5–26–70. Cl. 40.
Ton Chain Block Mfg. Co., Ltd., Osaka, Japan. 896,449, pub. 5–26–70. Cl. 23.
Toner, James V., Jr., Weston, Mass. 771,814, canc. Cl. 22.
Top Shokai Ltd., Taito-ku, Tokyo, Japan. 771,933, canc. Cl. 39.
Toyoda Koki Kabushiki Kaisha, d.b.a. Toyoda Machine Works, Ltd., Prefecture, Japan. 896,442, pub. 5–26–70. Cl. 23.
Tramac Corp., from American Tradex Corp., Linden, N.J. 896,431, pub. 5–19–70. Cl. 23.
Tremco Mfg. Co., The, Cleveland, Ohio. 532,772, ren. 8–11–70. Cl. 16.
True Temper Corp., Cleveland, Ohio. 896,417, pub. 5–26–70. Cl. 22.
Turtle Creek Management, Inc., Indianapolis, Ind. 896,652, pub. 5–26–70. Cl. 101.
Tyler, Arthur F., Sales Co., Athol, Mass. 771,709, canc. Cl. 12.
U.F. Chemical Corp., Woodside, N.Y. 896,303, pub. 7–8–69. Cl. 10.
Union Fork & Hoe Co., The, Columbus, Ohio. 896,462, pub. 5–26–70. Cl. 23.
Union Oil Co. of California, Los Angeles, Calif. 896,378, pub. 5–26–70. Cl. 21.
Union Tank Car Co., Chicago, Ill. 896,477, pub. 5–26–70. Cl. 31.
Uniroyal, Inc., New York, N.Y. 529,534, ren. 8–11–70. Cl. 39.
Uniroyal, Inc., New York, N.Y. 896,386, pub. 5–26–70. Cl. 21.
Uniroyal, Inc., New York, N.Y. 896,553, pub. 5–26–70. Cl. 39.
Uni-Serv Corp., to The Chase Manhattan Bank, N.A., New York, N.Y. 746,760, new cert. Cl. 102.
Uni-Serv Corp., to The Chase Manhattan Bank, N.A., New York, N.Y. 747,072, new cert. Cl. 102.
Uni-Serv Corp., to The Chase Manhattan Bank, N.A., New York, N.Y. 806,516, new cert. Cl. 102.
Uni-Serv Corp., to The Chase Manhattan Bank, N.A., New York, N.Y. 823,519, new cert. Cl. 102.
Uni-Serv Corp., to The Chase Manhattan Bank, N.A., New York, N.Y. 856,738, new cert. Cl. 102.
Uni-Serv Corp., to The Chase Manhattan Bank, N.A., New York, N.Y. 871,809, new cert. Cl. 38.
United Cement Products Co., Wichita, Kans. 771,655, canc. Cl. 1.
United Cement Products Co., Wichita, Kans. 771,703, canc. Cl. 12.
United Crayon Co., Inc., Brooklyn, N.Y. 896,397, pub. 10–7–69. Cl. 22.
United Film Club, Inc., Pomona, Calif. 896,679, pub. 5–26–70. Cl. 106.
United Research & Development Co., Inc., The, New Britain, Conn. 772,036, canc. Cl. 103.
United States Catheter & Instrument Corp., Glens Falls, N.Y. 896,572, pub. 5–26–70. Cl. 44.
U.S. Communications Corp., Hollywood, Calif. 771,798, canc. Cl. 21.
U.S. Industries, Inc., New York, N.Y. 896,546, pub. 4–28–70. Cl. 39.
Universal Metal Products, Inc., Wickliffe, Ohio. 896,308, pub. 8–12–69. Cl. 13.
Upjohn Co., The, Kalamazoo, Mich. 896,347, pub. 5–26–70. Cl. 18.
Upper Midwest Research & Development Council & Citizens League, Minneapolis, Minn. 896,662, pub. 5–26–70. Cl. 101.
Valtec Corp., Tustin, Calif. 896,373, pub. 5–26–70. Cl. 21.
Van Houten, C. J., & Zoon N.V., Weesp, Holland. 771,972, canc. Cl. 46.
Vasco Metals Corp., Latrobe, Pa. 896,433, pub. 5–26–70. Cl. 23
VePed Traffic Controls, Inc., Oklahoma City, Okla. 896,371, pub. 5–26–70. Multiple Class (Classes 21, 23, and 50).
Viatron Programming, Inc., Burlington, Mass. 896,682, pub. 5–26–70. Cl. 107.
Victor Sports, Inc., Chicago, Ill. 896,429, pub. 5–26–70. Cl. 22
Vidal A., S.A.S., d.b.a. Vidal, Venice, Italy. 896,610, pub. 5–26–70. Cl. 51.
Visador Co., Jasper, Tex. 896,318, pub. 5–26–70. Cl. 13.
Ward, Ralph E., d.b.a. R. E. Ward & Sons Mfg. Co., Wichita, Kans. 896,399, pub. 5–26–70. Cl. 22.
Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 269,753–4, ren. 8–11–70. Cl. 18.
Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 896,617, pub. 5–26–70. Cl. 51.
Wassell Organization, Inc., Westport, Conn. 896,594, pub. 5–26–70. Cl. 50.
Webb, Irene, d.b.a. Gymnastics for Physical Fitness, San Diego, Calif. 896,683, pub. 5–26–70. Cl. 107.
Weber, Erwin L., Seattle, Wash. 771,888, canc. Cl. 34.
Wegro Inc., Grand Rapids, Ohio. 896,304, pub. 5–26–70. Cl. 10.
Weiss & Klau Co., The, New York, N.Y. 771,881, canc. Cl. 32.
Weld Mold Co., Brighton, Mich. 896,499, pub. 5–26–70. Cl. 34.
Weldon Tool Co., The, Cleveland, Ohio. 896,437, pub. 5–26–70. Cl. 23.
Welsh Sporting Goods Corp., Iowa Falls, Iowa. 896,268, pub. 5–26–70. Cl. 3.
Wenger Music Equipment Co., Owatonna, Minn. 771,787, canc. Cl. 19.
Wheelabrator Corp., The, Mishawaka, Ind. 529,691, ren. 8–11–70. Cl. 2.
White & Bagley of Michigan, Inc., Detroit, Mich. 526,686, ren. 8–11–70. Cl. 15.
White Machine Co., Kentilworth, N.J. 896,453, pub. 5–26–70. Cl. 23.
White Stag Mfg. Co., Portland, Oreg. 896,549–51, pub. 5–26–70. Cl. 39.
Willcox & Gibbs, Inc., New York, N.Y. 896,598, pub. 5–26–70. Cl. 50.
Wilroy Inc.: *See*—
Etablissements Andre Gillier Societe Anonyme
Winfield Industries, Inc., Buffalo, N.Y. 896,257, pub. 5–26–70. Cl. 1.
Wing Archery Co., to Head Ski Co., Inc., Timonium, Md. 855,919. Am. 7(d). Cl. 22.
Wool "O" Co., The, Philadelphia, Pa. 771,956, canc. Cl. 42.
Wright, Frank Lloyd, Foundation, The, Scottsdale, Ariz. 896,632, pub. 5–26–70. Cl. 100.
Wrigley, Wm., Jr., Co., Chicago, Ill. 896,583, pub. 5–26–70. Cl. 46.
Xynetics, Inc., Canoga Park, Calif. 896,384, pub. 4–14–70. Cl. 21.
Yardley of London, Inc., New York, N.Y. 796,611, pub. 5–26–70. Multiple Class (Classes 51 and 52).
Yardley of London, Inc., New York, N.Y. 896,603, pub. 5–26–70. Cl. 51.
Zayre Corp., Natick, Mass. 896,625, pub. 5–26–70. Cl. 52.
Zeeman Clothing Co., Inc., Allentown, Pa. 771,926, canc. Cl. 39

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PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of July 1970

Examiner affirmed	138
Examiner affirmed in part	17
Examiner reversed	29
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Certificates of Correction for the Week of Aug. 18, 1970

3,267,632	3,482,175	3,496,755	3,502,692
3,407,226	3,482,380	3,496,898	3,502,845
3,409,609	3,483,105	3,497,059	3,503,091
3,415,816	3,483,177	3,497,782	3,503,402
3,418,196	3,483,204	3,497,890	3,503,512
3,420,171	3,483,263	3,498,065	4,503,722
3,433,785	3,484,038	3,498,182	3,503,723
3,434,861	3,487,016	3,498,774	3,503,803
3,439,794	3,487,610	3,498,859	3,503,882
3,442,248	3,488,307	3,499,015	3,504,165
3,442,813	3,488,743	3,499,090	3,504,223
3,442,816	3,489,182	3,499,388	3,504,619
3,448,190	3,489,783	3,499,837	3,505,191
3,448,208	3,489,800	3,499,863	3,505,200
3,449,257	3,490,095	3,499,893	3,505,224
3,456,674	3,490,846	3,499,964	3,505,336
3,458,504	3,491,831	3,500,033	3,505,379
3,466,142	3,492,008	3,500,089	3,505,726
3,471,109	3,492,343	3,501,297	3,505,742
3,471,306	3,492,698	3,501,303	3,505,859
3,472,787	3,493,312	3,501,372	3,506,231
3,472,852	3,494,282	3,501,525	3,506,360
3,476,782	3,494,543	3,501,799	3,506,883
3,477,277	3,494,573	3,501,884	3,508,157
3,478,158	3,494,770	3,501,966	3,508,482
3,478,636	3,494,942	3,502,033	3,510,513
3,479,852	3,495,319	3,502,338	3,510,524
3,481,031	3,495,881	3,502,538	3,511,266
3,481,136	3,496,200	3,502,590	

Dedications

3,005,327.—*Brooks Stevens, Jr.*, Concord, Mass. APPARATUS FOR TREATMENT OF LONG WEBS UNDER PRESSURE. Patent dated Oct. 24, 1961. Dedication filed May 13, 1970, by the assignee, *E. I. du Pont de Nemours and Company.*

Hereby dedicates the entire term of the patent to the Public.

3,061,250.—*Warren C. Conover*, Waukegan, Ill. TRANSOM MOUNTING FOR AN OUTBOARD MOTOR. Patent dated Oct. 30, 1962. Dedication filed Apr. 6, 1970, by the assignee, *Outboard Marine Corporation.*

Hereby dedicates the remaining term of the patent to the Public.

3,178,266.—*Erik W. Anthon*, Kensington, Calif. MATERIALS HANDLING APPARATUS. Patent dated Apr. 13, 1965. Dedication filed Mar. 2, 1970, by the assignee, *American Optical Corporation.*

Hereby dedicates the remaining term of the patent to the Public.

3,268,915.—*William K. Warnock*, Kentfield, and *Frank G. Hubener*, San Carlos, Calif. PROCESS OF MANUFACTURING PRESS-FREE GARMENT WITH RETAINED CREASES. Patent Dated Aug. 30, 1966. Dedication filed May 18, 1970, by the assignee, *Koratron Company, Inc.*

Hereby dedicates the remaining term of said patent to the Public.

3,304,209.—*William A. Anderson*, Verona, and *William D. Vernam*, New Kensington, Pa. ALUMINUM BASE ALLOY. Patent dated Feb. 14, 1967. Dedication filed Apr. 16, 1970, by the assignee, *Aluminum Company of America.*

Hereby dedicates the entire patent to the Public.

Disclaimers

Reissue No. 25,905.—*Per Davidson*, Sandviken, Sweden. METHOD OF MAKING HOT TOPS FOR INGOT MOLDS. Reissue patent dated Nov. 16, 1965. Disclaimer filed Apr. 13, 1970, by the assignee, *Sandvikens Jernverks AB.*

Hereby disclaims the terminal portion of the term of the patent subsequent to Jan. 15, 1980.

3,068,528.—*John Edward Owens*, Wilmington, Del. METHOD FOR CONVEYING AND STRETCHING THERMOPLASTIC FILM. Patent dated Dec. 18, 1962. Disclaimer filed May 14, 1970, by the assignee, *E. I. du Pont de Nemours and Company.*

Hereby enters this disclaimer to claim 13 of said patent.

New Applications Received During May 1970

Patents	8198
Designs	462
Plant Patents	9
Reissues	38
	8707

Issue—August 18, 1970

Patents	901—No. 3,524,202 to No. 3,525,102, incl.
Designs	130—No. 218,382 to No. 218,511, incl.
Reissues	7—No. 26,934 to No. 26,940, incl.
Def. Pub.	11—No. TS77,001 to No. TS77,011, incl.
Total	1049

3,083,335.—*Nick A. Schuster*, Ridgefield, Conn. MAGNETIC RESONANCE METHODS AND APPARATUS. Patent dated Mar. 26, 1963. Disclaimer filed May 15, 1970, by the assignee, *Schlumberger Technology Corporation*.

Hereby enters this disclaimer to claim 8 of said patent.

3,122,907.—*Emile Gilberton*, Paris, France. GAS LIGHTER OF THE SUSPENDED CONTAINER TYPE. Patent dated Mar. 3, 1964. Disclaimer filed May 8, 1970, by the assignee, *Etablissements Genoud & Cie.*

Hereby enters this disclaimer to claims 1 and 5 of said patent.

3,198,383.—*Laurence R. Brown*, Springfield, Va. MARKING SPREADER. Patent dated Aug. 3, 1965. Disclaimer filed Apr. 10, 1970, by the inventor.

Hereby enters this disclaimer to claim 3 of said patent.

3,238,011.—*Augustine Hicks Lawrence, Jr.*, and *John Herbert Dowling*, Wilmington, Del. DRYCLEANING PROCESS AND COMPOSITIONS. Patent dated Mar. 1, 1966. Disclaimer filed Apr. 14, 1970, by the assignee, *E. I. du Pont de Nemours and Company.*

Hereby enters this disclaimer to all the claims of said patent.

3,278,524.—*David A. Johnson*, Fayetteville, and *Elwin J. Richardson, Jr.*, Kirkville, N.Y. PENICILLINS AND THEIR PRODUCTION. Patent dated Oct. 11, 1966. Disclaimer filed Apr. 13, 1970, by the assignee, *Beecham Group Limited.*

Hereby enters this disclaimer to claims 1, 2, 3, 4 and 5 of said patent.

3,299,192.—*John H. Lux*, Charlestown, Md. METHOD OF EXTRUDING A FOAMED PLASTIC TUBE HAVING INTERNAL AND EXTERNAL SKINS THEREON. Patent dated Jan. 17, 1967. Disclaimer filed Feb. 9, 1970, by the assignee, *Haveg Industries, Inc.*

Hereby enters this disclaimer to claims 1 and 3 of said patent.

3,309,331.—*Maurice J. McDowell*, Media, Pa., and *Trevor B. Hill*, Williamsburg, Va. FREEZE-THAW STABLE AQUEOUS PAINTS CONTAINING CARBOXYL, AMINO-ESTER AND HYDROXYAMIDE RADICALS. Patent dated Mar. 14, 1967. Disclaimer filed Mar. 24, 1970, by the assignee, *E. I. du Pont de Nemours and Company.*

Hereby enters this disclaimer tc claims 1, 2, 4, 5 and 6 of said patent.

3,354,023.—*Gordon Beale Dunnington*, Wilmington, and *Reuben Thomas Fields*, Brandywine Hills, Del. ORIENTED POLYMERS. Patent dated Nov. 21, 1967. Disclaimer filed Apr. 18, 1970, by the assignee, *E. I. du Pont de Nemours and Company.*

Hereby enters this disclaimer to claims 1, 2, 3, 4, 5, 12 and 13 of said patent.

3,403,489.—*Cyril P. Frommelt* and *Sylvan J. Frommelt*, Dubuque, Iowa. LOADING DOCK SHELTERS. Patent dated Oct. 1, 1968. Disclaimer filed May 20, 1970, by the assignee, *Dubuque Awning & Tent Company.*

Hereby enters this disclaimer to claims 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12 and 13 of said patent.

3,411,968.—*Leonard J. Vilutis*, Chicago, and *Adolf H. Huller*, Chicago Heights, Ill. METHOD OF INCORPORATING A TEAR STRING IN A THERMOPLASTIC WEB. Patent dated Nov. 19, 1968. Disclaimer filed May 25, 1970, by the assignee, *The Dow Chemical Company.*

Hereby enters this disclaimer to claims 1, 2, 3, 4 and 8 of said patent.

3,460,933.—*Raymond J. Demaison*, Fleetwood, Mount Vernon, N.Y. METHOD OF CONCURRENTLY OPERATING FURNACES OF THE ACID OR BASIC CONVERTER TYPES. Patent dated Aug. 12, 1969. Disclaimer filed Mar. 19, 1970, by the assignee, *Quigley Company, Inc.*

Hereby disclaims the terminal portion of the term of the patent subsequent to Nov. 7, 1984.

3,482,682.—*Paul W. Cronkhite*, St. Charles, Mo. RETAINING TRAYS FOR SEMICONDUCTOR WAFERS AND THE LIKE. Patent dated Dec. 9, 1969. Disclaimer filed Mar. 16, 1970, by the assignee, *Monsanto Company.*

Hereby disclaims the terminal portion of the term of the patent subsequent to Sept. 30, 1986.

3,499,203.—*Kendall Clark*, Poughkeepsie, *George C. Beck*, Fishkill, *Eugene J. Creighton* and *Frank L. De Turris*, Wappingers Falls, *Joseph G. Drop* and *Jean J. L. Godat*, Poughkeepsie, *Arne H. Larsen*, Wappingers Falls, and *Thomas J. Rajac, George R. Santillo, Jr.*, and *Walter J. Schuelke*, Poughkeepsie, N.Y. CHIP POSITIONING MACHINE. Patent dated Mar. 10, 1970. Disclaimer filed Dec. 12, 1969, by the assignee, *International Business Machines Corporation.*

Hereby disclaims the terminal portion of the term of the patent subsequent to Nov. 12, 1985.

Patent Front Page Format

August 4, 1970 marks the inauguration of certain changes and innovations in the form and method of producing printed copies of patents. Nearly 100 patents in this issue were electrophotographically composed for printing as part of a comprehensive system for developing and utilizing a patent full-text library in computer processable form. Numbers of patents produced in this manner are scheduled to increase until *all* patents enter the machineable data base.

Patents produced by this new system are distinguishable in appearance from all others in the following respects:

(a) Front page

The first sheet of each patent presents an arrangement of the applicable bibliographic type of data elements which are itemized and discussed elsewhere; an abstract of the disclosure (or a claim when no abstract is available); and, a reduced reproduction of a representative drawing figure when the patent contains any drawings.

(b) Other changes

With identification of the patent appearing on the front page, the title of the invention and the name of the inventor will no longer be printed in the heading of drawings. The patent number, date of issuance, and sheet-of-sheets information will continue to be printed on the drawings.

All of the bibliographic type of data and the abstract which previously appeared on sheets containing text matter are removed from such pages and consolidated on the front page.

Data elements presented on the front page are accompanied by a number which appears in brackets.

The numbers are data element identifiers which have been adopted internationally for use on patents and published applications to facilitate the worldwide use of such documents as set forth below:

[11] Patent number
[21] Application number
[22] Filing date
[31] Application number (of a Convention priority application)
[32] Filing date (of Convention priority application)
[33] Country in which the Convention priority application was filed
[45] Date of Patent issue: followed by terminal disclaimer, if any
[51] International Patent Classification: basic classification in bold face type; other in light face

[52] U.S. Classification: Original class and subclass in bold face type; cross-references in light face
[54] Title of the invention: Followed by the number of claims and drawing figures
[56] References cited: List of prior art documents cited by the examiner, arranged in the following categories:
United States Patents
Foreign Patents or Applications
Other Publications
[60] Related U.S. Applications:
[62] Due to Division(s)
[63] Due to Continuation(s)
[64] Due to reissue(s)
[72] Name(s) of the Inventor(s)
[73] Assignee(s)
[•] Field of Search: Subclasses recorded on the file wrapper as searched by the examiner
[•] Primary Examiner: The person responsible for review of the patent allowance or who, in addition, examined and allowed the patent application
[•] Assistant Examiner: the person who examined and allowed the patent application, other than a primary examiner
[•] Attorney: the principal attorney of record at the time the allowed application was prepared for patent printing
[•] Abstract

Element numbers have not been assigned to the items denoted by the sign [•]

For earlier information respecting the front page format and date entries, reference is made to the notice published in the OFFICIAL GAZETTE of March 11, 1969 (860 O.G. 336–7).

WILLIAM E. SCHUYLER, JR.,
July 16, 1970. *Commissioner of Patents.*

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JULY 28, 1970

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	12-04-68
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	4-02-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	12-03-68
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director. Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	1-02-69
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director. Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	5-27-68
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	7-22-69
SECURITY, GROUP 220—S. BOYD, Director. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	9-11-68
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director. Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	1-03-69
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	12-17-68
PHYSICS, GROUP 280—R. L. EVANS, Director. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	12-16-68
DESIGNS, GROUP 290—S. BOYD, Director. Industrial Arts; Household, Personal and Fine Arts.	10-29-69
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director. Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	5-21-69
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director. Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	1-09-69
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director. Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	4-01-69
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director. Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	7-11-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director. Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	3-17-69

Total number of pending applications (excluding Designs)	181,651
Total number of Design applications pending	3,129

Expiration of patents: The patents within the range of numbers indicated below expire during July 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,644,159 to 2,647,258, inclusive
Plant Patents	Numbers 1,201 to 1,207, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

MIDLAND COOPERATIVES, INC. *v.* MIDLAND INTERNATIONAL CORPORATION

No. 8261. Decided February 26, 1970

[57 CCPA —; 421 F.2d 754; 164 USPQ 579]

1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—NEW ISSUES—TRADEMARK—TRADEMARK ACT, SECTION 2(e).

"We are not impressed with Cooperatives' attempt now, for the first time in this court, to invoke the provisions of section 2(e) of the Trademark Act which proscribes registration of a trademark which is merely descriptive or geographically descriptive. No issue relating to section 2(e) was raised in the District Court or before the Board."

2. TRADEMARK—OPPOSITION—RES JUDICATA—PRIOR DETERMINATION IN A CIVIL ACTION.

"Confronted with a judicial determination [in a civil action between the parties] that there was no likelihood of confusion, the only issue before the Board upon which to sustain the opposition had been resolved against Cooperatives, whereupon the Board applied the doctrine of *res judicata*, holding that Cooperatives was 'estopped from asserting in this proceeding that it would be damaged * * *.'"

3. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—NEW ISSUES—TRADEMARK.

"Confronted with an adverse decision [in a civil action between the parties], it is not permissible for Cooperatives to invoke the appellate jurisdiction of this court *de novo* on matters not at issue and hence not determined below [in an opposition proceeding]."

4. TRADEMARK—OPPOSITION—RES JUDICATA—ESTOPPEL—PRIOR DETERMINATION IN A CIVIL ACTION.

"It is our view that the District Court, in response to allegations made by Cooperatives and issues joined by the parties, has judicially determined, adversely to Cooperatives, the vital issues raised by the notice of opposition. The very essence of its defense to the application filed by International that confusion in trade would result with ensuing damages had been finally resolved when proceedings were resumed by the Board. The Board correctly applied the principle of estoppel."

APPEAL from Patent Office. Opposition No. 44,364.

AFFIRMED.

Ira Milton Jones, for appellant.

Thomas E. Scofield (*Claude W. Lowe*, *Carter H. Kokjer*, *Scofield, Kokjer, Scofield & Lowe*, of counsel) for appellee.

Before RICH, *Acting Chief Judge*, ALMOND, BALDWIN, LANE, *Associate Judges*, and FORD, *Judge*, United States Customs Court, sitting by designation

ALMOND *J.*, delivered the opinion of the court.

This is an appeal from a decision of the Trademark Trial and Appeal Board dismissing a trademark opposition proceeding.

Midland International Corporation (hereinafter International) filed application to register "MIDLAND" for electric meters, alleging use since August 15, 1962.

Midland Cooperatives, Inc. (hereinafter Cooperatives) opposed registration on the ground of prior use of the term MIDLAND, both as a trademark and as a trade name for various electrical devices, gauges, thermometers, meters, battery testers, and tools of various types and kinds, including screw drivers, nut drivers, wrenches, pliers, drills,

levels and vises, hardware, appliances, petroleum products, paints, agricultural products, such as seeds, fertilizers and the like, and automotive products of various kinds, contending that confusion in trade would be likely to occur. In its notice of opposition, Cooperatives asserted ownership of a registration covering its mark.[1]

The notice of opposition was filed on September 15, 1964. International's answer, filed November 2, 1964, admitted Cooperatives' ownership of the trademark alleged in the notice of opposition, asserting, however, that the said registration on its face is for goods totally foreign and commercially unrelated to the electric meters set forth in the opposed application in that the goods consisted of petroleum products such as gasoline, kerosene, fuel oil, hydrocarbon lubricants, oils and greases. It is pertinent to further point out that International's answer to the notice of opposition denied that Cooperatives had ever manufactured, sold or distributed electric meters or any commercially related goods under the trademark or trade name MIDLAND; that it had built up any good will in the mark with respect to such goods; that it sells any goods that are in competition with International's electric meters or any goods that move through the same trade channels to the same class of customers as its electric meters; that any confusion in trade is likely to result from its use of the said trademark for electric meters and that Cooperatives would be damaged by registration of the mark to International for the goods set forth in its opposed application.

Within a week after filing its notice of opposition, Cooperatives instituted a civil action against International in the United States District Court for the Western District of Missouri,[2] alleging trademark infringement and unfair competition and alleging irreparable loss and injury. In its prayer for relief, Cooperatives sought to enjoin International from making any further use whatever of MIDLAND either as a trademark for any of its products or as a part of its trade name. The prayer for relief embraced damages and sought such other and further relief "as the Court may deem meet and just."

On November 9, 1964 Cooperatives filed a copy of its complaint with the Trademark Trial and Appeal Board with its motion to suspend proceedings therein pending resolution of the issues before the District Court, stating that "it will be apparent that a decision favorable to plaintiff in said action will be dispositive of the issues of the opposition." Accordingly, the motion to suspend was granted by a member of the Trademark Trial and Appeal Board, stating that "[i]t is inferred that the outcome of said civil suit will be determinative of the issues involved in the instant proceeding."

Upon hearing of the civil action on its merits, the District Court resolved all issues in favor of the defendant International, entering on February 20, 1967 final judgment from which no appeal was taken. Thereupon proceedings in the instant opposition were resumed upon request of Cooperatives, the opposer, before the Trademark Trial and Appeal Board, at which time the Board placed Cooperatives under an order:

> * * * to show cause why the instant proceeding should not be dismissed as involving issues which have already been fully determined in favor of applicant by the District Court in said civil action.

[1] Reg. No. 603,607, issued March 15, 1955 (for various petroleum products).
[2] *Midland Cooperatives, Inc.* v. *Midland International Corporation*, No. 15184–1.

Upon resumption of proceedings before the Board under the show cause order, Cooperatives contended that the decision of the District Court merely established International's right to use MIDLAND in commerce upon its goods but that it in no way established its right to register the mark. International countered that the issues raised in the notice of opposition were submitted in almost identical language in the complaint filed by Cooperatives in the civil action, and that upon the principle of *res judicata* Cooperatives is estopped from asserting that it would be damaged by International's registration of the mark.

In response to this issue, the Board stated and held:

> While * * * the question of applicant's right to register "MIDLAND" in the United States Patent Office was not before the court in the civil action and no ruling thereon was therefore made by it, the question of likelihood of confusion in respect to applicant's use of said mark on electric meters and opposer's use thereof on the goods recited in its notice of opposition was fully explored by the court, it being held that the simultaneous use by the parties of the mark on the specified goods would not be likely to cause confusion in trade.
>
> In view thereof, it is concluded that opposer is estopped from asserting in this proceeding that it would be damaged by reason of applicant's registration of the mark "MIDLAND" on the goods specified in its application. [Citations omitted.]

It is thus apparent that the decision of the Board was based on its construction of the issues raised and foreclosed by final determination in the civil action. This requires that we examine those issues.

In language almost identical to that employed in the notice of opposition, the complaint filed by Cooperatives in the civil action alleged:

> Plaintiff is engaged in the sale and distribution under the trademark and trade name "MIDLAND" of various electrical devices, including, inter alia, gauges, thermometers, meters, dry and wet cell batteries, and battery testers; tools of all types and kinds, [etc.] * * *

As did the notice of opposition, the complaint alleged large expenditures for advertising and promotion, stating that:

> As a result of the plaintiff's efforts and expenditures, plaintiff has acquired for its trademark and trade name "MIDLAND" a valuable and extensive good will as designating goods selected, distributed, sold, serviced and guaranteed by plaintiff.

The complaint further alleged that International, the defendant

> * * * sells and distributes *electrical and electronic goods, devices and appliances*, tools and sporting goods under the trademark "MIDLAND" and uses the term "MIDLAND" as a prominent portion of its business name and style. *The goods which defendant sells under the "MIDLAND" mark are in substantial part similar to and directly competitive with goods which plaintiff sells under its "MIDLAND" trademark and trade name and are, on the whole, of such nature that they might reasonably be supposed to emanate from or be sold by plaintiff when sold under a mark confusingly similar to plaintiff's "MIDLAND" mark.* [Emphasis supplied.]

The complaint alleged that International used the trademark MIDLAND for the "purpose of confusing and deceiving the purchasing public and trading upon plaintiff's valuable and extensive good will" whereby it had sustained irreparable loss and injury for which damages were sought and "such other and further relief as the Court may deem meet and just." Suffice it to say that the injunction sought by Cooperatives was broad and sweeping. If granted, it would have perpetually enjoined International "from using *in any manner whatsoever* the trademark and trade name 'MIDLAND' * * *." [Emphasis supplied.]

Upon the pleadings after trial and consideration of the evidence adduced by the parties, the issues were determined in favor of International and against Cooperatives, and final judgment duly entered. In essence the findings of the District Court, material here, as set forth in its "Memorandum and Order" are as follows:

> All of defendant's advertising features the MIDLAND name and defendant has used the MIDLAND mark on substantially all of its products since August, 1962.

The court further found that:

> Most types of merchandise in the plaintiff's line are not sold by defendant, such as baked goods, *petroleum products*, LP gas, fertilizer, seeds and feeds, building materials and supplies, farm, home and yard equipment and supplies, and electrical household and farm appliances. *Similarly, most of the items in defendant's line of specialized electrical equipment merchandise have no counterpart in plaintiff's line of merchandise*, such as microphones, microphone cartridges, microphone sound source mixers, transmitting and receiving crystals for radio use, field strength meters, test oscillators and signal tracers for electronic service work, oscilloscopes, vacuum tube voltmeters, multimeters and panel meters for electronic applications and servicings, UHF converters and remote control units for television receivers, telephone amplifiers, hi-fi components, loud speakers and earphones. [Emphasis supplied.]

The court further observed and found:

> No evidence was adduced on which this court could predicate a finding that confusion, mistake or deception did in fact result from defendant's use of MIDLAND. Nor can this court make such a finding or a finding that such confusion, mistake, or deception is reasonably likely to occur without some factual basis in the record upon which such findings could be based.
>
> * * * * * * *
>
> Under the facts presented, it cannot fairly be said that the term "MIDLAND" has acquired any significant meaning as to plaintiff in commercial fields other than petroleum distribution.

The basic and controlling issue here, as we see it, is whether the Board properly dismissed the opposition on the grounds of estoppel within the ambit of principles involving the doctrine of *res judicata*.

In the opposition the issue was likelihood of confusion in trade based on Cooperatives' asserted ownership of any superior rights in the trademark and trade name MIDLAND and damage that would ensue by registration of the mark to International for electric meters. In comparison, in the infringement action in the District Court, Cooperatives likewise asserted ownership of and superior rights in the MIDLAND trademark and trade name, as a basis to enjoin International from using the term in any way, shape or form in connection with any of its electrical or electronic products, including meters, and to claim damages for past infringement and "such other and further relief as the Court may deem meet and just."

The factual allegations relating to Cooperatives' use of MIDLAND for various electrical devices, meters and other goods appearing in the complaint are almost identical to those asserted in the notice of opposition. In both instances Cooperatives relied on its ownership of a registration covering the trademark MIDLAND for various petroleum products.

The District Court found that most types of merchandise in Cooperatives' line were not within the scope of International's line. In fact, International's electric meters were found as having no counterpart in Cooperatives' line of merchandise. The court made no finding that Cooperatives had ever used MIDLAND for electric meters or related goods and no ruling that Cooperatives had any right to use the term in connection with such goods.

With plenary jurisdiction of the parties and the subject matter involved, the District Court held that International had used, and had the right to continue using, the mark MIDLAND for all of its goods, including electric meters. It imposed no restrictions, qualifications or limitations on the right of International to use the mark.

It is manifest from the record that the sole issue before the Board by reason of the allegations of the application and the notice of opposition was grounded on section 2(d) of the Trademark Act of 1943 (15 U.S.C. 1052(d)) proscribing registration of a trademark if it:

> Consists of or comprises a mark which so resembles a mark registered in the Patent Office or a mark or trade name previously used * * * by another * * *, as to be likely, when applied to the goods of the applicant, to cause confusion, or to cause mistake, or to deceive * * *.

[1] We are not impressed with Cooperatives' attempt now, for the first time in this court, to invoke the provisions of section 2(e) of the Trademark Act which proscribes registration of a trademark which is merely descriptive or geographically descriptive. No issue relating to section 2(e) was raised in the District Court or before the Board.

[2] Confronted with a judicial determination that there was no likelihood of confusion, the only issue before the Board upon which to sustain the opposition had been resolved against Cooperatives, whereupon the Board applied the doctrine of *res judicata*, holding that Cooperatives was "estopped from asserting in this proceeding that it would be damaged * * *."

Appellant advances the argument that the decision of the Board is fallacious because it assumed that an opposer never has standing to maintain an opposition unless he can establish likelihood of confusion in trade. We are not persuaded that the Board made any such assumption. The Board dealt with the sole issue before it which had been competently resolved in litigation between the parties. It appears to us that on the issues raised in the notice of opposition and decided in the District Court the Board, in view of the status of the proceedings before it, had no other alternative.

[3] Confronted with an adverse decision, it is not permissible for Cooperatives to invoke the appellate jurisdiction of this court *de novo* on matters not at issue and hence not determined below. In *Robert Hall Clothes, Inc.* v. *Studds*, 48 CCPA 831, 286 F.2d 615, 128 USPQ 542 (1961), this court said:

> As to the other grounds for its appeal, namely that "ROSE HALL" is geographically descriptive, is not used as a trademark, and is not used in interstate commerce, we do not believe appellant, as a matter of right, can raise these issues at this time since it failed to include them as grounds for these opposition proceedings in the original notice of opposition and we find no amendment in the record which includes them. [Citations omitted.]

We think the observation of this court in *Joseph & Feiss Co.* v. *Joseph Kanner Hat Co.*, 52 CCPA 841, 337 F.2d 1014, 143 USPQ 297 (1964), has relevancy to the instant appeal. The court said:

> Coming now to appellant's contention that the mark HENLEY is unregistrable because it is both a geographically descriptive word and a surname, we believe that the Board did not err in declining to rule on that contention. It relates to a matter having no relevancy to the present proceedings which involve the question of whether appellee has superior rights in HENLEY as found by the Board.

To support its contention that this court should consider the geographical grounds, now urged as a basis for denial of registration,

Cooperatives cites several cases. These cases, *Model Brassiere Co.* v. *Bromley-Shepard Co.*, 18 CCPA 1294, 49 F.2d 482, 9 USPQ 238 (1931); *United Shoe Machinery Corp.* v. *Compo Shoe Machinery Corp.*, 19 CCPA 1009, 56 F.2d 292, 12 USPQ 246 (1932), and *Meehanite Metal Corp.* v. *International Nickel Co.*, 46 CCPA 765, 262 F.2d 806, 120 USPQ 293 (1959), have no application to the instant situation since the issues therein were raised below and were properly before the court on appeal. In the instant appeal such is not the case. The ground now urged as a basis for refusing registration was not raised in the original proceedings below and was not considered by the Board.

Cooperatives asserts here that it "is dealing in the same goods (electric meters) covered by the statement in International's application, and in other closely related goods." It is noted, however, that Cooperatives, in substance, made the same allegation in the District Court. The court found that "most of the items in defendant's line of specialized electrical equipment merchandise *have no counterpart* in plaintiff's line of merchandise * * *." [Emphasis supplied.]

[4] It is our view that the District Court, in response to allegations made by Cooperatives and issues joined by the parties, has judicially determined, adversely to Cooperatives, the vital issues raised by the notice of opposition. The very essence of its defense to the application filed by International that confusion in trade would result with ensuing damages had been finally resolved when proceedings were resumed by the Board. The Board correctly applied the principle of estoppel. The Board, properly, we think, cited in support of its decision *Seven-Up Company* v. *Bubble Up Corporation, etc.*, 50 CCPA 1012, 312 F.2d 472, 136 USPQ 210 (1963), which involved cancellation proceedings in which the registrant relied on the defense of laches. The petitioner for cancellation sued the registrant for infringement. The defense of laches was again interposed and sustained by the court, whereupon the Trademark Trial and Appeal Board dismissed the proceeding on the ground that the issue of laches had been resolved in the infringement suit. This court affirmed the decision of the Board and, in so doing, observed that the question before it was whether the issue of cancellation of Bubble Up's trademark registrations was in issue in the prior action. The court said:

> It is the essence of *res judicata* that an end should be put to litigation—that when the parties have previously litigated a cause, they are barred from litigating the matter anew in a separate action. *Cromwell* v. *County of Sac*, 94 U.S. 351. If the second suit is for a different cause of action, any facts actually determined in the first suit between the same parties are conclusively established. This doctrine of collateral estoppel is stated by Mr. Justice Harlan in *Southern Pacific Railroad* v. *U.S.*, 168 U.S. 1, as follows:
>
> > "The general principle announced in numerous cases is that a right, question or fact distinctly put in issue and directly determined by a court of competent jurisdiction, as a ground of recovery, cannot be disputed in a subsequent suit between the same parties or their privies; *and even if the second suit is for a different cause of action, the right, question or fact once so determined must, as between the same parties or their privies, be taken as conclusively established, so long as the judgment in the first suit remains unmodified.* [Emphasis CCPA.]

We have considered the cases cited and arguments advanced by the appellant and we are not persuaded of reversible error in the decision of the Board, which we affirm.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,703,579, Merancy and Welsz, AUTO CAR WASHING MACHINE; **3,304,565,** H. Fuhring, CLEANING INSTALLATIONS FOR VEHICLES, **filed** May 22, 1970, D.C. Colo. (Denver), Doc. C–2299, *California Car Wash Systems, Inc.* v. *Danco, Inc., doing business as Colorado Mfg. Co. et al.*

2,741,893, Vandamme and Rouyer, METHOD AND APPARATUS FOR PRODUCING CRINKLED YARN; **2,761,272,** same, APPARATUS FOR PRODUCING CURLED YARN; **2,780,047,** same; **2,788,631,** J. Crouzet, TWIST ARRESTORS FOR YARN TWISTERS; **2,823,513,** Vandamme and Rouyer, APPARATUS FOR PRODUCING CURLED YARN; **2,823,514,** same; **2,891,375,** same, APPARATUS FOR THE PRODUCTION OF HIGH-BULK YARN; **2,944,319,** H. Crouzet, HEATING DEVICE FOR FILAMENTS; **3,012,397,** H. Servage, METHOD OF MAKING HIGH-BULK YARNS; **3,117,361,** H. Crouzet, YARN HEAT TREATMENT APPARATUS; **3,117,410,** same, PRODUCTION OF BULKED PLY YARNS OF BALANCED TENSILE STRENGTH AND THE YARN; **3,123,973,** H. Servage, PROCESS FOR THE PRODUCTION OF FANCY YARNS HAVING A THREE DIMENSIONAL CURL; **3,137,119,** C. Crouzet, PROCESS FOR THE PRODUCTION OF HIGH BULK YARNS; **3,165,881,** De Moncuit and Crouzet, PRODUCTION OF HIGH BULK YARNS; **3,166,881,** H. Servage, APPARATUS FOR THE MANUFACTURE OF HIGHLY CRIMPED YARNS BY FALSE TWIST; **3,232,037,** H. Crouzet, FALSE-TWIST SPINDLE; **3,237,392,** same PROCESS FOR PRODUCING BULKED YARN; **3,283,414,** same, THERMAL TREATMENT OF SYNTHETIC TEXTILES; **3,333,409,** same PROCESS FOR PRODUCING HIGH BULK STRETCH YARNS; **3,382,656,** H. Crouzet, FALSE-TWIST FRAMES AND METHOD FOR TEXTURING SYNTHETIC FILAMENTS, **filed** June 3, 1970, D.C., M.D.N.C. (Greensboro), Doc. C–116–G–70, *Frank IX & Sons* v. *Deering Milliken Research Corp. et al.*

2,761,272. (See 2,741,893.)

2,780,047. (See 2,741,893.)

2,788,631. (See 2,741,893.)

2,803,105, Stoddard and Seem, APPARATUS FOR PROCESSING TEXTILE YARNS; **2,803,108,** same, METHOD OF PROCESSING TEXTILE YARNS; **2,803,109,** same, METHOD OF PROCESSING THERMOPLASTIC YARNS; **3,044,247,** R. G. Hilbert, HIGH SPEED FALSE TWISTER SPINDLE AND MACHINE; **3,131,218,** same, HIGH SPEED FALSE TWIST SPINDLE DRIVE, **filed** May 1, 1970, D.C., S.D.N.Y., Doc. 70C–569, *Sondra Manufacturing Co., Inc.* v. *Leesona Corporation.*

2,803,108. (See 2,803,105.)

2,803,109. (See 2,803,105).

2,823,513. (See 2,741,893.)

2,823,514. (See 2,741,893.)

2,891,375. (See 2,741,893.)

2,944,319. (See 2,741,893.)

3,012,397. (See 2,741,893.)

3,044,247. (See 2,803,105.)

3,048,498, Juvinall and Marsh, ELECTROSTATIC SPRAY COATING SYSTEM; **3,169,882,** Juvinall, Kock and Marsh, ELECTROSTATIC COATING METHODS AND APPARATUS, **filed** May 26, 1970, D.C.N.J. (Newark), Doc. C–671–70, *Elecgrogasdynamics, Inc.* v. *Ransburg Electro-Coating Corp., Eclipse Equipment Co. and H. Warren Beach.*

3,117,361. (See 2,741,893.)

3,117,410. (See 2,741,893.)

3,123,973. (See 2,741,893.)

3,134,218. (See 2,803,105.)

3,137,119. (See 2,741,893.)

3,165,881. (See 2,741,893.)

3,166,881. (See 2,741,893.)

3,169,882. (See 3,048,498.)

3,229,237, L. H. Berkelhamer, SMALL ELECTRICAL UNIT WITH MOLDED CERAMIC COATING, **filed** Apr. 24, 1969, D.C., N.D. Ind. (Fort Wayne), Doc. 69–F–39, *North American Philips Corporation* v. *LTV Electrosystems, Inc.* Final judgment in favor of plaintiff; defendant enjoined, June 1, 1970.

3,232,037. (See 2,741,893.)

3,237,392. (See 2,741,893.)

3,263,378, J. P. Dorris, PRECAST SUBTERRANEAN UTILITY VAULT STRUCTURES; **3,263,579,** same, RING AND COVER CONSTRUCTION FOR UNDERGROUND VAULTS, **filed** May 25, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70–1148–CC, *Concrete Conduit Company* v. *Quikset Vault Sales Corporation et al.*

3,263,579. (See 3,263,378.)

3,283,414. (See 2,741,893.)

3,303,001. (See 3,388,972.)

3,301,565. (See 2,703,579.)

3,309,256, R. Warsager, APPARATUS FOR SURFACE DECORATING OF ARTICLES, **filed** June 2, 1970, D.C.N.J. (Newark), Doc. 706–70, *Rubin Warsager* v. *Dri-Print Foils, Inc.*

3,333,409. (See 2,741,893.)

3,382,045. (See 3,388,972.)

3,382,656. (See 2,741,893.)

3,388,972, Reitmeier and Fleming, LOW TEMPERATURE SHIFT REACTION CATALYSTS AND METHODS FOR THEIR PREPARATION; **3,303,001,** E. K. Dienes, LOW TEMPERATURE SHIFT REACTION INVOLVING A ZINC OXIDE COPPER CATALYST; **3,382,045,** Hebermehl and Atwood, PRODUCTION OF HYDROGEN, **filed** June 26, 1968, D.C., N.D. Ohio (Cleveland), Doc. C68–459, *Catalysts and Chemicals, Inc.* v. *The Standard Oil Company.* Stipulation and order, complaint and counterclaim dismissed without prejudice, Apr. 20, 1970.

3,475,756, L. J. Martino, POLARIZATION DIVERSITY LOOP ANTENNA, **filed** Oct. 29, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c2226, *Avanti R and D, Inc.* v. *Allied Radio Corporation.* Consent judgment, plaintiff owner of patent, defendant permanently enjoined, May 4, 1970.

3,478,875, J. H. Roberts, METHOD AND APPARATUS FOR SEPARATING NUT MEATS FROM SHELLS, **filed** May 18, 1970, D.C. M.D. Ala. (Montgomery), Doc. 3080–N, *James H. Roberts and Meyer Machine Company, Div. RAMO, Inc.* v. *Sheldon Martin and Montgomery Pecan Company.*

3,491,998. (See Re. 26,725.)

Re. 26,725, J. W. Sellner, COMBINED RECLINING EXERCISING AND MASSAGING DEVICE; **D. 213,889,** G. Lyon, EXERCISING DEVICE; **3,491,998,** same, COT EXERCISING DEVICE, **filed** Dec. 2, 1969, D.C., C.D. Calif (Los Angeles), Doc. 69–2393–FW. *Relaxaway Corporation* v. *Embro Co., Inc. and John W. Sellner.* (Amended report.)

D. 213,889. (See Re. 26,725.)

DEFENSIVE PUBLICATIONS

PUBLISHED AUGUST 18, 1970

Published at the request of the applicant or owner in accordance with the Notice of Dec. 16, 1969, 869 O.G. 687. The abstracts of Defensive Publication applications are identified by distinctly numbered series and are arranged chronologically. The heading of each abstract indicates the number of pages of specification, including claims and sheets of drawings contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Defensive Publication applications have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

T877,001

ETHYLENE/VINYL ACETATE COPOLYMER WATER RESISTANT ADHESIVES

Bert Sorelle Gorton, Kennett Square, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 28, 1969, Ser. No. 828,768

Int. Cl. C08f *3/56;* **C08g** *9/10*
U.S. Cl. 260—29.4

No Drawing. 11 Pages Specification

The water resistance of adhesives of ethylene/vinyl acetate copolymer emulsions using polyvinyl alcohol as a protective colloid is improved by the addition of dimethylol urea or a mixture of urea and paraformaldehyde. The addition of an alcohol, such as methanol, prevents coagulation and gelling of the emulsion. An adhesive emulsion composition usually comprises a copolymer of 35 to 12 weight percent ethylene and 65 to 88 weight percent vinyl acetate, 4 to 6 weight percent, based on copolymer weight, of a polyvinyl alcohol protective colloid, the polyvinyl alcohol being present during the formation of the copolymer, 6 to 10 weight percent dimethylol urea (or other urea-formaldehyde adducts) and 3 to 8 percent methanol. The adhesives are useful for bonding porous and non-porous substrates such as film, paper, cloth and leather. Thus, they can be used in preparing articles such as cartons, bags, cups, labels and tubes. They are particularly suitable for use in applications where exposure to moisture is likely. Fillers, pigments, dyes and other additives can be used in the adhesive.

T877,002

REACTION OF DIALKYLKETENES WITH THIOPHOSGENE

James C. Martin and Paul G. Gott, both % Tennessee Eastman Company, P.O. Box 511, Kingsport, Tenn. 77661

Continuation of application Ser. No. 686,830, Nov. 30, 1967. This application Oct. 13, 1969, Ser. No. 889,411

Int. Cl. C07c *51/58*
U.S. Cl. 260—544

No Drawing. 11 Pages Specification

Preparation of novel dialkylthiomalonyl chlorides by reacting thiophosgene with dialkylketenes of the type in which the alkyl substituents may be the same or different alkyl groups containing from 1 to 12 carbon atoms, with or without a solvent, at controlled reaction temperatures ranging from 0° to 200° C. and thereafter separating dialkylthiomalonyl chlorides thus formed from the reaction mixture by distillation. The novel compounds of the invention are useful as intermediates for the preparation of dialkylthiomalonamides, which in turn are useful as catalysts in the preparation of modified epoxy resins.

T877,003

STABILIZED OIL-IN-WATER EMULSIONS

Robert W. Butler, Hyde Park, and Alexander J. Ganz, Wilmington, Del., Murray J. Jaye, Dallas, Tex., and Eugene D. Klug, Wilmington, Del., assignors to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

Filed Dec. 17, 1969, Ser. No. 886,020

Int. Cl. A23l *1/24*
U.S. Cl. 99—144

No Drawing. 10 Pages Specification

Preparation of stable oil-in-water emulsions e.g. foods (for instance French dressing), cosmetics, pharmaceuticals wherein the aqueous phase of the emulsions include in solution sugars and/or salts plus certain cellulose ethers as emulsifier-stabilizer agents. These agents are a particular hydroxypropyl-cellulose and/or carboxymethyl hydroxypropyl cellulose having critical substitution values. The substitution values are for the hydroxypropyl cellulose a hydroxypropyl M.S. of about 0.7–1.8 and for the carboxymethyl hydroxypropyl cellulose a carboxymethyl D.S. of about 0.01–0.5 and a hydroxypropyl M.S. of about 0.7–1.8. Hydroxypropyl cellulose and carboxymethyl hydroxypropyl cellulose having substitution values outside these ranges are greatly hindered from accomplishing their dual emulsification and stabilization roles by the presence of the salts and/or sugars, particularly at temperatures of about 40° C.–60° C. (and in some cases up to 65° C.). The instant emulsions are stable from about minus 10° C. to about 65° C. The emulsions may contain various other conventional ingredients including e.g. acid or acidic materials, coloring, flavoring.

Preparation of the emulsions is not critical; conventional methods are applicable and many such methods are well known, as the artisan will appreciate. Also processes are known for preparing the hydroxypropyl cellulose and the carboxymethyl hydroxypropyl cellulose useful in this invention, including e.g. the processes of U.S. Patents 2,572,039 and 2,618,632.

T877,004

WINDOWED OVEN DOOR

Richard E. Payne, Mansfield, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio

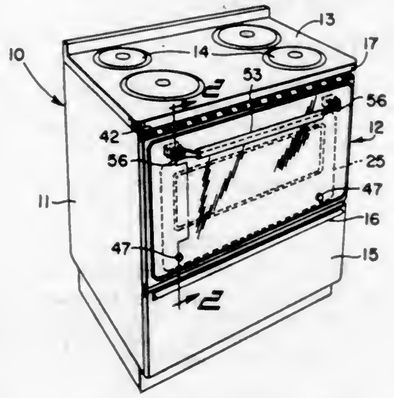
Filed Jan. 16, 1970, Ser. No. 3,332

Int. Cl. F23m *7/00*
U.S. Cl. 126—200

1 Sheet Drawing. 8 Pages Specification

An outer glass plate is mounted removably on the normal front of the oven door in spaced relation and extending over the major area of the same. The mounting

involves only negligible contact between the two and in part also attaches the handle to the door, so that air can



circulate freely behind the outer glass and the handle can be applied to the door without as well as with the glass.

T877,005
GLARE SHIELDS
Paul Rene Schindler, Markyate, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Jan. 23, 1970, Ser. No. 5,371
Claims priority, application Great Britain, Jan. 28, 1969, 4,598/69
Int. Cl. B44d *5/06;* **B29d** *11/00*
U.S. Cl. 117—33.3
No Drawing. 4 Pages Specification

Improvements in glare shields, for example sun glasses, are disclosed wherein a layer of copper between 50 A. and 1,000 A. in thickness is deposited on a layer of thermoplastic film. The light transmitted by the copper is predominantly green, therefore objects viewed through these glare shields have a green tinge. No ultra-violet light is transmitted by the copper film produced according to the invention thus giving good protection to the eye. The known technique of vacuum sputtering is used to apply the copper to the thermoplastic film.

Suitable thermoplastic films according to the invention are polymers and copolymers of the α-olefins such as ethylene, propylene and 4-methyl pentene-1; polymers and copolymers of styrene and particularly condensation polymers such as polyethylene terephthalate.

The resulting copper metallized thermoplastic film may be laminated to other thermoplastic material or to glass. However, if the metallized film is not laminated, coating of the copper layer with a protective transparent lacquer is recommended. Copper deposited on the thermoplastic film polyethylene terephthalate is particularly suitable for the manufacture of ski goggles.

T877,006
LASER STABILIZATION AND/OR PHOTODEVELOPMENT OF SILVER HALIDE MATERIALS
John Carl Marchant, Webster, and John Ridler Tinney, Macedon, N.Y. (both % Kodak Park Division, Rochester, N.Y. 14650)
Filed Jan. 29, 1970, Ser. No. 6,955
Int. Cl. G03c *5/04, 5/32, 5/38*
U.S. Cl. 96—45.2
No Drawing. 7 Pages Specification

This disclosure relates to silver halide systems wherein a spot laser beam is used to stabilize an area of a silver halide photographic element. In one aspect, the silver halide system preferably stabilized and/or photodeveloped by this technique contains silver halide grains having polyvalent metal ions occluded therein, preferably trivalent metal ions such as bismuth, iridium and the like, said system further comprising a halogen acceptor, such as a direct-print halogen acceptor, contiguous to the grains. In one preferred embodiment, a high-intensity imagewise exposure is used to record an image on the silver halide layer which can be a laser light source when the emulsion is appropriately sensitized. A defocused laser is then used to heat-stabilize the silver halide in the image exposure areas; a laser of a second wave length is used if the emulsion is laser-sensitized for the first exposure. Subsequent image exposures can then be made on the same photographic element followed by localized image stabilization. In certain instances, low-intensity laser beams or other localized light sources can be used to photodevelop the image in localized areas after stabilization.

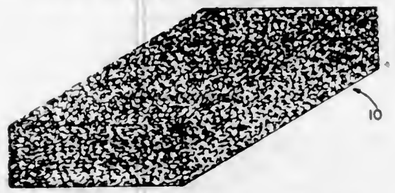
T877,007
IONOMER FILM STRUCTURE HAVING IMPROVED SLIP AND GLOSS PROPERTIES
Russell T. Uhline 2216 Rio Grande St., Orange, Tex. 77630
Filed Jan. 30, 1970, Ser. No. 7,229
Int. Cl. C08f *45/44*
U.S. Cl. 260—32.6
No Drawing. 6 Pages Specification

A film structure of an ionic copolymer is provided which is characterized by improved gloss and slip properties; the ionic copolymer includes between about 1% and about 3%, by weight based upon the weight of the ionic copolymer, of N,N'-ethylene-bis-oleamide, and between about 0.1% and about 0.5%, by weight based upon the weight of the ionic copolymer, of a siliceous material having an average particle size of between about 0.1 and about 10 microns. The improved ionic copolymer film structure is characterized by a 20° Gardner gloss of between about 70 and about 80. The improved ionic copolymer film structure is useful for packaging uses.

T877,008
PRODUCTION OF LITHOGRAPHIC PRINTING PLATES FROM DYE DEVELOPER IMAGES
Paul H. Stewart, % Eastman Kodak Company, 343 State St., Rochester, N.Y. 14650
Filed Feb. 3, 1970, Ser. No. 8,397
Int. Cl. G03c *5/54;* **G03f** *7/02*
U.S. Cl. 96—29
No Drawing. 17 Pages Specification

A lithographic printing plate is provided by processing an exposed photosensitive element comprising at least one light-sensitive silver halide emulsion layer and a dye developer, which is both a silver halide developing agent and a dye, contiguous to the silver halide of the silver halide emulsion layer, with an alkaline solution so as to develop a latent image in the regions of exposure of the silver halide emulsion layer. The dye developer is immobilized in the regions of exposure with the remaining dye developer diffusing imagewise in register to a hydrophilic dye developer reception element where it forms thereon an oleophilic image receptive of printing ink. The resulting reception element constitutes a positive-working lithographic plate which may then be moistened, inked and placed upon a lithographic printing press to produce up to 1000 positive lithographic prints. The reception element can comprise a metal such as aluminum with a hydrophilic coating, a fogged silver halide emulsion coated on a paper support or a support coated with a polymeric acid layer, a polymeric timing layer and a dye developer mordant layer. Washing and heat-treating the lithographic plate will improve the inking characteristics and longevity of the plate.

T877,009
RESILIENT, FIBROUS BATTING
Richard Dixon Neal and Frank Herbert De Nobriga, both % Tennessee Eastman Company, P.O. Box 511, Kingsport, Tenn. 77661
Continuation of application Ser. No. 602,637, Dec. 19, 1966. This application Feb. 9, 1970, Ser. No. 9,100
Int. Cl. D04h *1/06*
U.S. Cl. 161—150
2 Sheets Drawings. 20 Pages Specification



A fibrous batting product having a high degree of compression recovery and structural integrity and comprising polymeric fibers having a relatively low degree of molecular orientation intermingled with polymeric fibers having a relatively high degree of molecular orientation with the first mentioned fibers being adhered at random points to the second mentioned fibers and being shrunk in length so that the second mentioned fibers have been pulled into loops, swirls and other configurations differing from a substantially straight line; and the method for making the product. The first group may be undrawn polyethylene terephthalate and the second group may be selected from group consisting of drawn poly(1,4-cyclohexylene-dimethylene terephthalate) and drawn polyethylene terephthalate fibers. The batting may be heated to a temperature at least as high as the second order transition temperature of the fibers having a relatively low degree of molecular orientation but substantially not greater than the sticking point of the fibers having a relatively high degree of molecular orientation whereby the fibers having the low degree of molecular orientation will shrink causing the batting to shrink in length and breadth and tend to expand in thickness. If the fibers are crimped, upon heating, the crimped knuckles of the fibers having a low degree of molecular orientation will interengage with the crimped knuckles of the fibers having a relatively high degree of molecular orientation.

T877,010
PHOTOGRAPHIC ELEMENT AND PROCESS
Robert C. Harvey, % Kodak Park Division, Rochester, N.Y. 14650
Filed Feb. 11, 1970, Ser. No. 10,636
Int. Cl. G03c *7/16, 1/12*
U.S. Cl. 96—23
No Drawing. 9 Pages Specification

Color separation process in which photographic elements comprising a transparent support; coated thereon two silver bromoiodide sensitive emulsions, the first a panchromatically sensitized with the combination of 2,2' cyanine dye, a thia-2'-cyanine dye and a selenocarbocyanine dye and coated at a silver coverage of from 400–700 mg. per sequare foot, a grain size of less than 0.5μ and a silver iodide content of 2.25 mol percent; the second emulsion of medium grain size of between 0.5–1.0μ containing about 4 mol percent silver iodide with a silver coverage of approximately 540 mg. per square foot and sensitive to blue radiation, but practically insensitive to green and red radiations and lastly a protective gelatin coat; and in which process the differently exposed negatives are processed under the same conditions to obtain equal gammas.

T877,011
USE OF SILVER PI-COMPLEX STABILIZERS
Kenneth R. Dunham, % Kodak Park Division, Rochester, N.Y. 14650
Filed Feb. 11, 1970, Ser. No. 10,638
Int. Cl. G03c *1/02, 5/38*
U.S. Cl. 96—94
No Drawing. 22 Pages Specification

A developed image in a photographic element containing a photographic pi-complex of a silver salt, especially a water-soluble silver salt and an organic compound, such as a silver cycloheptatriene pi-complex, can be stabilized with a silver pi-complex stabilizer, such as a thiadiazole, purine, benzimidazole, imidazoline, or pyrimidine. Such stabilizers are desirably odorless and form a stable silver mercaptide. The photographic element can contain light-sensitive titanium dioxide. An image in an exposed photographic element containing a photographic sliver pi-complex, a silver halide developing agent, and a silver pi-complex stabilizer can be developed and stabilized by heating the photographic element.

REISSUES

AUGUST 18, 1970

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,934
CHROMATOGRAPHIC SEPARATION OF SUBSTANCES OF DIFFERENT MOLECULAR WEIGHT

Karl Theo Rolf Mosbach, Berlin, Germany, assignor to Bio-Rad Laboratories, Richmond, Calif., a corporation of California

Original No. 3,298,925, dated Jan. 17, 1967, Ser. No. 244,434, Dec. 13, 1962. Application for reissue July 1, 1968, Ser. No. 746,218

Claims priority, application Sweden, Dec. 15, 1961, 12,556/61

Int. Cl. C08f *37/00*

U.S. Cl. 260—29.6 **12 Claims**

A method for chromatographic separation in which high molecular weight substances to be fractionated are passed through a solvent-swelled gel formed from bisacrylamide or glyoxal cross-linked polymers of certain ethylenically unsaturated monomers.

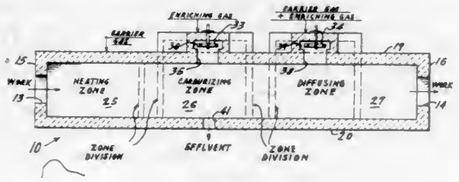
26,935
CARBURIZING METHOD AND APPARATUS

Orville E. Cullen, Toledo, Ohio, assignor to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio

Original No. 3,356,541, dated Dec. 5, 1967, Ser. No. 481,199, Aug. 20, 1965. Application for reissue June 26, 1968, Ser. No. 787,283

Int. Cl. C23c *11/12*

U.S. Cl. 148—16.5 **24 Claims**



The present invention relates to a continuous method for carburizing ferrous metal work. The work is passed successively through longitudinally extending and aligned heating, carburizing and diffusing zones. In one embodiment of the invention a high carbon potential is maintained in the carburizing zone and a lower carbon potential is maintained in the diffusing zone. The carbon potential of the carburizing and of the diffusing zones is controlled by introducing into the heating zone a carrier gas incapable of appreciable carburization of the work. Appreciable flow of the carrier gas is prevented except in the direction of work movement through the heating zone. A mixture of a carrier gas an an enriching gas, in proportions to provide the carbon potential desired in the diffusing zone, is introduced into the diffusing zone at a rate sufficient to cause a flow of the gas mixture toward the carburizing zone in a direction opposed to the work travel. Atmosphere is withdrawn from the carburizing zone at a rate which is substantially the sum of the rate at which the carrier gas is introduced into the heating zone and the rate at which the mixture of the carrier gas and the enriching gas is caused to flow toward the carburizing zone from the diffusing zone. An enriching gas is introduced in the carburizing zone and mixed with the atmosphere therein to provide the desired carbon potential in the carburizing zone. Substantially uniform and separtae recirculation of the atmospheres within the carburizing and diffusing zones is effected from a first to an opposed boundary of the zones and exteriorly of the zones back to the first boundary. Concurrently, atmosphere from the carburizing zone is prevented from flowing to either the heating zone or the diffusing zone.

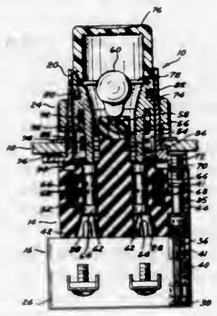
26,936
ILLUMINATED PUSHBUTTON SWITCHES HAVING TANDEM LAMP IMPEDANCE DEVICES

Joseph F. Waldorf, New Berlin, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Original No. 3,231,706, dated Jan. 25, 1966, Ser. No. 126,069, July 24, 1961. Application for reissue July 17, 1967, Ser. No. 661,139

Int. Cl. H01h *9/18*

U.S. Cl. 200—167 **5 Claims**



An illuminated pushbutton electrical switching apparatus including tandemly mounted pushbutton operator, illuminating apparatus including a lamp and transformer block, and contact block with reciprocating means passing through the transformer block to provide operating connection between the operator and contact block.

26,937
PLUG-IN SPONGE

Harold T. Sawyer, Pacific Palisades, Calif., assignor of seventeen and one-half percent to Vernon D. Beehler, Los Angeles, Calif.

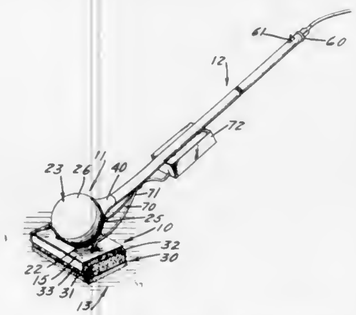
Original No. 3,402,009, dated Sept. 17, 1968, Ser. No. 483,463, Aug. 30, 1965, which is a continuation-in-part of Ser. No. 480,310, Aug. 17, 1965. Application for reissue Sept. 16, 1969, Ser. No. 862,994

Int. Cl. A47l *3/30*

U.S. Cl. 401—266 **6 Claims**

In a disclosure in which the invention is embodied there is provided a receptacle for retention of a composite sponge by means of which the sponge can be manipulated in one position or another over the surface upon which work is to be performed. The sponge has two different effective working surfaces, namely a relatively thick sheet of substantially conventional absorbent spongy material on one side and a relatively thin sheet of abrasive material on the opposite side. The composite sponge or pad is removable from the holder and reversible in position so that the different sheets can be used alternatively. The sheets are fastened together by a special adhesive and the adhesive selected is one which form a barrier between the sheets so that liquid cannot pass from one sheet to the

other. Consequently, if some sort of liquid cleaner can be advantageously used between the abrasive sheet and the surface being cleaned, the liquid cleaner will not be absorbed into the sponge on the opposite side. On those occasions where liquid cleaner is supplied from a reservoir, a liquid passage is provided extending entirely through the entire pad so that the liquid cleaner can pass from the reservoir to the surface being cleaned without being absorbed into the absorbent sheet when the abrasive



sheet is in contact with the surface being cleaned. The liquid cleaner moreover can reach the surface being cleaned even though the abrasive sheet is nonabsorbent, because of the hole passing also through the abrasive sheet. In order to keep the pad from shifting in position in the holder, the illustrative disclosure makes use of bosses on the interior of the holder extending into holes in the pad and the engagement thus provided functions no matter which side of the pad faces upwardly.

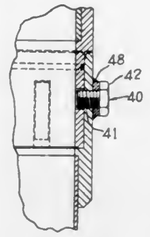
26,938
SEALED DRILL-STRING JOINT

Charles L. Rassieur, University City, Mo., assignor to Central Mine Equipment Company, St. Louis, Mo., a corporation of Missouri

Original No. 3,357,724, dated Dec. 12, 1967, Ser. No. 469,466, July 6, 1965. Application for reissue Nov. 17, 1969, Ser. No. 871,496

Int. Cl. F16l *25/00*

U.S. Cl. 285—330 **6 Claims**



A hollow drill-string joint with a female part with a cylindrical socket section at one end and a cylindrical drill string bore at the other, forming a continuous through passage, the socket section having a feather key slot extending entirely through its wall but a distance, axially from the outer end of the socket section so as to leave an uninterrupted, smooth inner surface between the outer end and the slot; a feather key mounted in the slot, projecting radially inwardly into the socket section and secured on the outside of the socket section to the wall thereof. The socket section has an aperture through its wall spaced circumferentially from the key. A hollow, male part has a cylindrical coupling section at one end complementary to the socket section of the female part, and a cylindrical drill string bore at the other end to define a continuous through passage in the male part. The male part has a keyway extending axially from its outer edge but terminating short of the inner end of the coupling section, leaving an area in which an annular seating channel is provided. The male part has a radial aperture positioned complementarily to the aperture in the female part. An O-ring is seated in the annular seating channel and is arranged to engage the smooth surface of the inner wall of the female part radially, when the joint is assembled. A bolt, extending through the apertures in the female and male parts respectively, prevents axial movement, and permits easy assembly and disassembly.

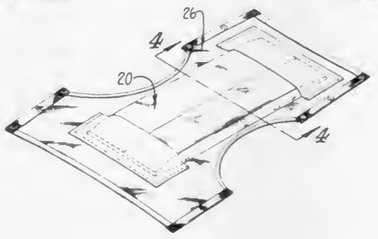
26,939
METHOD FOR IMPROVING A FLUFFED FIBROUS WOOD PULP BATT FOR USE IN SANITARY PRODUCTS AND THE PRODUCTS THEREOF

Laurence R. B. Hervey, West Concord, Mass., and Donald K. George, Greenwood, S.C., assignors, by direct and mesne assignments, to Riegel Textile Corporation, New York, N.Y., a corporation of Delaware

Original No. 3,395,708, dated Aug. 6, 1968, Ser. No. 593,004, Nov. 9, 1966. Application for reissue Oct. 8, 1969, Ser. No. 866,117

Int. Cl. A61f *13/16*

U.S. Cl. 128—284 **7 Claims**



A method for improving a fluffed fibrous wood pulp batt and the resulting product thereof comprising impregnating a wet slurry of wood pulp with a cationic debonding agent, forming the wet slurry into a wet pressed wood pulp sheet, drying, mechanically fiberizing the sheet and air-laying the fibers to form a fluffed fibrous wood pulp batt. This method and improved product provides a fluffed fibrous wood pulp batt which is substantially completely fiberized to eliminate undesirable residual sheet particles and minimize fiber breakage and dust to provide longer, stronger and more uniform fibers for producing greater loft, moisture absorption and strength in the batt to adapt the same for use in sanitary products or the like.

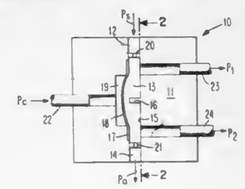
26,940
FLUID-OPERATED LOGIC DEVICES

Richard E. Norwood, Boulder, Colo., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Original No. 3,318,329, dated May 9, 1967, Ser. No. 384,921, July 24, 1964. Application for reissue May 15, 1968, Ser. No. 731,359

Int. Cl. F16k *7/17*; **G06d** *1/02*; **G06m** *1/12*

U.S. Cl. 137—599 **14 Claims**



Fluid control apparatus for performing logic functions of OR, NOR, AND and NAND in response to fluid pres-

sure pulses. Pressurized fluid is directed through a flow path including a restrictor and chamber having a flexible diaphragm dividing the chamber into flow and control portions. Fluid pressure pulses applied on the control side of the diaphragm are operable to displace the diaphragm and stop flow in the path. Outlet channels connected to the flow path provide pressure response signals. Combinations of parallel or serial diaphragm chambers and locations of outlet channels enable performance of the various logic functions.

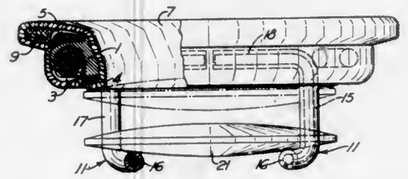
PATENTS

GRANTED AUGUST 18, 1970

GENERAL AND MECHANICAL

3,524,202
PROSTHETIC HEART VALVE
Harry W. Cromie, 529 Greenhurst Drive, Pittsburgh, Pa. 15216
Filed May 19, 1967, Ser. No. 639,854
Int. Cl. A61f *1/22*

U.S. Cl. 3—1 **7 Claims**



Extending away from one end of an annular metal valve body, which forms a passage for blood, is a cage containing a movable closure member for the passage. A suturing ring is connected to the other end of the body and projects radially outward from it. The body and ring are completely enclosed by a fabric cover that also forms a valve seat inside the cage.

3,524,203
WATER CLOSET ENCLOSURE
Kay L. Ruggles, Salt Lake City, Utah, assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 12, 1967, Ser. No. 689,885
Int. Cl. A47k *17/00*

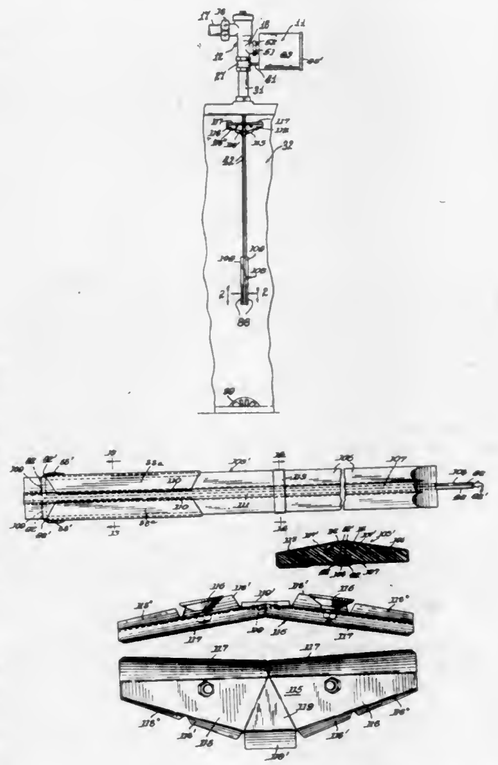
U.S. Cl. 4—1 **6 Claims**

A surround or shroud covering for enclosing water closets and which joins and blends the area occupied by the closet with the adjoining floor and wall surfaces into a composite structure. The shroud is so constructed it joins with a tile floor or may be continuous part of the floor. The shroud is of such size it can be used with a variety of conventional water closet configurations and an adapter is provided to join the shroud with the rim of the water closet.

3,524,204
URINAL WITH DIVERTER AND A VALVE ACTUATING DEVICE
Edward R. Rusnok, 1045 Dolores Drive, Bensenville, Ill. 60106
Original application Feb. 11, 1965, Ser. No. 431,934, now Patent No. 3,373,449, dated Mar. 19, 1968. Divided and this application Jan. 16, 1968, Ser. No. 726,256
Int. Cl. E03d *13/00*

U.S. Cl. 4—100 **11 Claims**

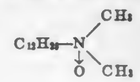
The present invention is directed to a urinal adapted to be operatively connected to a source of flushing water and an outlet therefor adapted to be connected to a drain, the urinal including a substantially vertical flushing surface, a diverter comprising downwardly and inwardly inclined spaced ridges integrally molded on the flushing surface intermediate the discharge opening for the flushing water at the upper end and the flushing surface and the discharge of flushing water to the drain, spaced terminals extending through the urinal surface and contiguous to the outlet for the discharge of flushing water, the terminals so positioned on the flushing surface of the urinal so that flushing water is diverted and flushes the terminals.



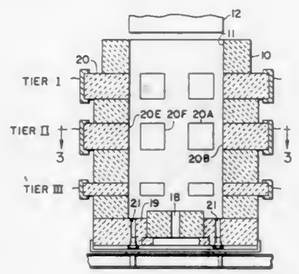
3,524,205
PROCESS FOR THE DYEING OF SYNTHETIC POLYAMIDE FIBRES AND FABRIC FROM AN ACID DYEBATH CONTAINING AN AMINOXIDE
Werner Langmann, Cologne-Flittard, Hellmuth Pantke, Leichlingen, Udo-Winfried Hendricks, Cologne-Stammheim, and Mathieu Quaedvlieg, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Aug. 10, 1967, Ser. No. 659,614
Claims priority, application Germany, Aug. 19, 1966, F 49,982
Int. Cl. D06p *3/24*

U.S. Cl. 8—172 **4 Claims**

The process of dyeing synthetic polyamide fibres or fabric, e.g. poly-caprolactam, in an acidic aqueous dyebath in the presence of an aminoxide, e.g.

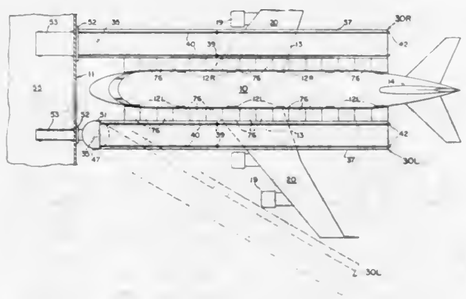


3,524,206
METHOD AND APPARATUS FOR MELTING THERMOPLASTIC MATERIALS
George B. Boettner, Yilmaz Can, and Edward F. Fanning, Corning, and Ralph E. Miller, Elmira, N.Y., and Frank W. Preston, Butler, Pa., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Apr. 8, 1968, Ser. No. 719,619
Int. Cl. C03b *5/02, 5/16*
U.S. Cl. 13—6 **5 Claims**



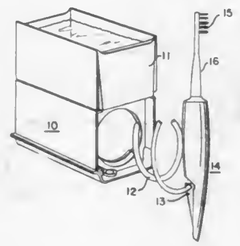
A vertically elongated furnace for the melting and refining of thermoplastic materials such as glass in which batch is introduced and melted in the upper part of the furnace, refined in a lower part of the furnace and withdrawn through the bottom of the furnace. The batch completely covers the molten material in the furnace and assumes a generally conical form projecting downwardly into the molten material. A plurality of electrodes spaced about the periphery of the furnace supply power for electrically melting the material.

3,524,207
OVER-THE-WING ACCESS STRUCTURE FOR SERVICING MULTIPLE DOORS IN COMMERCIAL JET AIRCRAFT
Ralph R. Giarretto, 4034 Wilson Lane, Concord, Calif. 94521
Continuation-in-part of application Ser. No. 635,467, May 2, 1967. This application May 5, 1969, Ser. No. 821,818
Int. Cl. B65g *11/00*
U.S. Cl. 14—71 **15 Claims**



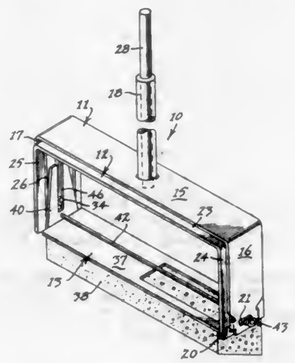
Multiple access doors or hatches at spaced locations along sides of commercial jet aircraft can be serviced simultaneously with a common elongated structure which serves as a passageway and has two, spaced supports, one of which supports the structure at one end and the other of which supports the structure in its central portion, so a portion thereof is cantilevered in order that this portion can be positioned over an aircraft wing root when the structure is generally aligned with the longitudinal axis of the aircraft, whereby laterally extensible units can be extended from the structure to the aircraft to simultaneously service multiple doors or hatches that may be located ahead of the wing root, over the wing root and aft of the wing root.

3,524,208
MOTOR DRIVEN TOOTHBRUSH
John W. Mattingly, Fort Collins, Colo., assignor to Aqua Tec Corporation, Fort Collins, Colo., a corporation of California
Filed Jan. 15, 1968, Ser. No. 697,774
Int. Cl. A46b *13/06;* **A47k** *7/04*
U.S. Cl. 15—22 **10 Claims**



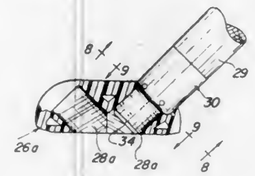
A hydraulic motor driven toothbrush comprises a handle having an expansible chamber hydraulic motor therein for producing reciprocating or oscillating movement of the brush. The motor is energized by a stream of liquid pressure pulses supplied from a source such as an oral hygiene appliance of the intermittent pulse jet type. The frequency of the pulses determines the rate of reciprocation or of oscillation of the brush.

3,524,209
COMBINATION SPONGE MOP AND WRINGER
William S. Foster, 819 W. 9th St., Columbia, Tenn. 38401
Filed Nov. 29, 1968, Ser. No. 780,032
Int. Cl. A47l *13/14, 13/257*
U.S. Cl. 15—119 **9 Claims**



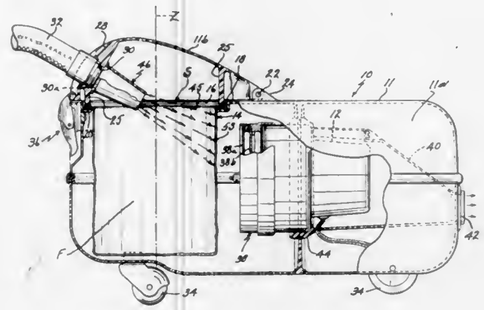
A combination sponge mop and wringer including a handle bracket, a mop head rotatably mounted on the handle bracket, and a wringer bracket reciprocably mounted upon the handle bracket and co-operating with the mop head to dispose the mop head in a mopping position when the wringer bracket is moved away from the mop head, and to rotate the mop head to a squeezing position when the wringer bracket is moved toward the mop head.

3,524,210
PUSH BROOMS AND BRUSH BLOCKS AND HANDLE MOUNTINGS THEREFOR
Scott McLean, 800 Wakefield Drive, Bowling Green, Ky. 42101
Filed Oct. 6, 1967, Ser. No. 678,145
Int. Cl. A46b *5/00;* **B25g** *3/30*
U.S. Cl. 15—145 **3 Claims**



A push broom defined by a handle and a brush block threadedly assembled and including latching means in the form of flexible projections and cooperating recesses positioned so as to secure the handle and brush block together in a positive manner, but yet permitting release when desired.

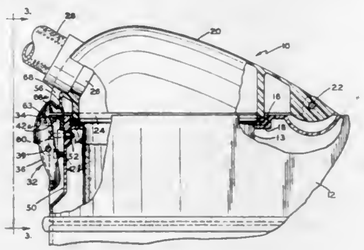
3,524,211
VACUUM CLEANER WITH AIR DIRECTOR TUBE
Lee A. Wolf, Cincinnati, Ohio, assignor to Haley Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed July 5, 1968, Ser. No. 742,915
Int. Cl. A47l *5/36*
U.S. Cl. 15—327 **8 Claims**



A cannister-type vacuum cleaner comprising a casing having a suction unit mounted in the casing and a dust collecting unit such as a formanious dust bag, mounted in the casing and having air directing means extending interiorly of the casing and adapted to direct the air flow toward the interior of the foraminous wall of the dust collecting unit, thereby maintaining at least a portion of the foraminous wall clear of a layer of debris and thus maintaining the cleaning efficiency of the vacuum cleaner.

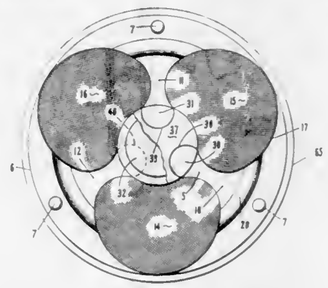
3,524,212
LATCHING MECHANISM FOR VACUUM CLEANER
Donald B. Spencer, Cincinnati, Ohio, assignor to Haley Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed Apr. 3, 1968, Ser. No. 718,587
Int. Cl. A47l *5/00*
U.S. Cl. 15—327 **9 Claims**

A vacuum cleaner of the canister type comprising a casing, having a dust separator opening therein with a dust separator ring of a dust bag seated in the opening, and a closure member for said opening adapted to seat in said opening and compress the dust separator ring between the closure member and the casing, and a latch of a toggle-like type mounted on the casing and having a hook portion coacting with the closure member to hold the closure member against the dust sealing ring. The latch is pivoted to the casing by means of a fulcrum support comprising a base member secured to the casing and a movable outer member adjustably mounted on the



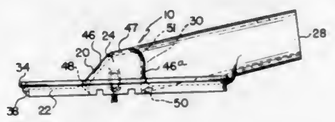
base member. The outer and base members of the support have confronting serrated surfaces, so that the outer fulcrum member is securely interlocked in a vertical direction with respect to the base member when the members are releasably secured together by a threaded fastener. This provides an expeditious means for taking up slack that may occur between the closure and the casing for maintaining an air-tight juncture between the closure member and the dust separator ring.

3,524,213
VACUUM HEAD
Mayer Spivack, 72 Properzi Way, Somerville, Mass. 02143
Continuation-in-part of application Ser. No. 542,281, Apr. 13, 1966. This application June 17, 1968, Ser. No. 747,058
Int. Cl. A47l *5/34, 9/06*
U.S. Cl. 15—354 **21 Claims**



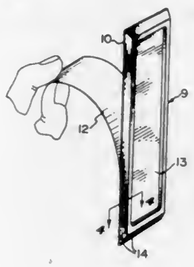
A vacuum cleaner head having a hood with a skirt defining a lower surface maintained in spaced relation to the floor. Passages are formed from the periphery of the hood to an aperture in the hood. Venturi constrictions are provided in the passage in the form of flexible resilient walls which are adapted to open wider from a preset position to permit passage of large objects. The flexible walls are formed preferably of a thin flexible strip of metal or the like that lies partially in two passages and is shaped and arranged in such a manner as to constrict one passage when the other passage is being widened.

3,524,214
TOOL BRUSH FOR VACUUM CLEANER
Lee A. Wolf, Cincinnati, Ohio, assignor to Haley Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed Apr. 18, 1968, Ser. No. 722,424
Int. Cl. A47l 9/06
U.S. Cl. 15—368 9 Claims



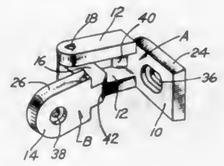
A cleaning tool for use with a vacuum cleaner, such as a canister-type vacuum cleaner, comprising, a housing adapted for connection to an operating handle, for movement of the housing over the surface, such as a rug to be cleaned. The housing comprises a suction chamber with a brush mounted in the suction chamber. An outlet is provided in the housing communicating with the suction chamber through which the inlet air and debris from the surface being cleaned, is adapted to pass, with the brush being spaced from the upper defining surface of the suction chamber so that the inlet air and entrained debris passes up around the brush and over the latter, and then out the outlet. The brush body is of a streamlined configuration to facilitate the movement of the inlet air and entrained debris upwardly about the brush and out the outlet, reducing the turbulence of the air in the suction chamber.

3,524,215
FINGER PULLS FOR SLIDING GLASS AND OTHER PANELS
Thomas D. Kurtz, Rock Falls, Ill., assignor to Kurtz Enterprises, Inc., Rock Falls, Ill., a corporation of Illinois
Filed Sept. 19, 1968, Ser. No. 760,838
Int. Cl. A47b 95/02; E05d 1/00
U.S. Cl. 16—124 10 Claims



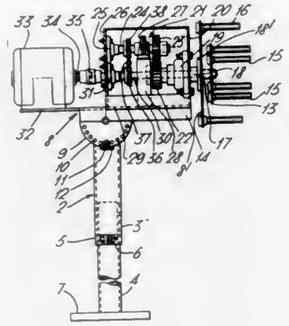
These finger pulls are applied to the panels with pressure sensitive adhesive having sufficient holding power to eliminate likelihood of displacement from a set position. Sufficient depth of depression for a good finger hold is assured regardless of the necessarily small height of the button or pad employed. If the area of contact with the panel must be increased to assure permanent fastening, that is easily accomplished with radial extensions or by elongating the pad. Designing buttons and/or pads with extensions for increased hold on the panel may incidentally improve the overall appearance of these finger pulls. and hence one style of plain buttons or pads may be used on the glass panels of showcases, while the plain ones or the more ornamental designs of buttons or pads may both be used on sliding glass or wooden panels in homes.

3,524,216
HINGE STRUCTURE
Arthur Fernandez, AP–27 Calle 47, Santa Juanita, Bayamon, Puerto Rico 00619, and David H. Humphrey, P.O. Box 1742, Hato Rey, Puerto Rico 00919
Filed July 21, 1967, Ser. No. 655,177
Int. Cl. E05d 5/08
U.S. Cl. 16—128 2 Claims



A hinge structure particularly designed for fiber boards, chip boards, particle boards and the like, and having dove tail mounting feet adapted to slide into dove tail grooves of stiles, doors and the like for strong anchorage. Screws are used to prevent the mounting feet from sliding out of the dove tail grooves.

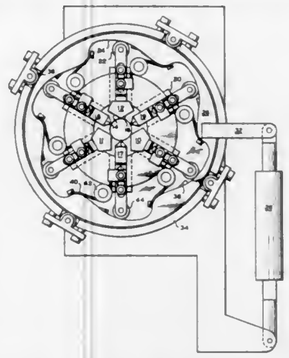
3,524,217
POULTRY PICKING MACHINE
Gerhard Schuster, 82 Childs Drive, Aurora, Ontario, Canada
Filed May 1, 1968, Ser. No. 725,773
Claims priority, application Canada, Feb. 6, 1968 011,761
Int. Cl. A22c 21/02
U.S. Cl. 17—11.1 5 Claims



A poultry picking machine for removing feathers from fowl, the machine being provided with two sets of counter-rotating picking elements or fingers which in use are counter-rotated at speeds which result in the two sets of fingers rotating at substantially the same speeds.

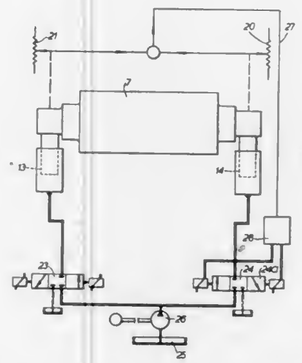
3,524,218
METHOD AND APPARATUS FOR MULTIPLE DIRECTION PINCH-OFF
Alvin E. Butcher, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 14, 1967, Ser. No. 682,745
Int. Cl. B29f 3/00
U.S. Cl. 18—5 8 Claims

An apparatus for sealing and pinching off a hollow thermoplastic parison has a plurality of jaw members adapted to move radially toward and away from each other with the parison between the jaw members. Each of these jaw members has at least one blade, these blades cooperating to effect the sealing and pinching operation. A plurality of tuck-in members are provided, the tuck-in members being disposed alternately between the jaw members. These tuck-in members are offset slightly below



the jaw members, and are adapted to move radially toward and away from each other in a manner similar to the movement of the jaw members with the parison between the tuck-in members.

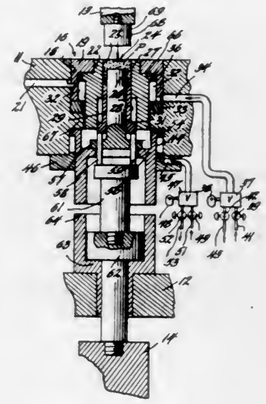
3,524,219
FINISHING OF LAMINAR MATERIALS
Rolf Gersbeck, Hannover, Germany, assignor to Hermann Berstorff Maschinenbau G.m.b.H., Hannover, Germany, a joint-stock company of Germany
Filed July 30, 1968, Ser. No. 748,843
Claims priority, application Germany, Apr. 4, 1968, 1,778,191
Int. Cl. B29c 15/00; B29d 29/00
U.S. Cl. 18—6 5 Claims



In plant for the finishing of laminar materials such as sheet plastics and rubber a wire mesh belt is provided having a finishing surface, for example of a closely woven material and this belt is arranged to apply pressure to the laminar material as both pass over a heated drum. The plant further includes a tension roller mounted in adjustable bearings and an electrical device is provided to vary the position of the adjustable bearings so that the tensioning roller shall run in operation in truly parallel relationship with the heating drum and any other rollers forming part of the plant.

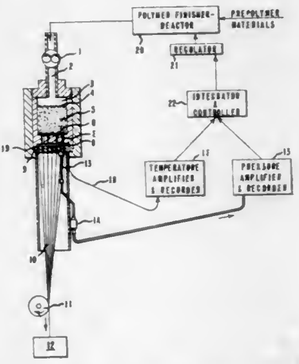
Should an electrical signal be set up with indicates non-alignment of the tensioning roller hydraulic pressure is applied to a ram supporting one of the bearings of the tensioning roller thereby to correct the alignment.

3,524,220
DIE SET FOR COMPACTING POWDER
Sanford J. Davison, Salem, N.H., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 15, 1967, Ser. No. 685,732
Int. Cl. B29c 3/00
U.S. Cl. 18—16.7 3 Claims



A secondary action type die set is usable for compacting powder in a single action type press. An outer wall defining a die cavity and a reaction die member are each supported independently by pressurized fluid in separate chambers within the die. Compacting forces exerted upon powder in the die cavity cause yielding movements of both the reaction die member and the outer wall away from an advancing primary die member as the powder is compacted and fluid is exhausted from the chambers. Exhaust back pressures are controlled by separate throttle valves for each chamber.

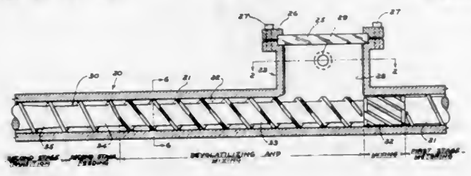
3,524,221
APPARATUS FOR MONITORING POLYMER VISCOSITY IN A SPINNING UNIT
Thurman Ralston Jones, Jr., Greenville, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 13, 1967, Ser. No. 667,415
Int. Cl. D01d 3/100
U.S. Cl. 18—8 3 Claims



In a process for the production of synthetic filaments which comprises polymerizing prepolymer material in a reactor to form molten thermoplastic polymer, filtering the polymer by forcing the polymer under high pressure at a constant flow rate through a filter medium, extruding

the filtered polymer through a spinneret having capillaries, and then quenching the extruded polymer at atmospheric pressure to form the filaments, the improvement in controlling filament uniformity comprising measuring the melt-viscosity of the polymer being extruded by measuring the pressure and temperature of the polymer after filtering and just prior to extrusion through the spinneret capillaries, comparing the viscosity with the viscosity desired, and then making the appropriate change in the reactor conditions to change the viscosity toward the desired viscosity. Also an apparatus for carrying out the process which comprises a pressure sensor located between the filter medium and spinneret.

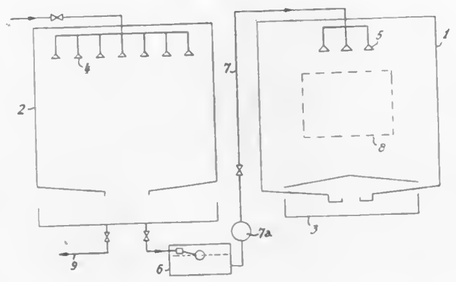
3,524,222
EXTRUDER SCREW DEVOLATILIZING AND MIXING SECTION
Robert B. Gregory, Flemington, Louis F. Street, Hampton, and David A. Verner, South Orange, N.J., assignors to Egan Machinery Company, Somerville, N.J., a corporation of New Jersey
Filed May 13, 1968, Ser. No. 728,495
Int. Cl. B29f *3/02*
U.S. Cl. 18—12 **18 Claims**



A plastics extrusion machine including a barrel having a cylindrical bore, a rotary screw unit within the bore for advancing plastic material therealong and a venting unit communicating with a selected portion of the bore and adapted to withdraw volatiles evolved from the plastic material. The screw unit includes a devolatilizing and mixing screw section that is positioned in said selected portion of the bore and that is provided with a plurality of helical flights of the same hand and lead. Each flight is formed with a plurality of normal flight portions and a plurality of grooves, each groove extending across its flight. The grooves and the normal flight portions are arranged alternately along each flight. The length of each groove, as measured in a direction parallel to the axis of the screw unit, is within the range of from 10% to 100% of the outside diameter of the screw section times the number of flights minus one. The length of each normal flight portion, measured in the same manner as that of each groove, is equal to the length of each groove divided by the number of flights minus one. The depth of each groove is within the range of from 0.3% to 10.0% of the outside diameter of the screw section, as measured over normal flight portions. Each groove may have a constant depth or a varying depth. Also, each groove may consist of a plurality of successive groove portions, the depths of such portions increasing successively and by the same increment in the direction of the upstream end of the screw unit.

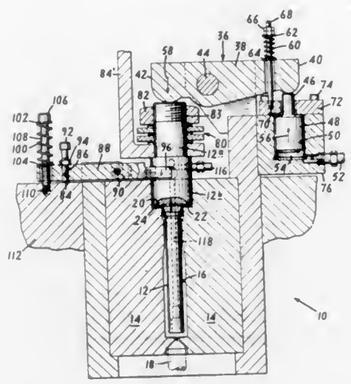
3,524,223
ROTATIONAL MOULDING APPARATUS
Aubrey J. Westbrook, Kilwinning, Ivan D. M. Thomson, Irvine, Scotland, assignors to Plastic Rotational Mouldings Limited, London, England, a British company
Filed July 22, 1968, Ser. No. 746,401
Claims priority, application Great Britain, July 26, 1967, 34,310/67
Int. Cl. B29c *5/00*
U.S. Cl. 18—26 **2 Claims**

This invention relates to a rotational moulding apparatus comprising a heating chamber, means to spray a hot water-soluble molten salt onto a mould in the heating chamber, a cooling chamber, means to spray water into the cooling chamber, means to collect the initial water sprays used in the cooling chamber and means to return the collected water to the heating chamber to effect a pre-wash on a subsequent mould before it leaves



the heating chamber. The invention also extends to a method of reducing wastage of water-soluble salt used as a heating medium in a rotational moulding apparatus which comprises retaining the cooling water first used in a cooling chamber and spraying this back onto a mould in the heating chamber at the end of a subsequent heating operation.

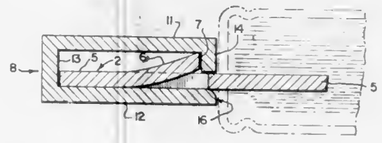
3,524,224
CORE PIN ACTIVATOR
Paul Marcus, Pearl River, N.Y., assignor to APL Corporation, Brooklyn, N.Y., a corporation of New York
Filed Nov. 14, 1967, Ser. No. 682,877
Int. Cl. B29f *1/022;* **B29c** *1/16*
U.S. Cl. 18—30 **3 Claims**



Injection molding apparatus for facilitating manufacture of a plastic container having a rim defining an opening thereinto is provided with a core pin co-operating with outer mold means to form an injection mold cavity. The core pin is formed with a rim-defining portion and a first annular mating surface, and the outer mold means is formed with a second annular mating surface. The two surfaces are complemental and parallel to each other. Motive means is provided for bringing the surfaces together in a direction perpendicular to the surfaces to preclude sliding of the surfaces across each other. The surfaces when engaged are spaced apart from the extremity of the rim defining portion to preclude flashing of mold

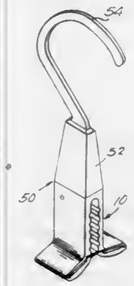
substance at the extremity of the rim. The motive means includes a piston-cylinder assembly and a rocker arm for advancing the core pin to its operative position for the injection of mold substance and biasing means for returning the rocker arm and core pin to their starting or retracted positions.

3,524,225
LOCKING ASSEMBLY
Emmanuel M. Trikilis, 170 Maplewood Ave., Columbus, Ohio 43213
Filed Aug. 14, 1968, Ser. No. 752,554
Int. Cl. B42d *1/06*
U.S. Cl. 24—67 **6 Claims**



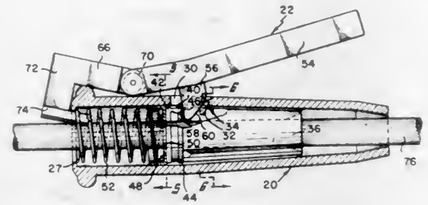
An article locking assembly for binding printed material, such as books, magazines, pamphlets, loose-leaf sheets and the like, comprising a plate-like member having protruding tabs, which are inserted through holes located in the material to be bound, and a locking bar which internally receives the protruding tabs thus permanently locking the plate-like member to the bound material.

3,524,226
FASTENER
Dwight C. Brown, 414 N. Granada St., Arlington, Va. 22203
Filed Oct. 9, 1968, Ser. No. 766,120
Int. Cl. D06f *55/00*
U.S. Cl. 24—84 **10 Claims**



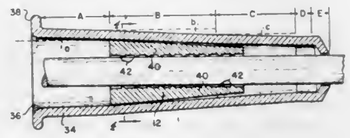
A fastener comprising an integral upper and lower part. The upper part is resilient and has a channel opening along its bottom surface. The lower part is collapsible and insertable into the channel of the upper part. The lower part consists of a pair of normally, downwardly diverging jaws, pivotally joined to each other adjacent their upper edges and having lower edges hinged to opposite sides of the upper part. The jaws have a combined width approximately equal to the width of the channel. The jaws are placed in surrounding relation to an article to be clamped, and the structure moved downwardly. The jaws will collapse towards each other and recede into the channel of the upper part firmly clamping the article therebetween.

3,524,227
GRIPPING AND RELEASE ASSEMBLY
William F. Kelly, 100 Bellaire Drive, New Orleans, La. 70124
Filed Aug. 29, 1967, Ser. No. 664,122
Int. Cl. F16g *11/04*
U.S. Cl. 24—126 **10 Claims**



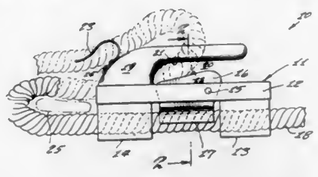
A gripping and release assembly including a tapered casing housing spring-pressed wedge segments arranged to form a bore therebetween for the reception and retention of a steel tendon inserted into the casing, a longitudinal slot in the casing between the spring and wedge segments, means for preventing rotative movement of the wedge segments relative to the casing, and a release tool for removing the tendon from the casing, the tool including an articulate arm, one terminal of which is formed to provide a hook engageable with a terminal of the casing, the tool further including a pin depending from an intermediate part of the articulate arm, the pin extending through the longitudinal slot of the casing between the spring and wedge segments.

3,524,228
ANCHOR FOR POST-TENSIONING PRESTRESSED CONCRETE
William F. Kelly, 100 Bellaire Drive, New Orleans, La. 70124
Continuation-in-part of application Ser. No. 490,421, Sept. 27, 1965. This application July 9, 1968, Ser. No. 743,406
Int. Cl. E04c *3/10;* **F16g** *11/04*
U.S. Cl. 24—126 **4 Claims**



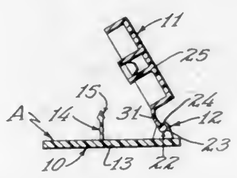
An anchor for post-tensioning prestressed concrete including a case having a central bore through which a tendon passes, the internal wall of the case defining the central bore being tapered in a manner to form a compound angle with respect to the longitudinal axis of the case, a chuck comprising chuck segments positioned within, and movable longitudinally with respect to the case, the inner faces of the chuck segments being provided with a series of teeth engageable with the outer surface of the tendon which passes through the case and chuck, the chuck segments being made of a ductile material to effect conformation thereof to the inner wall of the case and tendon, and to distribute the forces exerted by the chuck segments on the tendon over the length thereof.

3,524,229
ADJUSTABLE ROPE BRAKE
Delton E. Mindt, Box 105, Chester, Mont. 59522
Filed Nov. 8, 1968, Ser. No. 774,390
Int. Cl. F16g 11/00
U.S. Cl. 24—132 2 Claims



A cleat attachable upon a rope in adjustable position for holding the rope securely around an object and to prevent slipping off, the device comprising a pair of sleeves in axial alignment with each other and secured beneath a base, a brake shoe lever being positioned between the sleeves, the brake shoe lever being mounted pivotly free on a transverse pin, the brake shoe lever comprising a brake shoe of semicylindrical shape to fit partly around the rope extending through the sleeve, and the base having a generally angle configurated arm on the upper side of the base, the rope being passed through a space between the arm and the brake shoe lever which thus binds the same.

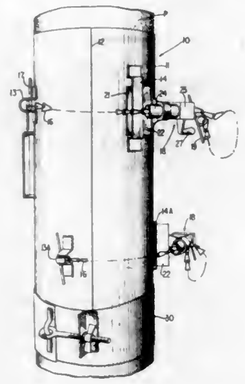
3,524,230
DIAPER BUTTON
John B. Hankel, 1248 Highview Drive, New Brighton, Minn. 55112
Filed Nov. 29, 1967, Ser. No. 686,531
Int. Cl. A44b 9/18
U.S. Cl. 24—157 6 Claims



This invention describes a diaper button or fastening means for securing overlapped layers of cloth together. The device includes a female portion and a male portion connected by means of a flexible detachable hinge. The male portion includes one or more prongs having enlarged pointed ends designed to penetrate the layers of cloth. The female portion includes a button-like body including a sleeve into which the head of each said prong is designed to extend. The sleeve is provided with a pair of opposed resilient flaps between which the enlarged head of the pin extends, the flaps engaging the head to prevent accidental disengagement.

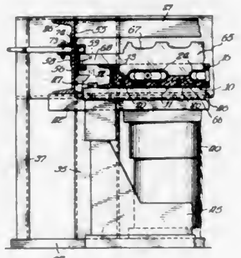
3,524,231
CIRCULAR UNDERWATER FORM WITH LOCK
George C. Wiswell, Jr., 1014 Pequot Road, Southport, Conn. 06490
Filed Jan. 10, 1968, Ser. No. 696,898
Int. Cl. B65d 63/00; E02d 5/60
U.S. Cl. 24—281 6 Claims

A form for applying a plastic coating to a cylindrical marine structure wherein a sheet of pliable material is wrapped around a cylindrical structure and tightened into position by a chain which interconnects loops on opposed sides of the contacting longitudinal edges of the sheet. A chain tightening member is detachably mounted in a loop



formed on the sheet and has means for locking the chain in position and then further tightening the chain by means of a threaded rod.

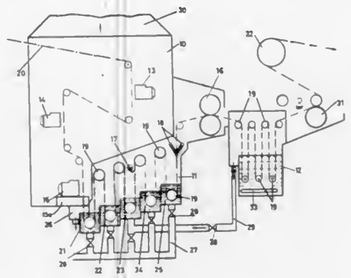
3,524,232
CORE RETAINING MEANS FOR CONCRETE SLAB CASTING FORMS
Theodore W. Shoe, Troy, Ohio, assignor to The Flexicore Co., Inc., Dayton, Ohio, a corporation of New York
Filed Apr. 8, 1968, Ser. No. 719,485
Int. Cl. B28b 7/18, 7/32
U.S. Cl. 25—41 7 Claims



The invention provides means for quickly positioning and locking a set of core positioning plates in a casting form during initial steps in connection with casting concrete slabs, the means providing for easy replacement of core positioning plates depending upon a change in core location in a casting form with change in slab transverse dimensions.

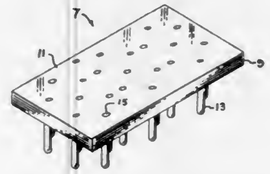
3,524,233
PROCESS FOR THE SINGEING AND LIQUID TREATMENT OF TEXTILE MATERIAL
Hermann Vorderbrugge, Windelsbleiche, Germany, assignor to Artos Dr. Ing. Meier-Windhorst Kommanditgesellschaft, Hamburg, Germany, a corporation of Germany
Filed Jan. 24, 1968, Ser. No. 700,261
Int. Cl. D06c 9/02
U.S. Cl. 26—3 1 Claim

A length of a textile material having natural fibers or mixtures of natural and synthetic fibers is maintained in a hot state after completion of a singeing process and while it is being immersed into a washing or impregnating bath. For that purpose, the last singeing burner is located directly above the bath inlet. The material may be subjected to a treatment with saturated steam before it is



immersed into the bath. The bath may consist of a plurality of sections separated by a squeezing unit, the front section being preferably arranged in cascades.

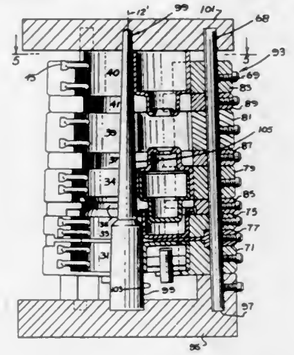
3,524,234
METHOD OF FABRICATING ELECTRO-LUMINESCENT DEVICE
Herbert F. Dickson, Jr., Seneca Falls, N.Y., Irving D. Greenberg, Waban, Mass., and Elmer O. Stone, Seneca Falls, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Continuation-in-part of application Ser. No. 558,188, May 10, 1966. This application May 22, 1968, Ser. No. 731,043
Int. Cl. H01j 9/00
U.S. Cl. 29—25.11 14 Claims



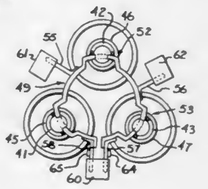
A planar multiple character display device of the electroluminescent type includes a backing plate having a plurality of electrical conductors extending therethrough, first electrodes affixed to the backing plate and conductors, a phosphor-dielectric layer thereover, a conductive second electrode layer affixed to the phosphor-dielectric layer, an air-imperable transparent layer affixed to the second electrode layer, and a sealing layer applied to the periphery of the backing plate and transparent layer.

3,524,235
METHOD FOR ASSEMBLING A MULTIPLE ELECTRON GUN STRUCTURE FOR CATHODE RAY TUBE
Glen A. Burdick, Waterloo, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Original application May 31, 1966, Ser. No. 553,752, now Patent No. 3,396,297, dated Aug. 6, 1968. Divided and this application Mar. 6, 1968, Ser. No. 711,073
Int. Cl. H01j 9/18, 9/36
U.S. Cl. 29—25.16 2 Claims

A method of assembling a multiple electron gun structure comprising a plurality of related unipotential low-voltage focusing lens guns employing overlapping focusing electrodes. The successive cylindrical electrodes of each gun have related external diameters and are axially aligned in sequential order by loading the respective electrodes in electrode support means oriented about a removable common central support post in a manner whereby a cylindrical portion of all electrodes makes contact therewith to effect the respective gun alignments. Securement means are applied to retain the guns in a related manner as an integrated multiple mount structure, whereupon the common support post is withdrawn from the structure.



3,524,236
METHOD OF SERIES CONNECTING HEATER ELEMENTS FOR MULTIPLE ELECTRODE GUN SUBASSEMBLY
Alan T. Kuryla, Geneva, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Original application Nov. 1, 1966, Ser. No. 591,166, now Patent No. 3,396,298, dated Aug. 6, 1968. Divided and this application Mar. 18, 1968, Ser. No. 713,936
Int. Cl. H01j 9/18, 9/36
U.S. Cl. 29—25.16 3 Claims

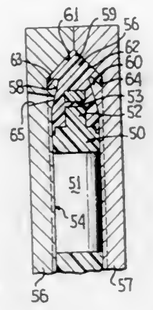


A series connection of the heater elements of a three-electron gun subassembly is provided by preforming a heater element connecting strap having three elongated protuberances, each defining a removable area. The connecting strap is secured to insulating support rods of the gun assembly so that each protuberance is supported in a fixed spatial relation to one of the cathode elements to permit the connection of the respective heater elements across the protuberance such that a series connection is completed when the removable area of each protuberance is cut out.

3,524,237
CAGE WITH SEALS FOR BEARINGS AND MANUFACTURE THEREOF
J. Russell Elmore, New Hartford, Conn., assignor to The Torrington Company, Torrington, Conn., a corporation of Maine
Filed Feb. 26, 1968, Ser. No. 708,026
Int. Cl. B21d 53/12
U.S. 29—148.4 32 Claims

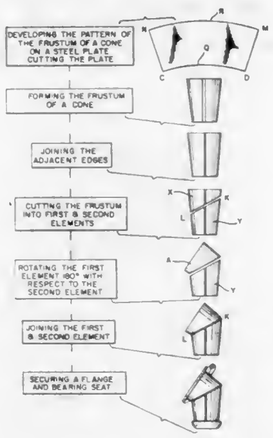
This disclosure is directed to a novel axial thrust bearing cage defined by an annular structure having a plurality of pockets extending axially therethrough for receiving

anti-friction members and with annular sealing means situated upon the radially outermost peripheral portion of the annular structure and interlocked therewith. In the



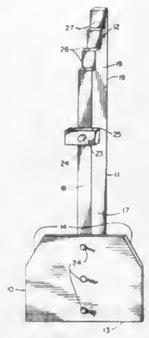
preferred novel method of manufacture, the annular sealing means are formed in situ upon the outermost peripheral portion of the cage and interlocked therewith in a single molding operation.

3,524,238
METHOD OF FABRICATING A TUYERE ELBOW
Charles H. Byers, Youngstown, Ohio, assignor to The Scholl-Choffin Company
Filed Sept. 27, 1967, Ser. No. 670,901
Int. Cl. B21d *53/00*
U.S. Cl. 29—157 **2 Claims**



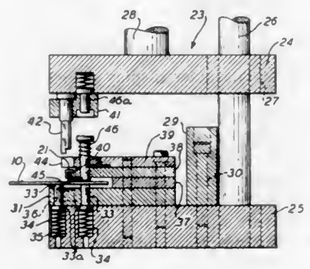
A method of fabricating tuyere elbows for repair and replacement of existing elbows in a blast furnace or the like. The tuyere elbow is fabricated by first developing the pattern of the frustum of a cone on steel plate stock. Having developed the pattern, the plate is cut and the frustum of a cone is formed with the adjoining edges secured together to form thereby a continuous frusto-conical surface. A substantiallly planar cut is then made in the frustum thereby separating said frustum into first and second elements. Thereafter, the first element is rotated 180° with respect to the second element and, with their adjacent edges abutting, the first and second elements are secured together. The fabrication of the tuyere elbow is completed by securing a flange to the first element and a spherical bearing seat to the second element.

3,524,239
WALL PANEL MOUNTER
Stafford I. Lewis, Oroville, Wash. 98844
Filed Mar. 14, 1968, Ser. No. 713,148
Int. Cl. B23p *19/00*
U.S. Cl. 29—200 **3 Claims**



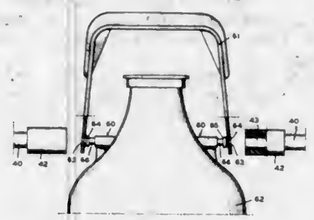
A support type tool to be used singly or in cooperating pairs to aid in positioning and to support large panels in fastening position on a wall prior to fastening. The tool provides a base, supported on an underlying floor, with a structurally communicating upwardly extending support arm of some length providing means for supporting the tool angularly adjacent a wall and means of releasably supporting the lowermost edge of a panel to be placed upon the wall. The device is particularly adapted to allow one mechanic to apply large wall panels to vertical supports in light frame construction.

3,524,240
MACHINE FOR PRODUCING PRINTED CIRCUIT CONNECTORS
Richard K. Walker, Convent, and Theodore J. Litwin, Edison, N.J., assignors to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed June 21, 1968, Ser. No. 739,065
Int. Cl. H01r *43/04, 1/00*
U.S. Cl. 29—203 **5 Claims**



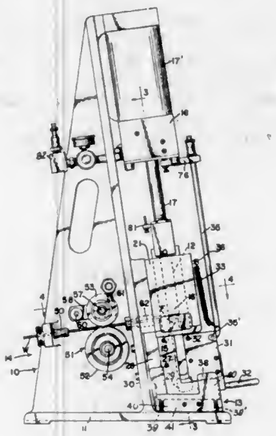
An assembling die is provided which receives at a lower level a printed circuit board having terminal holes and at a higher level a metal terminal strip. The terminal strip has side lugs constituting portions of successive terminals. The side lugs are bent downwardly at right angles intermediately thereof and terminate in seating portions having side shoulders and extending staking tabs. On each operation of the assembling die a pilot enters a locating hole in the terminal strip and a punch then blanks a connector pin portion of a terminal from the metal strip extending from a corresponding side lug and drives the staking tabs of the terminal into the terminal hole while concurrently staking the terminal in seated engagement with the board.

3,524,241
HANDLE APPLICATOR
Norris W. Walkup and James W. Mauck, Atwood, and Irvin D. Hood, Tuscola, Ill., assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Dec. 28, 1967, Ser. No. 694,308
Int. Cl. B23p *19/04, 11/00, 11/02*
U.S. Cl. 29—208 **7 Claims**



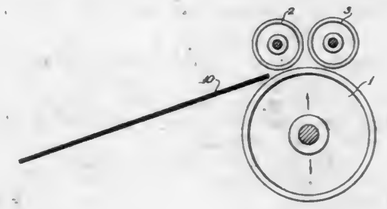
Apparatus for attaching a substantially U-shaped bail-type plastic handle provided with apertured depending extremeties to a container provided with complementary opposed retaining means for engaging said apertured extremities to provide an unseparable pivotal association therewith, said apparatus including means for positioning said container and handle in aligned relationship for interengagement, and fluid actuated means adjacent each depending apertured extremity of said handle operable to forcibly engage each of said depending handle extremities with the adjacent complementary retaining means.

3,524,242
FASTENER FORMING AND APPLYING MACHINE
David J. Odean, Davenport, and Roy E. Wells, Maquoketa, Iowa, assignors to The Kartridg Pak Co., Davenport, Iowa, a corporation of Iowa
Continuation-in-part of application Ser. No. 651,575, July 6, 1967. This application Apr. 15, 1968, Ser. No. 721,363
Int. Cl. B23p *11/00, 19/04*
U.S. Cl. 29—243.57 **24 Claims**



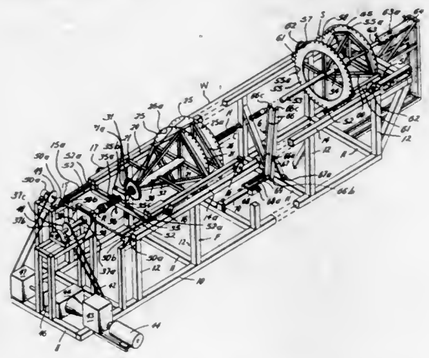
A hand-operated, air-powered machine for forming from lengths of wire successive U-shaped fastener clips and for simultaneously applying a previously formed clip to the constricted mouth of a bag or a constricted tube section of flexible sheet material and clinching the same so as to provide a tight closure.

3,524,243
METHOD FOR CURVING PRINTING PLATES
William McKowen and Sydney H. Dengle, Des Moines, Iowa, assignors to Meredith Corporation, a corporation of Iowa
Continuation-in-part of applications Ser. No. 422,506, Dec. 31, 1964, and Ser. No. 539,668, Apr. 4, 1966. This application Jan. 10, 1968, Ser. No. 696,841
Int. Cl. B23p *17/00;* **B41n** *11/00*
U.S. Cl. 29—423 **8 Claims**



This disclosure teaches how to curve an etched printing plate made from copper or the like without distorting the characters and half-tone dots comprising the printing surface thereof as this surface is stretched during curving. This is accomplished by temporarily laminating a sheet of spring steel bonded to a sheet of resilient thermoplastic resin to the etched plate. The plastic is applied under heat and pressure and fills in all of the depressions in the etched surface to protect the surface during bending. The assembly is curved as a unit on a three-roll bender to the radius of the cylinder of the press on which the plate will be used and after bending, the plastic-steel sheet is stripped from the plate. The thickness of the metal sheet employed is calculated to move the neutral plane of the printing plate upwardly from the center toward and past the etched printing surface so that the final strain distribution in the isolated curved printing plate has zero strain on the surface.

3,524,244
WIRE WRAPPING MACHINE AND METHOD OF USING SAME
Roy H. Cullen, Charles H. Elliott, and Jimmie R. Aker, Houston, Tex., assignors, by direct and mesne assignments, to The Youngstown Sheet and Tube Company, a corporation of Ohio
Continuation-in-part of application Ser. No. 592,410, Nov. 7, 1966. This application Sept. 21, 1967, Ser. No. 669,591
Int. Cl. B21d *39/00;* **B23p** *19/04;* **D02g** *3/36*
U.S. Cl. 29—429 **12 Claims**



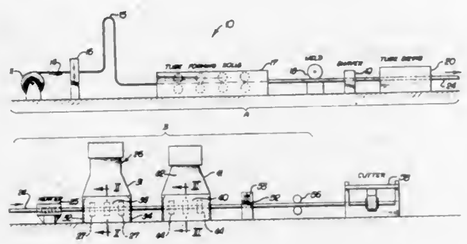
A wire wrapping machine and method of using same wherein the machine is adapted to helically wrap a plu-

rality of wires simultaneously on an elongate core; the core is rotated relative to the wires while a die moves longitudinally relative to the core and wires, with means being provided for relieving any twist in each of the wires during the wrapping thereof on the core so that the wires tightly grip the core upon completion of the wrapping. Means are provided for applying swage rings at end couplings of the core to thereby secure the ends of the wrapped wires to the core prior to releasing the tension on the wires.

3,524,245
CONTINUOUS TUBE FORMING AND METALLIZING PROCESS

Richard L. Searing, Pomona, Calif., assignor to MSL Tubing and Steel Company, Los Angeles, Calif., a corporation of California

Filed Apr. 11, 1968, Ser. No. 720,654
Int. Cl. B23p *19/00, 3/02;* **B23k** *11/00*
U.S. Cl. 29—430 **6 Claims**

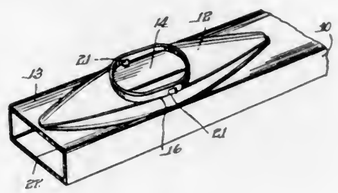


A metal tube which has been formed from a flat noncoated metal strip and has been continuously seam welded and sized to selected diameter is reheated to a selected temperature, subjected to shot blasting while in the heated state, and a metallizing coating is then sprayed on the heated tube so that the coating is bonded and adhered to the surface of the metal tube, the coated tube is cooled and then cut to selected length, all of the steps being performed while the tube is continuously advanced at a selected rate of speed up to and in the order of a hundred feet per minute.

3,524,246
METHOD OF MAKING AN UNDER-FLOOR WIRING DUCT

James W. Hudson, Colin Fernie, and Michael J. Mayer, Lexington, Ky., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan

Continuation of abandoned application Ser. No. 324,923, Nov. 20, 1963. This application May 16, 1967, Ser. No. 642,638
Int. Cl. B23k *31/02*
U.S. Cl. 29—477.7 **1 Claim**

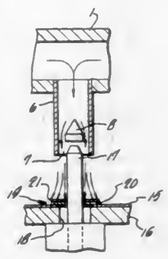


The duct is made by punching a plurality of holes in a flat elongated strip of sheet metal, the holes being spaced and elongated longitudinally of the strip, drawing the strip around said holes to provide raised dome portions and collar portions integral therewith, forming the strip into a duct of rectangular cross section, and welding opposite longitudinal edge portions of the strip together.

3,524,247
SOLDERING METHOD

Sandor Goldschmied, Anaheim, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Continuation of application Ser. No. 592,485, Nov. 7, 1966. This application Feb. 11, 1969, Ser. No. 800,824
Int. Cl. B23k *31/02, 35/24*
U.S. Cl. 29—498 **10 Claims**

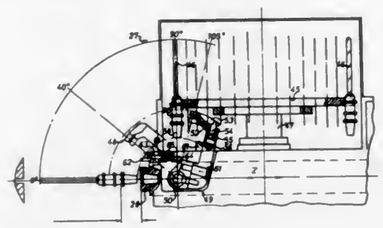


A soldering method is disclosed that employs a slug to divert fluid passing through a nozzle arrangement into an annular stream. The slug, which presents a conical surface to the fluid impinging upon it, is set back slightly from the mouth of the nozzle. As a result, the stream of fluid ejected from the nozzle is controlled to flow directly onto an annular area to be heated. The nozzle is particularly useful in indirect soldering to heat the annular area between a connector pin and the edge of a hole through which the pin protudes.

3,524,248
MACHINE TOOL WITH AUTOMATIC TOOL CHANGING

Alfred W. Dürr, Otto C. Gunsser, and Hubert M. Heller, Nurtingen, Wurttemberg, Germany, assignors to Gebruder Heller Maschinenfabrik G.m.b.H., Nurtingen, Wurttemberg, Germany

Flled Sept. 13, 1967, Ser. No. 667,441
Int. Cl. B23g *3/157*
U.S. Cl. 29—568 **10 Claims**



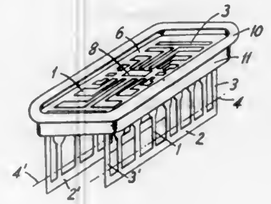
A machine tool with automatic tool changing is described with a rotatable tool magazine positioned above the tool spindle and two pair of gripper jaws for swiveling tools between the magazine and spindle. A fixed cam is

provided for opening the holding jaws at the magazine and a retractable cam for opening the jaws at the spindle. The pairs of jaws are moved apart and pass each during travel between the magazine and spindle.

3,524,249
METHOD OF MANUFACTURING A SEMICONDUCTOR CONTAINER

Toshio Hamada and Kozaburo Sato, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan

Filed Oct. 5, 1967, Ser. No. 673,114
Claims priority, application Japan, Oct. 8, 1966, 41/66,275
Int. Cl. H01l *1/10*
U.S. Cl. 29—588 **10 Claims**

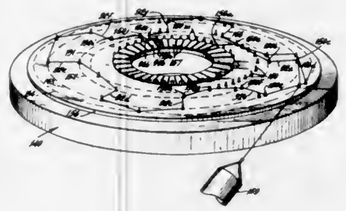


A method for making a semiconductor device container by providing a metal plate with at least one slot, an insulating frame with at least one slot and a lead wire aggregate member, assembling said plate on said frame with the slots in registration with each other, passing lead wires of said lead wire aggregate member through said slots, and sealing said lead wires to said metal frame with a suitable insulating material.

3,524,250
METHOD OF MANUFACTURING ELECTRICAL WIRE WOUND MACHINES

Robert P. Burr, Huntington, N.Y., assignor to Circuit Research Company, Glen Cove, N.Y., a partnership of New York

Original application Dec. 6, 1965, Ser. No. 511,709. Divided and this application Apr. 8, 1968, Ser. No. 739,577
Int. Cl. H01r *43/00*
U.S. Cl. 29—597 **16 Claims**

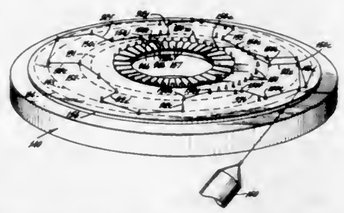


This invention relates to methods of constructing disc armatures and commutators associated therewith wherein wire is distributed on a planar surface in a continuous fashion such that said wire forms an armature winding and commutator connection leads which may be connected to commutator tangs.

3,524,251
METHOD OF MANUFACTURING DISC-TYPE WIRE WOUND ELECTRICAL MACHINES

Robert P. Burr, Huntington, N.Y., assignor to Circuit Research Company, Glen Cove, N.Y., a partnership of New York

Original application Dec. 6, 1965, Ser. No. 511,608. Divided and this application Apr. 8, 1968, Ser. No. 736,873
Int. Cl. H02k *15/02*
U.S. Cl. 29—598 **18 Claims**

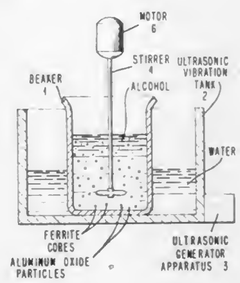


This invention relates to methods of constructing disc armatures wherein wire is distributed on a planar surface in a continuous fashion such that said wire forms an armature winding.

3,524,252
METHOD OF ULTRASONICALLY TREATING FERRITE CORES

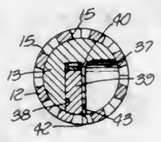
Reynier W. Dam, Rhinebeck, and Bela Gogos, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Aug. 5, 1968, Ser. No. 750,321
Int. Cl. H01f *7/06*
U.S. Cl. 29—604 **10 Claims**



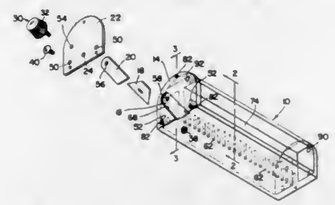
In the process of manufacture of large batches of linear ferrite cores for pulse transformation applications (e.g. read only storage in computers) a step of mass ultrasonic vibration of entire batches is introduced. Nickel-zinc ferrite cores, sintered in batches on the order of 50,000 cores, are also vibrated in batches for a selected period of time determined by a measured average signal response characteristic of a sampling of cores selected at random from the batch. The sintering process is controlled to produce a higher than desired batch average response amplitude before the vibration is applied. For the vibration step the batch of cores is immersed in a solution of alcohol containing a suspension of fine abrasive Al_2O_3 particles. The suspension with the cores is placed in the tank of an ultrasonic vibrator and vibrated for a predetermined selected period of time. The cores produced by this process have linear characteristics approaching those of a nearly perfect inductor and a reduced amplitude of response. The B–H loop is constricted, losses are reduced, and magnetostrictive ringing is lessened. These characteristics are controllable and remain stable and constant over a broad temperature range.

3,524,253
SELF-POWERED GROOMING TOOL
Archie T. Hoke, 1732 Coolidge St., Altadena, Calif. 91001
Filed Aug. 19, 1968, Ser. No. 753,551
Int. Cl. B26b *19/16*
U.S. Cl. 30—29.5 **8 Claims**



A self-contained, self-powered hand-held grooming tool for clipping hair growing in the nostril and outer ear. A cylindrical comb cooperates with a rotary cutter head housed therewithin and movably supporting a cutter blade rotating past the interior surface of the comb. The cutter head is driven by a battery-powered miniature electric motor.

3,524,254
CUTTING TOOL
John M. Snyder, New York, N.Y., assignor to Commercial Carpet Corporation, New York, N.Y., a corporation of New York
Filed Jan. 4, 1966, Ser. No. 518,648
Int. Cl. B26b *3/08*
U.S. Cl. 30—310 **5 Claims**



This invention relates to a hand cutting tool particularly adapted for cutting out of circles from flat sheet material, and in particular from a flat sheet material such as a piece of carpet or rug material while lying on the floor. The tool has a hand grip, a series of centering pin receiving means, and a cutting knife, with the centering pin means adapted to be selectively placed in the pin receiving means to vary the size of the radius of the cut.

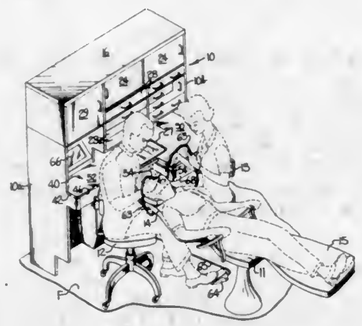
3,524,255
METHOD OF ATTACHING A TOOTH CROWN TO A TOOTH ROOT
Peter Frank Kurer, Speakers House, 39 Deansgate, Manchester, Lancashire, England
Continuation-in-part of application Ser. No. 583,203, Sept. 30, 1966. This application Apr. 11, 1969, Ser. No. 815,473
Int. Cl. A61c *5/08*
U.S. Cl. 32—13 **3 Claims**

A dental procedure for attaching a tooth crown to the natural root of a tooth utilizes a post having a threaded shank carrying an enlarged head of a material that can be easily ground to alter its shape while the post is situated in the patient's mouth. A hole is drilled in the tooth root and a seat is formed around the hole by counterboring. The hole is tapped to form threads which mate with the threads on the shank of the post. The threaded post is screwed into the hole until the head rests upon the seat. The head is then ground, in situ, to a shape suitable for the acceptance of a jacket crown. The surface of the tooth root is made undulant. An artificial jacket



crown, closely fitting upon the shaped head, is then secured by a thin film of dental cement to the head and the crown is thereby held engaged with the undulant surface in a manner resisting rotational forces on the crown.

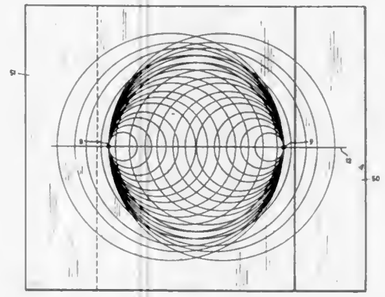
3,524,256
DENTAL OPERATORY
Charles T. Barker, New Bern, N.C., assignor to The Pelton & Crane Company, Charlotte, N.C., a corporation of North Carolina
Continuation of application Ser. No. 594,968, Oct. 28, 1966. This application Aug. 26, 1969, Ser. No. 854,025
Int. Cl. A61c *19/02*
U.S. Cl. 32—22 **14 Claims**



A dental operatory comprising an elongate cabinet arranged rearwardly of a headrest end portion of an operating chair and extending transversely of the chair to form a generally T-shaped configuration when viewed in plan, said cabinet being adapted to contain all of the dental instruments and supplies to be out of view of the patient reclining upon said chair, said cabinet also including a horizontally extending counter providing a desk-like work surface for the dentist on one side of the chair, and a desk-like work surface for the dental assistant on the other side of the chair.

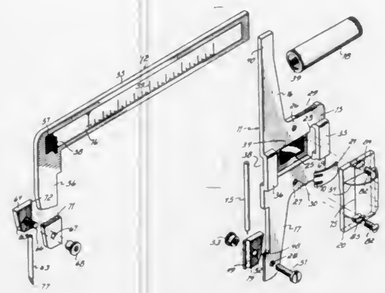
3,524,257
CONSTRUCTING ELLIPSES
Jan Jakubowski, Stuttgart-Hofen, Germany, assignor to Standardgraph Filler & Fiebig G.m.b.H., Geretsried, Upper Bavaria, Germany
Filed Apr. 30, 1968, Ser. No. 725,342
Claims priority, application Germany, May 5, 1967, J 33,607
Int. Cl. B43l *5/00*
U.S. Cl. 33—1 **9 Claims**

The specification describes a method and apparatus for constructing ellipses in which two families of circular curves, of which each family has a common tangent point, has circular curves increasing arithmetically in diameter, and corresponds as regards curve diameters to the other family of curves. The two families of curves are caused to intersect with their centers of curvature and



tangent points on a common line and the points of intersection corresponding to an ellipse are registered.

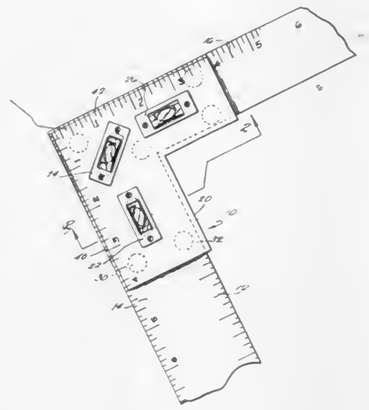
3,524,258
SLIDE COMPASS
Warren D. Novak, 325 Douglas Road, Chappaqua, N.Y. 10514
Filed Aug. 29, 1968, Ser. No. 756,233
Int. Cl. B43l *9/04*
U.S. Cl. 33—27 **7 Claims**



A direct reading slide compass for effecting precise relative displacement between two pointed elements of a compass. One element comprises a body having a generally flat central section from which a needle foot depends downwardly and a rotation post extends upwardly. The central section of the body has a pair of transversely spaced vertical slots between which the body is offset in one direction and outside of which the body is offset in the opposite direction so as to define a transverse slideway therebetween. A flat slide having a flat marking foot depending from one end is slidable within the transverse slideway. There is an indicia bearing scale secured to the slide and a hairline index mark secured to the body to facilitate precise adjustment of the slide relative to the body.

3,524,259
SPIRIT LEVEL
Frederick Offutt Handley, Sherwood Lane, Richmond, Mo. 64085
Filed Oct. 10, 1968, Ser. No. 766,522
Int. Cl. G01c *9/28*
U.S. Cl. 33—89 **1 Claim**

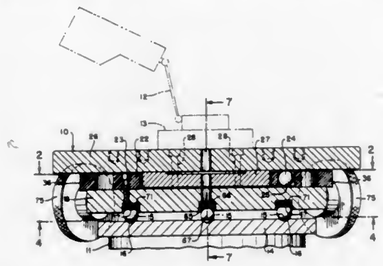
A spirit level having a multiple arrangement of bubbles, one for indicating the angularity disposed on a rafter pitch, and the other two for plumb, and in which the multiple bubbles are disposed in an overset means secured to the intersecting portions of the legs or arms of a square.



3,524,260
GUILLOTINE GAUGE
Frank F. Ollar, 36051 Vargo, Livonia, Mich. 48152
Filed July 3, 1968, Ser. No. 742,222
Int. Cl. G01b *5/20*
U.S. Cl. 33—174 **9 Claims**

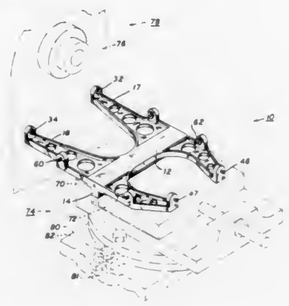
A guillotine gauge which includes, upon a base with means for adjustably supporting a workpiece, opposed pairs of interconnected upright spaced column blocks secured to opposite sides of the base at its opposite ends, and means between each of said pair of end column blocks for supporting at variable heights opposed pairs of gauge blade assemblies movable in horizontal planes for gauging surface portions of a workpiece from its opposite sides, said gauge blade mounting including upright spacers upon said base bearing against said column blocks, horizontal spacer plate bridging said first spacers, bearing against and secured to said column blocks, with a pair of spaced bearing supports mounted on said latter spacer plate bearing against the column blocks and secured thereto and a gauge blade assembly reciprocally mounted between said bearing supports with bearing means interposed; and an improved gauge blade assembly.

3,524,261
WORK SUPPORTING TABLE FOR COAXIAL COMPARATORS
John Klink, Pine Plains, N.Y., assignor to Standard Gage Company, Inc., Poughkeepsie, N.Y., a corporation of New York
Filed Aug. 19, 1968, Ser. No. 753,692
Int. Cl. G01b *5/20*
U.S. Cl. 33—174 **8 Claims**



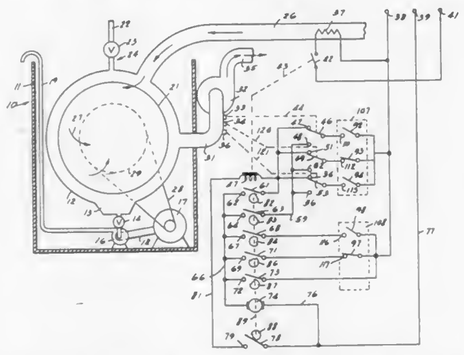
The disclosure herein sets forth a horizontal rotary work-supporting table which is adapted to support a workpiece so that by use of a gaging probe, the roundness, concentricity, and the like of the surfaces of the workpiece may be determined. The work-supporting table is mounted on a rotatable spindle preferably provided with an air bearing, and is provided with adjustments to permit movement of the table to assure that the axes of the workpiece and of the spindle are in alignment, i.e., adjustments are provided on X and Y axes in a plane perpendicular to the spindle axis; and also is provided with means to slightly tilt the table to assure that the axis of the workpiece is parallel to the spindle axis and therefore perpendicular to the surface on which the gaging probe support rests.

3,524,262
SETTING GAUGE FOR WORK-HOLDERS
Henry Persson, 224 Glenwood Ave., Bloomfield, N.J. 07003
Filed May 6, 1969, Ser. No. 822,127
Int. Cl. B27g *23/00*
U.S. Cl. 33—185 **5 Claims**



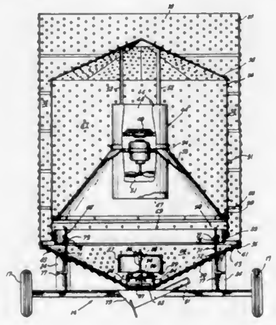
This invention relates to a setting gauge for precisely positioning work-holding vises as used with machine tools, and in particular with vises which are removably mounted on the worktables of milling and grinding machine tools. This setting gauge has a tenon or tongue portion disposed so as to be grasped in the jaws of the vise. This gauge has pairs of gauge-setting points either precisely parallel to, or precisely at right angles to the tenon or tongue of the gauge. To precisely position a vise, the tenon of the setting gauge is clamped in the jaws of the vise, which vise is in a movable condition on the worktable of the machine tool. The worktable is moved until a pair of gauge-setting points are brought into engagement with the ground face of the column of the machine tool whereat the vise is clamped to the worktable.

3,524,263
CONTROL CIRCUIT FOR A LAUNDRY APPLIANCE
Ralph S. Odle, Jr., Michigan City, Ind., and Theodore S. Kotyuk, St. Joseph, Mich., assignors to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware
Filed Apr. 3, 1968, Ser. No. 718,433
Int. Cl. F26b *13/10*
U.S. Cl. 34—45 **7 Claims**



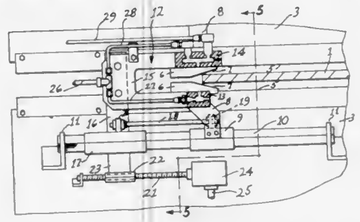
A control circuit for a laundry machine, as for example, a combination washer-dryer which uses temperature responsive means in cooperation with a timer to count the number of heater cycles during the drying operation and terminate operation after a predetermined number of cycles have been counted as preset by the machine operator. The dry control of this invention advances the timer both when the thermostat cuts off the heaters and also when it turns them back on. Selector means allow different times and temperatures of drying so that the drying cycle may be varied at the discretion of the operator.

3,524,264
MACHINE AND METHOD FOR DRYING GRAIN
Joseph B. Kucera, Traer, Iowa, assignor of one-half to Rudolph L. Lowell, Des Moines, Iowa
Filed Dec. 20, 1968, Ser. No. 785,651
Int. Cl. F26b *7/00*
U.S. Cl. 34—20 **8 Claims**



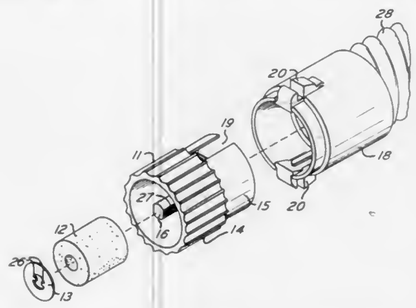
The grain drier is adapted for continuous or batch drying and includes a portable frame that carries upright inner and outer grain receiving passage. Secured to the lower end of the outer wall is a downwardly converging perforated cooling wall having a centrally disposed dried grain outlet. The lower end of the inner wall is spaced upwardly from the lower end of the outer wall so as to form with the cooling wall a circular outlet for the grain passage. Drying air is drawn upwardly through the cooling wall and within the space defined by the inner wall, where it is heated and passed through the grain passage over the full length of such passage. The rate of flow of grain from the passage onto the cooling wall is controlled in accordance with predetermined drying requirements so that only grain of substantially uniform moisture content is discharged through the dried grain outlet.

3,524,265
MEANS AND METHOD FOR STRIP EDGE CONTROL
William D. Hamilton and James S. Miller, Middletown, Ohio, assignors to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Filed Sept. 25, 1968, Ser. No. 762,497
Int. Cl. F26b *21/00*
U.S. Cl. 34—54 **21 Claims**



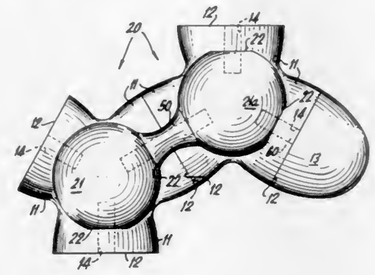
The sonic sensing of the position of a moving strip and the utilization of means actuated by a fluidic signal generated by a sonic sensor to effect relative correcting movement between the strip and an operating means positioned to act upon the strip.

3,524,266
HAIR DRYER ATTACHMENT
Raymond Lewis Hanisco, Lansdale, Pa., assignor to Proctor-Silex Incorporated, Philadelphia, Pa., a corporation of New York
Filed July 15, 1968, Ser. No. 745,011
Int. Cl. A45d *20/46, 7/06*
U.S. Cl. 34—99 **6 Claims**



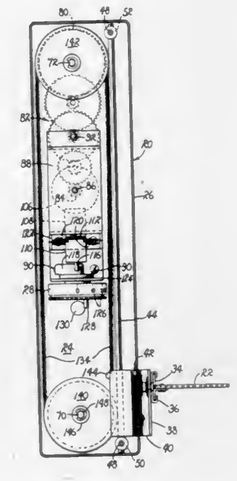
An attachment for moistening hair for setting and styling purposes that is insertable into the conduit connecting the hood or bonnet of a hair dryer with the air moving portion. The attachment includes a piece of liquid absorbent material that ladens the air entering the hood or bonnet with moisture. By first moistening positioned hair in the hood or bonnet and then drying same, a setting of the hair in said position is obtained.

3,524,267
SPACE-FILLING ATOMIC AND MOLECULAR ORBITAL MODEL SETS
Edward J. Barrett, 129 Evandale Road, Scarsdale, N.Y. 10583, and John C. Powers, Jr., 103 Cherry St., Floral Park, N.Y. 11001
Filed Sept. 5, 1968, Ser. No. 757,532
Int. Cl. G09b *23/26*
U.S. Cl. 35—18 **19 Claims**



The present invention provides a space-filling atomic or molecular orbital model set generally providing four primary modules representing trigonal bipyramidal, tetrahedral, octahedral and spherical geometries so constructed as to provide truncated lobes for selective interrelationships.

3,524,268
READING PACER
William L. Venturi, Wishon, Calif., assignor to Teaching Technology Corporation, a corporation of California
Filed July 22, 1968, Ser. No. 746,424
Int. Cl. G09b *17/04*
U.S. Cl. 35—35 **4 Claims**

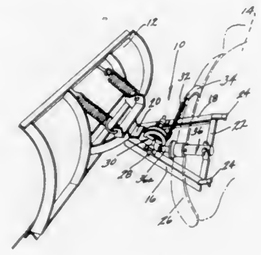


A simplified reading training device including a shutter supported on a carriage mounted for movement in response to the tensioning of an elongated low rate coil spring reeved about a plurality of idler pulleys to provide an extensive length of the spring in a limited space. The ends of a flexible line are connected to the carriage, the bight of the line engaging a pair of pulleys one of which is connected by a one-way clutch to a speed governing means for controlling the speed of movement of the carriage under the urging of the tension spring.

3,524,269
MOUNTING MEANS FOR VEHICULAR IMPLEMENTS

Edward W. Jackoboice, Grand Rapids, Mich., assignor to Monarch Road Machinery Company, Grand Rapids, Mich., a corporation of Michigan

Filed Sept. 15, 1967, Ser. No. 667,951
Int. Cl. E01h *5/04*
U.S. Cl. 37—42 6 Claims

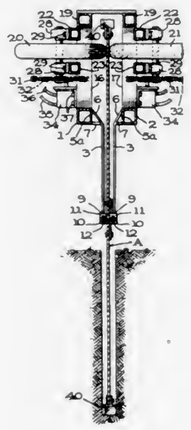


An elongated frame pivotally connectable at or near one end to the undercarriage of a vehicle and extending forwardly thereof beneath the level of the bumper to carry an implement such as a snowplow blade in front of the vehicle, at the forward end of the frame. A take-up drum with curved peripheral portions is rotatably mounted on the frame, and a flexible tension member is secured between the drum and the bumper of the vehicle. A power cylinder is mounted on the frame with its ram or piston connected to the take-up drum to rotate the latter upon actuation of the cylinder, thereby winding at least some of the tension member upon the periphery of the drum and lifting the frame and its implement with respect to the bumper, and thus to the vehicle and the roadway therebeneath.

3,524,270
DRIVE MECHANISM FOR DITCHING MACHINE

Francis M. Reising, Pharr, Tex., assignor to R-J Manufacturing Co., Inc., a corporation of Texas

Continuation of application Ser. No. 613,500, Feb. 2, 1967. This application May 1, 1969, Ser. No. 821,556
Int. Cl. E02f *9/20, 5/08;* F16h *15/08*
U.S. Cl. 37—94 3 Claims



A driving mechanism for a ditching machine wherein a ditching wheel is mounted on an axle, and such axle also supports the drive mechanism, including a drive wheel in driving engagement with the ditching wheel, whereby the load of the drive mechanism is carried by the ditching wheel axle and the driving wheel is maintained at a fixed radial distance from the center of the ditching wheel during raising and lowering movements of the ditching wheel.

3,524,271
COMBINATION PROTECTION COUPON AND LABEL

Duwayne F. Buske, % Layton Label Mfg. Co., Inc., 426 W. Walnut St., Milwaukee, Wis. 53212

Continuation-in-part of application Ser. No. 622,178, Mar. 10, 1967. This application Mar. 4, 1969, Ser. No. 804,252
Int. Cl. A44c *3/00*
U.S. Cl. 40—2 6 Claims

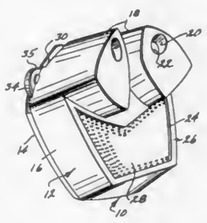


Includes a label that has pressure sensitive adhesive for attaching the same to a container, or the like. The label has a coupon adhered to the rear thereof and the coupon is imprinted on the release paper used for the label.

3,524,272
SOUND REPRODUCER AND STEREOSCOPE COMBINATION

Charles A. Elwell, Gardena, Calif., assignor to The Toy Development Center, Inc., Beverly Hills, Calif., a corporation of California

Original application June 25, 1964, Ser. No. 377,929, now Patent No. 3,436,083, dated Apr. 1, 1969. Divided and this application Oct. 24, 1968, Ser. No. 770,227
Int. Cl. G09f *27/00*
U.S. Cl. 40—28.1 10 Claims



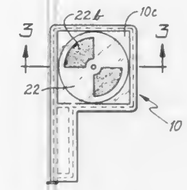
A stereoscopic viewer is provided with an image disc and a sound reproducer with the position of the tone arm being controlled by the image disc so as to cause the needle to reproduce that portion of the sound record which is correlated to the particular image being viewed.

3,524,273
ANIMATED MEASURING TAPE

Sidney X. Shore, 29 Wren Drive, Roslyn, N.Y. 11576

Filed Dec. 5, 1967, Ser. No. 688,163
Int. Cl. G09f *11/04*
U.S. Cl. 40—70 12 Claims

A measuring tape and a rewind spring are joined as a convoluted winding in a container having a transparent side wall. A display disc is disposed between the convoluted winding and the transparent side wall. The disc spins due to lateral contact with the convoluted winding when the tape is pulled out and when it is rewound. After

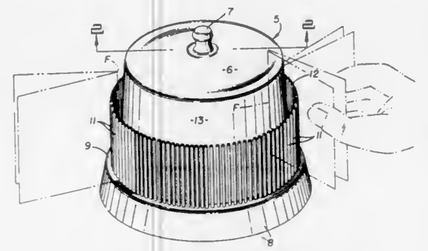


spinning, the disc comes to rest in a random position. Artwork on the spinning disc provides animated effects, especially where there are markings on both the disc and the wall of the container.

3,524,274
CARD HOLDING AND DISPLAYING DEVICE

Emerson Glassburn, 1412 E. Hudson St., Columbus, Ohio 43211

Filed July 10, 1968, Ser. No. 743,887
Int. Cl. G09f *1/10*
U.S. Cl. 40—124.4 3 Claims



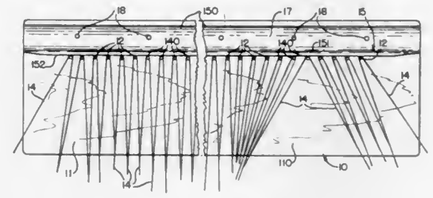
A device for holding and displaying greeting cards or the like which include two or more panels hinged or folded together. The cards can be readily positioned on or removed from upright retaining and supporting pins carried by a suitable base. When positioned on the pins, they are displayed in radially outwardly extending positions so that they can be readily observed.

3,524,275
GREETING CAR DISPLAY RACKS

Paul V. Korth, 19213 Yonka, Detroit, Mich. 48234

Filed Nov. 27, 1968, Ser. No. 779,497
Int. Cl. G09f *1/10*
U.S. Cl. 40—124.4 2 Claims

A greeting card display rack for holding folded or booklet type greeting cards consisting of a base, a row of spaced pegs or the like extending upwardly from the base for telescopingly receiving greeting cards at the fold thereof, a spring band longitudinally disposed over the rear portion of said base resiliently contacting all said pegs and formed to permit the said greeting cards readily to be telescoped on said pegs at the fold thereof and sprinheld by said spring band thereon, said greeting cards resting on the forward portion of said base and being readily manually pivoted and/or opened while on said pegs for

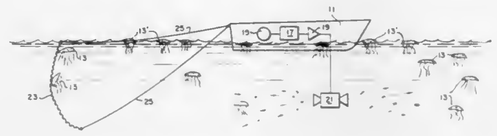


view or readily manually removed from replaced on said pegs.

3,524,276
ELIMINATION OF JELLYFISH AND THE LIKE

Edward V. Thomas, Severna Park, and Bruce E. Douglas, Edgewater, Md., assignors to the United States of America as represented by the Secretary of the Navy

Filed Jan. 26, 1968, Ser. No. 700,991
Int. Cl. A01k *73/00, 79/00*
U.S. Cl. 43—4.5 5 Claims

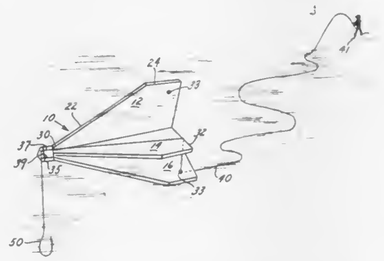


Sea creatures of the genus Medusa (sea nettles, jellyfish) are driven to the surface of water by exposure to acoustic waves at frequencies from about 2 to about 3.2 kilohertz. The creatures may then be identified and gathered by net, centrifugal separators, or other means, and disposed of.

3,524,277
TROLLING DEVICE

Harry W. Neubert, Gateway Apts. 44C33, Center Grove Road, Dover, N.J. 07801

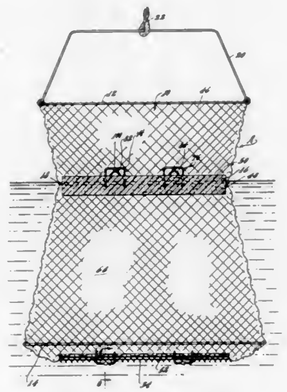
Filed Oct. 28, 1968, Ser. No. 770,976
Int. Cl. A01k *93/00*
U.S. Cl. 43—43.13 6 Claims



A trolling device for use with a line which comprises a pair of tapered vanes, a frictional line-clamp at the forward tip of the vanes, a line snubber at the rear of the device between the vanes, and a passageway for the line at the trailing edge of one of the vanes such that the

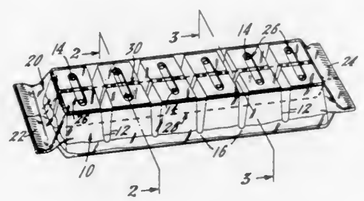
device effects trolling action while the line is engaged by the clamp, the snubber and the passageway and ceases trolling action when the line becomes disengaged from the clamp and snubber and remains engaged only by the passageway.

3,524,278
FLOATING FISH BASKET
Henry S. Wolfe, Jenkintown, Pa., assignor to Gladding Corporation, South Otselic, N.Y., a corporation of New York
Filed Jan. 29, 1968, Ser. No. 701,411
Int. Cl. A01k *97/04*
U.S. Cl. 43—55 **3 Claims**



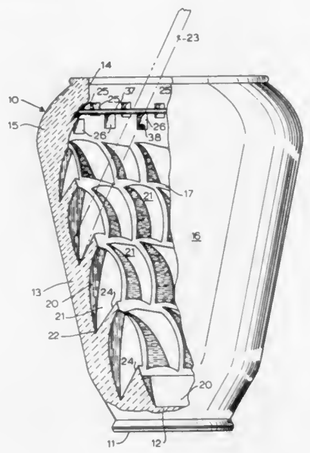
A floating fish basket comprising a collapsible wire mesh container including a medially positioned top closure therefor constructed of a material having sufficient buoyancy to prevent the basket from sinking to the bottom. The buoyant closure also includes a novel locking device that insures positive closure even when the fish basket is attached to a moving boat.

3,524,279
SYNTHETIC PLANT GROWTH MEDIUM WITH OVERWRAP
James William Adams, Schofield, Wis., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 27, 1967, Ser. No. 670,874
Int. Cl. B65d *75/00;* **A01g** *9/02*
U.S. Cl. 47—34.13 **1 Claim**



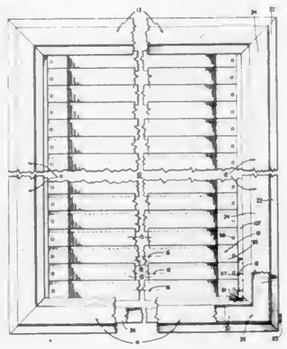
A self-supporting, shaped body of synthetic plant growth medium capable of sustaining plant growth is provided with an overwrap to retard the rate of water evaporation and thereby provide warmer temperatures around the root zone and prolong the intervals between which watering of the medium is required.

3,524,280
VASE
Kenneth L. McKinnon, 1010 B St., San Rafael, Calif. 94901
Continuation-in-part of application Ser. No. 662,050, Aug. 21, 1967. This application July 28, 1969, Ser. No. 845,331
Int. Cl. B65d *7/42;* **A47g** *7/06, 7/07*
U.S. Cl. 47—41.11 **9 Claims**



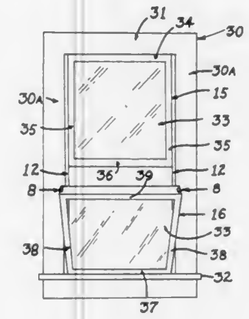
A heavy flower vase having thick imperforate walls provided with a multiplicity of pockets that are generally V-shaped in cross section, though of varying length and depth. The pockets cover the interior surface of the walls and bottom of the vase. The generally V-shaped concavities, preferably arranged in esthetic patterns, function to hold fixed, both vertically and horizontally, the ends of large and small flower arrangement materials, including tree branches that are heavy and long relative to the size of the vase and to most flower stems.

3,524,281
FLOATING RIBBON ENVIRONMENTAL SCREEN
Edward C. Streeter, Jr., 39 Olin St., Ocean Grove, N.J. 07756
Filed Oct. 18, 1968, Ser. No. 768,784
Int. Cl. E05f *17/00;* **E06b** *7/08*
U.S. Cl. 49—74 **9 Claims**



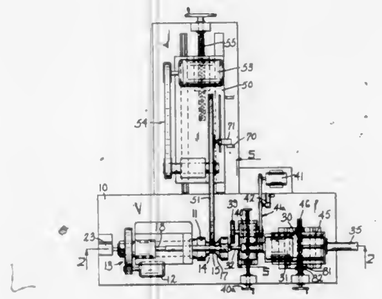
An electromagnetically controlled screen having parallel ribbon-like louvers suitable for permanent hermetic sealing in the air space of a dual glazed insulating window and movable in unison to desired attitudes.

3,524,282
SASH GUIDING AND BALANCING APPARATUS FOR REMOVABLE SASHES
Donald E. Kraft, Zygmunt J. Czubachowski, and Wm. Douglas Nobes, Rochester, N.Y., assignors to The Caldwell Manufacturing Company Rochester, N.Y.
Filed Oct. 30, 1967, Ser. No. 679,127
Int. Cl. E05d *15/22*
U.S. Cl. 49—181 **3 Claims**



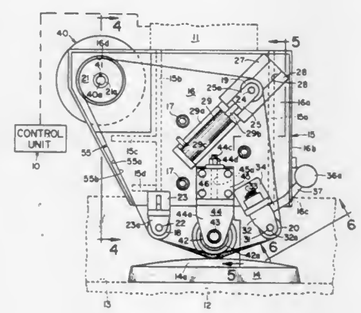
A window sash guideway resiliently urged toward the vertical edge of a slidable sash which releases the slidable sash when the sash is tilted inwardly, the guideway incorporating a self-locking sash balance, which automatically locks upon tilting the sash inwardly from said guideway.

3,524,283
GRINDING MACHINERY
Robert S. Jones Springfield, Vt., assignor to Textron, Inc., Providence, R.I., a corporation of Rhode Island
Filed Jan. 9, 1967, Ser. No. 607,956
Int. Cl. B24b *5/12, 53/04*
U.S. Cl. 51—5 **5 Claims**



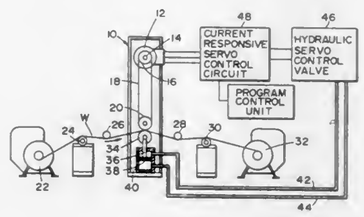
A grinding machine for grinding the external and internal surfaces of a workpiece, comprising a grinding wheel which is rotated about its axis and moved to simultaneously contact a first cutter wheel rotating about its axis and a workpiece rotating about its axis, such that the axis of the workpiece and the axis of the cutter wheel lie in substantially the same vertical plane and are spaced less than 180° from each other about the circumference of the first grinding wheel. The apparatus may also include a second grinding wheel which is adapted to be rotated and moved to operate on the internal surface of the workpiece or to contact a second cutter wheel.

3,524,284
ABRASIVE MILLING HEAD FOR NUMERICALLY CONTROLLED APPARATUS
Daniel J. Mears, Horseheads, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Aug. 22, 1967, Ser. No. 662,342
Int. Cl. B24b *21/12, 21/08*
U.S. Cl. 51—135 **6 Claims**



An abrasive milling head for mounting on a machine automatically movable through three axes of motion in response to control signals representing numerical control information, such milling head for precisely abrasively milling generally convexly curved surfaces on workpieces in accordance with numerical control information pertaining to the shapes of said surfaces and control signals progressively supplied to said machine in response to recorded programs representing said information.

3,524,285
CONTROL SYSTEM FOR GRINDING MACHINES
Richard D. Rutt, Wilson, N.Y., assignor to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware
Filed Aug. 9, 1966, Ser. No. 571,271
Int. Cl. B24b *21/04, 21/12*
U.S. Cl. 51—135 **10 Claims**



A system for controlling and adjusting the grinding pressure of an abrasive belt in accordance with the wear conditions of the belt so as to achieve a constant stock removal rate and extended belt life incorporates a variable speed drive interposed between an infeed roll and a time schedule controller. The latter operates a linear motion resistor operatively connected to means for increasing the grinding pressure on the belt.

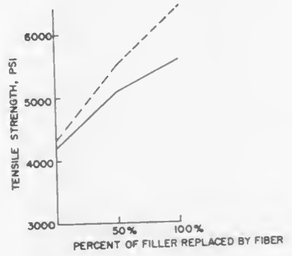
ERRATA

For Classes 51—164 and 51—209 see: Patent Nos. 3,524,735 and 3,524,736

3,524,286
RESIN BONDED ABRASIVE WHEELS CONTAINING FIBROUS AND NON-FIBROUS FILLERS

Luis C. Wohrer, Lewiston, N.Y., assignor to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware

Filed Apr. 12, 1967, Ser. No. 630,333
Int. Cl. C08g 51/12; C08c 11/04
U.S. Cl. 51—298 7 Claims

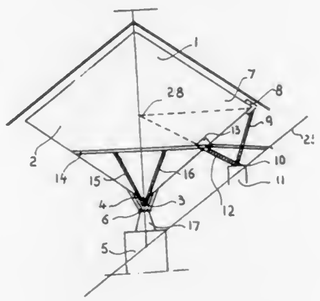


A bonded abrasive article incorporating in the bond a filler material, at least 10 volume percent of said filler consisting of ceramic fibers having a length to diameter ratio of between 3:1 and 500:1 and an average length of 5 mm. or less. The fibers may be distributed uniformly throughout the bonded abrasive article or may be distributed only in areas of high stress, such as about the arbor of a bonded abrasive wheel.

3,524,287
BUILDING STRUCTURE

Mario Toselli, 2 Rue de la Republique, Avignon Vaucluse, France

Filed May 28, 1968, Ser. No. 732,749
Claims priority, application France, Mar. 14, 1968, 22,202
Int. Cl. E04b 1/34; E02d 27/02
U.S. Cl. 52—73 1 Claim

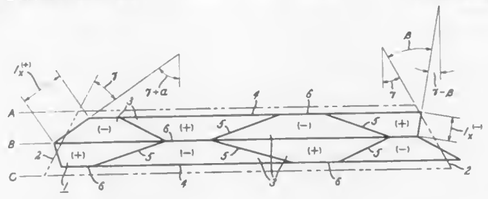


A building structure, especially for use on steeply sloping sites, has a longitudinal horizontal beam at a first lower point of the sloping site to act as a base, an anchor means disposed at a second higher point of the site, and a hollow casing of generally rhombic transverse vertical cross-section, the casing resting on the support beam by its lower apex and being coupled to the anchor means at its peripheral edge.

3,524,288
COMPLEX, NON-SPHERICAL STRUCTURES

Anthony P. Coppa, Merion, Pa., assignor to General Electric Company, a corporation of New York

Continuation-in-part of application Ser. No. 665,532, Sept. 5, 1967. This application June 23, 1969, Ser. No. 839,788
Int. Cl. E04b 1/343; E04h 1/12
U.S. Cl. 52—81 17 Claims

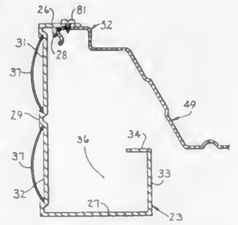


Non-spherical multi-planar element structures comprise triangular or trapezoidal elements undulating about imaginary conical parent shapes in precise geometrical arrays. Due to a dependency between axial flexibility and resistance to change in size and shape of the structures' perimeters at specific points in the structures, the structures of this invention may be rigid or flexible to a preselected degree. Flat and shell structures of specific shapes collapsible into highly compact masses are one form of the invention.

3,524,289
AWNING CONSTRUCTION

Robert V. Yazejian, Birmingham, Mich., assignor to Kaufmann Window and Door Corporation, Detroit, Mich., a corporation of Michigan

Filed July 25, 1968, Ser. No. 747,730
Int. Cl. E04d 13/00; E04b 1/34; E04c 1/30
U.S. Cl. 52—95 8 Claims



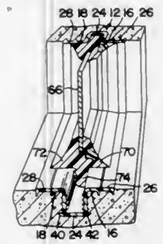
An awning construction comprising a plurality of elongated panels having hook-like edge portions for permitting adjacent panels to be interlocked in side-by-side relation. The hook-like edge portions have flat upper surfaces for permitting a traverse crossbeam to be positioned above, and fixedly secured to, the panels. The hooked edge portion of one panel is resiliently snapped within the hooked edge portion of an adjacent panel, which hooked edge portions are provided with compatible arcuate portions for preventing flow of water between the edges. The panels contact and are supported by elongated frame members adjacent the ends thereof.

3,524,290
RECEIVER FOR SPLINE-TYPE GASKETS

John T. Sarvay, Lakewood, Ohio, assignor to The Standard Products Company, Cleveland, Ohio, a corporation of Ohio

Filed June 18, 1968, Ser. No. 738,021
Int. Cl. E04b 1/62
U.S. Cl. 52—98 3 Claims

A sealing system for use with a concrete panel including a receiver of rigid thermoplastic material adapted to be cast into a surface of the concrete panel, the receiver having a channel portion receiving the tongue of a spline-type structural gasket. The receiver is provided with shoulder portions which extend laterally from the channel portion and which are in sealing engagement with side

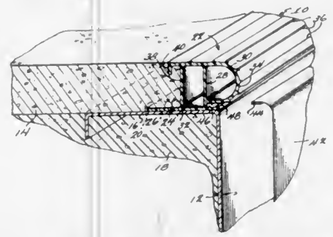


lips formed on the gasket. The shoulder portions of the receiver have longitudinally extending break-off portions so that the receiver can accommodate gaskets of varying widths.

3,524,291
SWIMMING POOL COPING

Henry A. Rozanski, Box 127, R.D. 2, Elizabethtown, Pa. 17022

Filed May 2, 1968, Ser. No. 726,180
Int. Cl. E04h 3/16, 7/18
U.S. Cl. 52—169 10 Claims

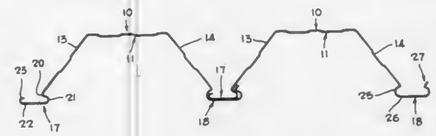


A swimming pool edge construction includes a horizontal tubular coping member of metal or plastic secured to the top of the pool wall for horizontal adjustment and a horizontal deck of concrete or wood adjacent and flush with the top of the coping member. The coping member is sufficiently flexible to be bent to follow gently curving pool edges. Adjustable attachment of the coping to the horizontal top surface of the pool wall is effected by means of a longitudinally extending flange projecting from the coping member and provided with slots for receiving bolts or screws.

3,524,292
INTERLOCKING PANEL ASSEMBLY

Theodore J. Bottom, Kirkwood, Mo. (% Alumna-Kraft Manufacturing Co., 1030 Manchester Road, Manchester, Mo. 63011)

Filed Feb. 7, 1968, Ser. No. 703,615
Int. Cl. E04d 1/18, 3/363
U.S. Cl. 52—522 4 Claims

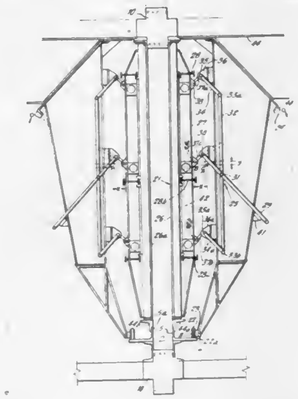


A panel assembly having a plurality of interconnected panels. Each panel includes a first flange and a second flange at opposite sides. The first flange of each panel has an arcuate portion and an oppositely disposed, curved portion. The second flange has an arcuate portion and an oppositely disposed, substantially S-shaped portion. The first flange of each panel snaps into the second flange of the next adjacent panel. In connecting coacting first and second flanges, the curved end portion of the first flange enters and bears against the arcuate bearing portion of the second flange, while the arcuate portion of the first flange cams or springs the resilient, substantially S-shaped portion of the second flange by bearing against an inclined tab, and moves into an arcuate hook portion. The substantially S-shaped portion of the second flange resiliently embraces the arcuate portion of the first flange, thereby effectively attaching the coacting flanges and adjacent panels. The resilient, substantially S-shaped portion underlies the second flange and body of the adjacent panel and accordingly, because access is prohibited, unintentional or accidental disconnection of the panels is prevented.

3,524,293
APPARATUS AND METHOD FOR CONSTRUCTION OF MULTISTORIED BUILDINGS

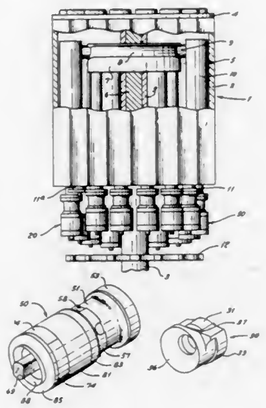
Adriaan Leyten and Dirk K. Verburgh, Rotterdam, Netherlands, assignors to J. P. van Eesteren's Administratie Maatschappij N.V., Rotterdam, Netherlands, a limited-liability corporation of Netherlands

Continuation-in-part of applications Ser. No. 472,872 and Ser. No. 472,876, July 19, 1965. This application July 3, 1968, Ser. No. 742,381
Int. Cl. E04h 1/04; E04b 1/04; E04g 11/00
U.S. Cl. 52—741 6 Claims



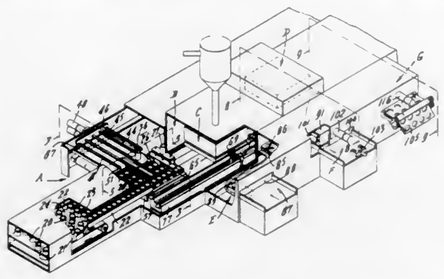
A method of building construction in which a monolithic structure formed through the application of the sequential steps of forming a floor of reenforced concrete; forming loadbearing walls of reenforced concrete upon said floor through the usage of smooth steel molds; providing prefabricated structures for use in each cell defined by the load-bearing walls which is comprised of non-load-bearing partitions within each cell-like unit; placing the prefabricated structure into each cell-like unit; forming ceilings of reenforced concrete above the prefabricated structures which are supported by load-bearing reenforced concrete walls; and sealing the open gable ends of each cell-like unit by means of prefabricated gable walls. The method employs apparatus including spacer elements which are fixed with regard to desired floor and ceiling dimensions and are integrally molded into the load-bearing walls and ceilings of the structure. The guide elements receive and support spacer elements which, in turn, position and support molds whose highly accurate alignment is assured through the use of the spacer elements. Upon setting of the concrete the molds may easily be removed and the method steps may then be repeated.

3,524,294
BOTTLE CAPPING EQUIPMENT AND METHOD
Stanley J. Koll, Keansburg, N.J., assignor to American Flange & Manufacturing Co., Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 20, 1967, Ser. No. 676,755
Int. Cl. B67b *3/02, 3/14*
U.S. Cl. 53—3 9 Claims



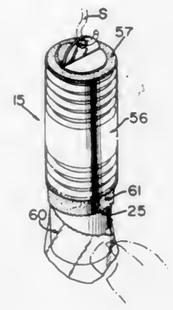
A method and apparatus for capping bottles in high speed bottle filling operations wherein a plurality of individual cap applying units are housed within a rotatable capping turret. Each unit can be quickly and easily converted for the application of either smooth skirt tear off closures or conventional crowns.

3,524,295
PROCESS FOR HANDLING AND TREATING ARTICLES IN GROUPS
Harold Ernest Spaulding, Belle Mead, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Original application Oct. 22, 1965, Ser. No. 501,630. Divided and this application Oct. 8, 1968, Ser. No. 782,780
Int. Cl. B65b *21/06, 35/32*
U.S. Cl. 53—14 5 Claims



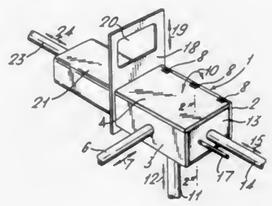
A method for handling groups of articles so that a work function may be performed simultaneously upon each article in the group. A plurality of articles in bulk form are fed to a station where a group of the articles are arranged in a predetermined pattern and thereafter transferred into a matrix. The group of articles in the matix are moved into position within a working station in which the group of articles are worked on substantially simultaneously so that more time may be allowed to work on each article. The overall production rate may thus be increased as compared to working only on a single article at a time.

3,524,296
METHOD OF MAKING A DISPENSING PACKAGE
Thomas E. Piazze, Mount Vernon, Ohio, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Original application Oct. 24, 1965, Ser. No. 504,481, now Patent No. 3,365,100, dated Jan. 23, 1968. Divided and this application Nov. 1, 1967, Ser. No. 679,701
Int. Cl. B65b *61/14*
U.S. Cl. 53—14 7 Claims



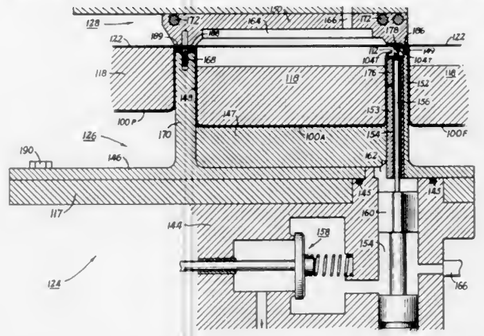
This invention is directed to a novel method of manufacturing a dispenser package by depositing a plurality of dispensable articles into a bag of heat-shrinkable material having an apertured bottom through which air is vented during the insertion of the articles into the bag. A closure is inserted with an open end portion of the bag and the latter portion is heat-shrunk to maintain the closure and bag in assembled relationship. An opposite end portion of the bag is also heat-shrunk to form a dispensing opening upon the subsequent removal of the bottom end portion of the bag.

3,524,297
PROCESS FOR COMPRESSING, MOULDING, AND PACKING OF FOOD SUBSTANCES
Helge Jorgen Falborg, Kattedamsvej 12, Aabybro, Denmark, and Frank Pedersen, Romers Have 4, Norresundby, Denmark
Filed Feb. 2, 1967, Ser. No. 613,544
Int. Cl. B65b *1/24, 1/26, 63/02*
U.S. Cl. 53—22 1 Claim



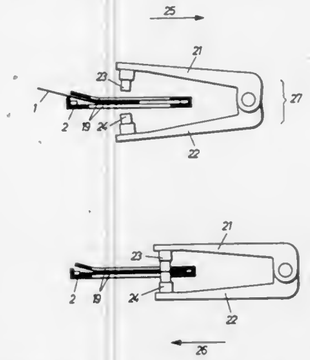
A method and apparatus for preparing for packing, compressible meats or similar substances. The meat is placed in a compression chamber and is compressed and moulded on all sides to substantially the inner dimensions of the container in which it is to be packed, while simultaneously any air present in the chamber is removed by creation of a vacuum therein. The meat is then pushed under vacuum and in its compressed state into a filling sleeve of substantially similar dimensions around which is placed the container. The sleeve is removed and the meat is further moulded to fill the interior of the container.

3,524,298
AUTOMATIC PACKAGING APPARATUS
Joel A. Hamilton, Englewood, N.J., assignor to Mahaffy and Harder Engineering Company, Totowa, N.J.
Continuation of application Ser. No. 526,081, Feb. 9, 1966. This application July 1, 1969, Ser. No. 840,131
Int. Cl. B65b *31/04, 47/10*
U.S. Cl. 53—22 46 Claims



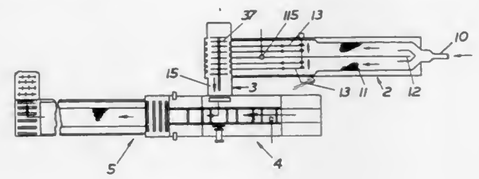
An automatic packaging machine for making hermetically sealed and evacuated packages from two continuous webs of flexible plastic packaging material, the machine comprising a pair of side-by-side chains driven intermittently around a closed path having upper and lower reaches, there being mounted on the chains a series of spaced clips adapted to grip the side edges of the packaging material to carry it along said path past a series of operating stations, one of said stations including vacuum forming means to draw one web into a series of cups, another operating station having a sealing die arranged to receive filled cups and to seal the margins thereof to the second web of packaging material, the sealing die also including evacuating means for withdrawing air from the sealed package through a slit which is closed off after evacuation has been completed.

3,524,299
PROCESS AND APPARATUS FOR MOUNTING TRANSPARENCIES
Peter Mundt, Garmisch-Partenkirchen, Otfried Urban, Kochel am See, and Arnold Neuhold, Garmisch-Partenkirchen, Germany, assignors to Geimuplast Peter Mundt KG, Garmisch-Partenkirchen, Germany
Filed Feb. 27, 1967, Ser. No. 618,684
Claims priority, application Germany, Mar. 4, 1966, G 46,226
Int. Cl. B31b *1/20, 1/82;* B65b *17/00*
U.S. Cl. 53—23 3 Claims



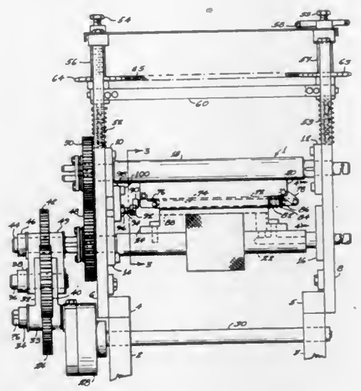
The leading end of a film strip is inserted in successive steps into respective frames and a transparency is severed from the film strip between successive inserting steps. The transparency is fully inserted into the frame in the severing station. A movable gripper grips the severed transparency through the picture aperture of the frame and fully pulls the transparency into the frame.

3,524,300
CASE PACKING MACHINE
Albert H. Merkner, Pittsburgh, and Chester L. Gutowski, Castle Shannon, Pa., assignors to H. J. Heinz Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 17, 1968, Ser. No. 745,505
Int. Cl. B65b *5/06, 57/14*
U.S. Cl. 53—55 13 Claims



There is disclosed a machine for receiving cans from a conveyor, arranging them into a group having a preselected number of cans, usually twenty-four, then automatically moving the group without disturbing the arrangement of the cans in the group and discharging them into the open end of a single-layer carton, sealing the end flaps on the carton with glue, and retaining pressure on the flaps until the glue is set.

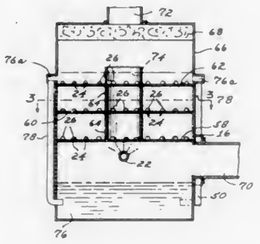
3,524,301
CUTOFF KNIFE FOR PACKAGING MACHINE
Darwin D. Zimmerman, New Richmond, Wis., assignor to Doughboy Industries, Inc., New Richmond, Wis., a corporation of Wisconsin
Filed Dec. 10, 1968, Ser. No. 782,588
Int. Cl. B65b *61/08*
U.S. Cl. 53—182 6 Claims



A packaging machine having an elongated cutoff knife housed within one of a pair of oppositely disposed, rotatable sealing dies, and an actuating mechanism operative to intermittently move the knife through a continuous length of wrapping material between spaced-apart articles enclosed therein into a receiving slot on the other one of the sealing dies. The knife cuts through the wrapping

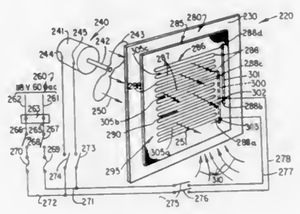
material in a rapid, slicing motion when the sealing dies are in engagement with opposite sides of the wrapping material during a crimping and sealing operation, a trip member serving to initiate the actuation of the knife at the desired time.

3,524,302
LIQUID-TYPE GAS SCRUBBING EQUIPMENT
Michael M. Jalma, 410 Brookside Place, Cranford, N.J. 07016
Filed July 17, 1968, Ser. No. 745,568
Int. Cl. B01d *47/06*
U.S. Cl. 55—238 **2 Claims**



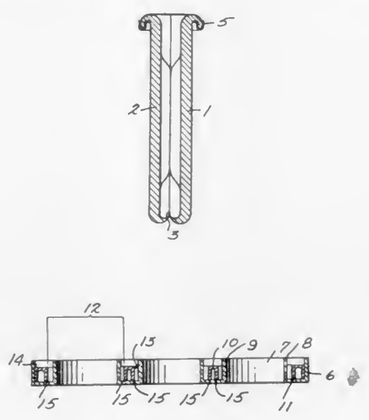
Gas scrubbing equipment is provided with one or more horizontal plates having openings therein together with deflecting means positioned above the openings and arranged to direct gas and liquid passing through the openings in directions generally parallel to the upper surfaces of the plates. The deflecting means are so formed and arranged that a vigorous rotary motion is imparted to the gas and liquid as it passes upward through the equipment. The scrubbing liquid is projected upward against the lower surface of the lowermost plate and passes upward with the gases to the upper plates from which it is returned to a sump in the bottom of the equipment for recirculation while the scrubbed and cleaned gases pass outward from the upper portion of the equipment.

3,524,303
FILTER STRUCTURE AND METHOD OF MAKING THE SAME
Edgar S. Stoddard, 626 S. Columbia St., Naperville, Ill. 60540
Filed Sept. 13, 1968, Ser. No. 759,606
Int. Cl. B01d *39/08*
U.S. Cl. 55—283 **28 Claims**



A filter structure comprising a plurality of electrically insulating warp fibers, a woof fiber interlaced with the warp fibers, an electric heating element including an electrically resistive continuous woof wire interlaced with the warp fibers and in thermal contact therewith, the woof wire alternating with the woof fiber to provide a length of the woof fiber between adjacent lengths of the woof wire, and a pair of electrical terminals connecting an electric potential to the woof wire for heating the woof wire to a temperature to clean the filter structure by destroying the combustible materials entrapped on the filter structure. Disposed in the border of the filter structure is a rigidifying means such as an epoxy coating to support the electrical terminals and any necessary electrical and mechanical connections. There may be provided a number of adjacent filter units wherein the heating element in the upstream one of the filter units applies a greater number of B.t.u.'s to its filter unit than the heating elements in succeeding filter units apply thereto.

3,524,304
BAG AIR-FILTER
Hans Joachim Wittemeier, Fritz Becker, and Klaus Peter Deutschmann, Berlin, Germany, assignors to Delbag-Luftfilter G.m.b.H., Berlin, Germany
Filed May 29, 1967, Ser. No. 642,087
Claims priority, application Germany, May 28, 1966, D 33,517
Int. Cl. B01d *46/02*
U.S. Cl. 55—374 **6 Claims**



A bag air-filter comprising at least one and preferably a plurality of filter bags and a receptor plate therefor, said bag or each bag having a channel-shaped stiff rim and said receptor plate having at least one and preferably a plurality of openings surrounded or each surrounded by a collar, said bag or each bag being removably suspended by the said rim on the said collar.

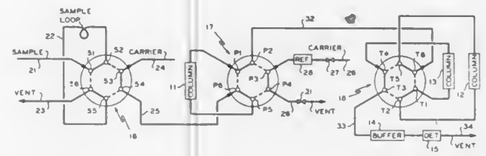
There is a retaining plate having at least one opening larger than that in the said receptor plate and surrounded by a collar of less depth than the collar on the said receptor plate and co-operating with the receptor plate to retain the bag rim, there being preferably a plurality of said openings in the retaining plate.

The upper margin at the open end of the bag is folded over and a U-shaped edging is secured thereto, which edging may be of a synthetic plastics or rubber material; or alternatively the channel-shaped stiff rim of the bag is moulded with the aid of a synthetic rubber or plastics material.

3,524,305
MINIMIZING SWITCHING TRANSIENTS IN MULTIPLE COLUMN CHROMATOGRAPHY
Brian F. Ives, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 26, 1967, Ser. No. 693,231
Int. Cl. B01d *15/08*
U.S. Cl. 55—386 **2 Claims**

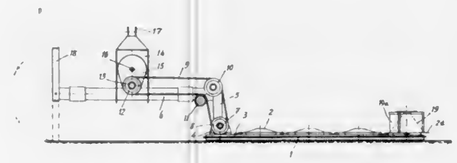
A buffer element is positioned between the outlet of a multiple column array and the chromatographic detector

to minimize the effects on the detector of transients produced by switching the columns into a different arrangement. The buffer element can be a column filled with inert packing material or a capillary tube, but in either case is



substantially free of any material which would effect a chromatographic separation. The effective free cross sectional area of the buffer element is equal to, or preferably less than, the effective free cross sectional area of the chromatographic column array.

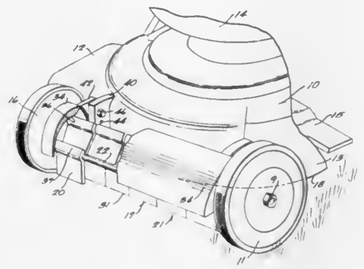
3,524,306
DISK-TYPE MOWING MACHINES
Walter Reber, Saverne, France, assignor to Kuhn Freres & Cie, Paris, France
Filed Feb. 5, 1968, Ser. No. 703,082
Claims priority, application France, Feb. 13, 1967, 94,661
Int. Cl. A01d *35/26, 57/28*
U.S. Cl. 56—25.4 **10 Claims**



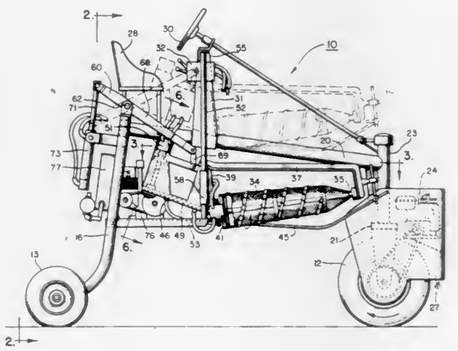
The mowing machine has supporting disks of cutting elements driven along a circular path, and comprises a pivoting bar consisting of a closed, oil-tight case acting as a carrier to the said disks and to other elements necessary for performing the mowing operation, said case containing in an oil sump the members transmitting the circular motion to said cutters driven from beneath, and supporting the main drive member of this transmission of which the axis is coincident with the pivot axis of said bar.

3,524,307
ROTATING FRONT GUARD FOR ROTARY LAWNMOWERS
Einar S. Dahl, Galesburg, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed Feb. 28, 1967, Ser. No. 619,360
Int. Cl. A01d *35/26*
U.S. Cl. 56—25.4 **12 Claims**

Disclosed herein is a rotary lawnmower with a rotating guard plate assembly which includes three transversely arranged rows of guard plates between the front wheels and parallel to the front wheel axles. The guard plates are pivotally carried by rods, with a plurality of guard plates on each rod. The rods are secured to end plates connected to the front wheel axles which rotate with mower movement. Mower movement imparts cycloidal motion of the rods and guard plates to provide a stepping action of the guard plates over the grass. Additional stepping effect is provided in one embodiment by cam follower extensions which are located on the guard plates and which engage a cam surface on the underside of a housing disposed above the rotating guard plate assembly. Such engagement tilts the lower tips of the guard plates upwardly and forwardly during a portion of the cycloidal path.



3,524,308
DETASSELING APPARATUS
Robert H. Spry, 21 Sunset Road, Bloomington, Ill., 61701
Filed July 18, 1967, Ser. No. 654,133
Int. Cl. A01d *45/02*
U.S. Cl. 56—51 **12 Claims**

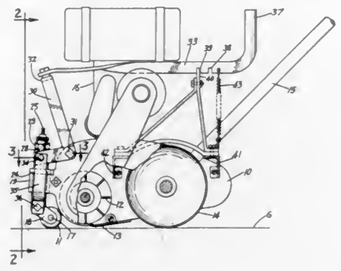


Apparatus for severing the tassels from the female parent plant in hybrid seed corn crossing fields is disclosed. The apparatus is mounted on a support carriage for movement along rows of the corn plants and a pair of elongated drums, oriented on opposite sides of a row of corn plants, are rotated to move their adjacent surfaces downwardly to non-destructively depress the leaves of the corn plant about the tassel and expose the root of the corn tassel. A severing device, positioned rearwardly of the leaf depressor unit and having a pair of flexible drive belts, with contiguous surface portions including upwardly from a forward point, receives the tassels from between the depressed leaves and lifts the tassels away from the corn plant to sever them therefrom.

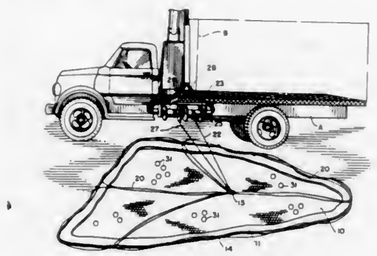
3,524,309
GOLF GREENS MOWER
Gordon E. Bartlett, 1604½ Laurel Ave., Eau Claire, Wis. 54701
Filed Aug. 20, 1968, Ser. No. 754,066
Int. Cl. A01d *55/20*
U.S. Cl. 56—249 **10 Claims**

A precision grass mower of the reel type having a forwardly disposed ground engaging roller for cutting golf greens at a precisely predetermined height. The mower is

provided with shifting means for moving the height adjusting roller to either of two positions for cutting the grass of the green and the collar surrounding the green at different but precisely determined heights.



3,524,310
GATHERING APPARATUS
John E. Petersen, Highway 27 N. at Overpass, Lake Wales, Fla. 33853
Filed July 28, 1967, Ser. No. 656,936
Int. Cl. A01g *19/00*
U.S. Cl. 56—328 7 Claims

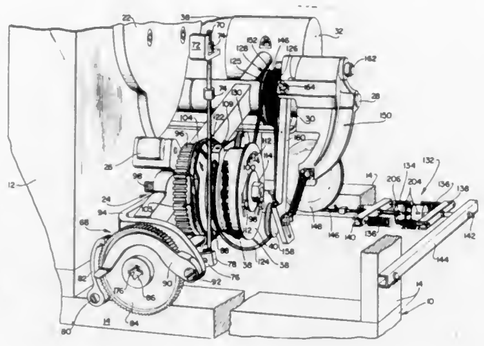


A gathering web or canvas is placed under a fruit tree for receiving fruit from the tree. Flexible elements are connected to border portions of the sheet or web and extend through a ring which is secured to the web. A vehicle provided with a lift boom is equipped with a motor-driven drum connected to the flexible elements for drawing the web into bag formation about the fruit thereon and for hoisting the bag containing the fruit over a container which may be carried by the vehicle or placed alongside the vehicle.

The bag may then be opened for the removal of fruit. Preferably, a second drum is carried by the boom for drawing a flexible element which extends through the ring to the underside of the web and this supports and tends to invert the bag while it is in suspended position, and as the first drum releases the draw elements the bag is opened for the removal of the fruit.

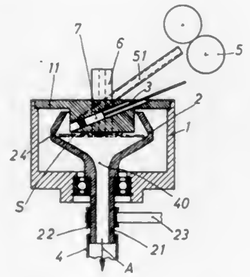
3,524,311
TEXTILE EQUIPMENT
Charles W. Brouwer, East Greenwich, Henry C. Bucheister, Providence, and Raymond V. Tata, Warwick, R.I., assignors to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Aug. 9, 1968, Ser. No. 751,594
Int. Cl. D01h *9/14*
U.S. Cl. 57—54 16 Claims

A spinning frame automatically operable to produce filled yarn packages such as bobbins. The bobbins are filled by building operation of the frame and upon completion of the building a halch and tail coils are formed on the package through operation of a latch to release drive means which store energy and operate through an assembly of pulleys and cables to lower the spinning



frame ring rail. The quantity of yarn on the packages may be adjusted as may the halch and tail coils. Existing builder mechanism may be supplemented to provide such automatic operation.

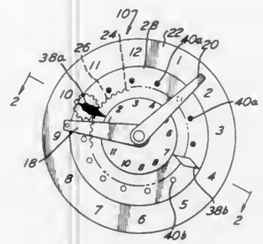
3,524,312
METHOD AND APPARATUS FOR CLEANING ROTARY SPINNING CHAMBER
Hans Landwehrkamp and Franz Schreyer, Ingolstadt, Germany, assignors to Schubert & Salzer Maschinenfabrik Aktiengesellschaft, Ingolstadt, Germany, a corporation of Germany
Filed July 25, 1967, Ser. No. 655,906
Claims priority, application Germany, Aug. 11, 1966, Sch 39,387
Int. Cl. D01h *11/00, 7/00*
U.S. Cl. 57—56 18 Claims



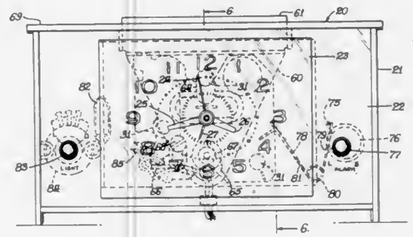
The cover for the spinning chamber and its housing has an inclined bore through it to permit injection of compressed air or cleaning fluid to the chamber, or a mechanical stripper can be slid through the bore to engage the chamber side. The stripper may have a longitudinal bore for passage of fluid through it to the chamber. Residue entrained by an air stream or by cleaning fluid can be removed through the hollow shaft supporting the chamber or through an aperture in the housing wall.

3,524,313
TIDE CLOCK
George W. Wood, R.D. 1, Hammonton, N.J. 08037
Filed Dec. 24, 1968, Ser. No. 786,630
Int. Cl. G04b *19/26*
U.S. Cl. 58—3 7 Claims

A clock for indicating the time of the occurrence of the high and low tides during each day. The clock also indicates the amount of time until the next high or low tide from any point of time during the day, and the time of the occurrence of the high and low tides for several days to come.

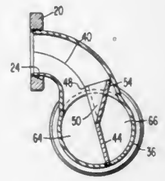


3,524,314
INTERMITTENT ALARM MECHANISM
James E. Morton, Lombard, James W. Richmond, Bensenville, and Robert H. Houf, Jr., Addison, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed July 1, 1968, Ser. No. 741,802
Int. Cl. G04b *19/30, 23/10;* G04c *21/36*
U.S. Cl. 58—18 6 Claims



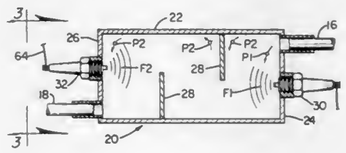
In an alarm clock, an intermittent alarm mechanism which allows the alarm to sound intermittently and an alarm selector member which permits the selective disengagement of the intermittent alarm mechanism to free the alarm to sound continuously during the alarm period. The intermittent alarm mechanism comprises a disc with at least one notch in its periphery driven by the clock movement at a constant speed and an alarm restraining member having a fixed end and a free end. The alarm restraining member having a projecting finger that rides against the periphery of the driven disc to position the free end to hold the vibrator in the alarm restraining position except for those intervals of the disc's rotation that the projection falls into one of the disc's notches. The fixed end of the restraining member being rotatably mounted on the alarm selector member. The alarm selector member including an eccentric cam member to permit the shifting of the fixed end such that the free end is shifted away from the alarm's vibrator to free it to sound continuously. The alarm selector member further including (1) an alarm selector knob to permit the user to select either the "repeat" or "steady "alarm positions, (2) a stop member to limit the selector member's movement between these two positions, and (3) a hold member to insure the selector member will only be in one or the other of these two positions.

3,524,315
EXHAUST GAS LINE SERVING FOR THE FEED OF EXHAUST GAS TURBOCHARGERS
Wolfgang Rudert, Grunbach Kreis, Waiblingen, and Jürgen Wahnschaffe, Stuttgart-Stammheim, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Apr. 18, 1968, Ser. No. 722,340
Claims priority, application Germany, Apr. 21, 1967 D 52,882
Int. Cl. F01n *7/10, 7/18*
U.S. Cl. 60—29 5 Claims



An exhaust gas line for internal combustion engines with a number of cylinders which includes exhaust gas pipe sections and pipe elbows to conduct the exhaust gases from the cylinder head to an exhaust gas turbocharger which is to be loaded at predetermined pulse sequence; the pipe elbows conduct the exhaust gases from the cylinder heads to the respective exhaust gas pipe sections in such a manner that the individual partial lines extend within a common multiple-flow pipe; the individual exhaust gas sections may be connected with each other by connecting joints provided with a double dividing wall that effectively overlaps with its forked ends the ends of the separating walls provided within the exhaust gas pipe sections.

3,524,316
METHOD AND APPARATUS FOR COMBUSTING INTERNAL COMBUSTION ENGINE EXHAUST POLLUTANTS
Joseph W. McKee, Rte. 1, Box 292, Broomfield, Colo. 80020
Filed July 31, 1968, Ser. No. 749,132
Int. Cl. F01n *3/10*
U.S. Cl. 60—29 10 Claims



Method and apparatus for combusting the unburned gases in the exhaust of an internal combustion engine in a chamber, such as a muffler or an afterburner in series with a muffler, characterized by the use of a plurality of conventional spark plugs spaced in optimum relation to the chamber and preferably of a number equal to the number of engine cylinders, the various plugs being periodically fired by a separate electrical system operating in synchronism with the engine ignition system. An optional feature includes the provision of a movable tail pipe which may be oriented when desired to a deicing position in which hot exhaust gases may be directed onto snow or ice on a roadway.

3,524,317
HYPERGOLIC IGNITION METHOD USING ORGANOALUMINUM COMPOSITIONS

Martin E. Gluckstein, Detroit, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

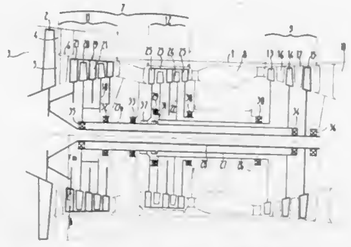
No Drawing. Filed Dec. 22, 1967, Ser. No. 692,704
Int. Cl. C06d *5/10*
U.S. Cl. 60—209 16 Claims

A pyrophoric fuel capable of spontaneous ignition which consists essentially of a mixture of organoaluminum compounds, provided that at least one compound in the mixture is an organoaluminum hydride or halide and the the amount of each compound in the mixture is at least ten weight percent. A method of effecting combustion comprises contacting said fuel with air or other oxidizer.

3,524,318
GAS TURBINE POWER PLANTS HAVING AXIAL-FLOW COMPRESSORS INCORPORATING CONTRAROTATING ROTORS

Louis Jules Bauger, Vanves, Jean Georges Bouiller, Brunoy, Michel Robert Garnier, Sceaux, and Armand Jean-Baptiste Lacroix, Itteville, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a French company

Filed Dec. 11, 1968, Ser. No. 783,019
Claims priority, application France, Dec. 14, 1967 132,312
Int. Cl. F02c *3/06;* F02k *3/06*
U.S. Cl. 60—226 8 Claims



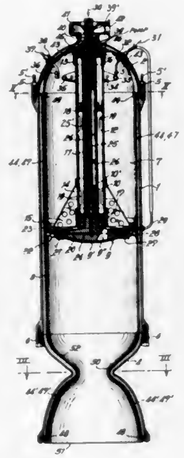
A gas turbine power plant comprising a compressor split up into *n* coaxial sections arranged in series, each of which incorporates two contrarotating rotors, and comprising a turbine equipped with $(n+1)$ independent contrarotating wheels, each of said wheels drivng two rotors respectively belonging to two successive sections in the compressor with the exception of the first and last turbine wheels, each of which drives only a single rotor.

3,524,319
ROCKET ENGINE WITH COOLING WALLS OF COMBUSTION CHAMBER WITH OXYGEN-SUPPLYING LIQUID

Karl Stöckel, Berlin-Friedenau, Germany, assignor to Bolkow Gesellschaft mit beschrankter Haftung

Filed May 3, 1955, Ser. No. 505,724
Int. Cl. F02k *9/02*
U.S. Cl. 60—259 13 Claims

1. A jet engine comprising a hollow, elongated casing defining at least one combustion chamber therein, an outflow nozzle having a discharge opening for exhaust gases, said nozzle being connected to said casing at one end thereof and communicating with said chamber, first cooling ducts exteriorly of said chamber and extending longitudinally of said casing, second cooling ducts adjacent said nozzle and extending substantially longitudinally and exteriorly of said nozzle, said first ducts communicating with said second ducts, respectively, at the junction of said casing and said nozzle, some of said first ducts communicating with said combustion chamber at the end of said casing remote from said junction, means positioned adjacent said discharge opening of said nozzle for establishing communication between predetermined second ducts, and a centrifugal pump disposed adjacent said casing and communicating with the remaining first ducts

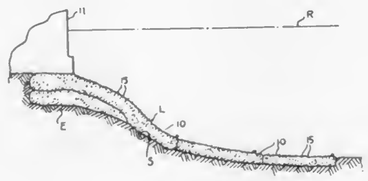


at said end of said casing remote from said junction for feeding an oxygen-supplying liquid under a pressure above the critical pressure of oxygen into said remaining first ducts, whereby said liquid prior to its introduction into said combustion chamber is first forced through said first and said second ducts in the direction of said discharge opening and then back through said second and first ducts for cooling both said casing and said nozzle.

3,524,320
METHOD OF PROTECTING AREAS OF AN EARTH SITUS AGAINST SCOUR

Lee A. Turzillo, Bath, Ohio
(2078 Glengary Road, Akron, Ohio 44313)

Filed Jan. 23, 1967, Ser. No. 611,107
Int. Cl. E02b *3/12*
U.S. Cl. 61—38 5 Claims

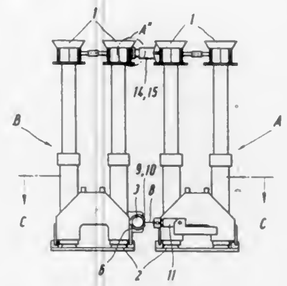


Method of protecting a scoured area of an earth situs by injection of pressurized liquid grout into a flexible fabric bag laid flatwise over said area, to expand opposing walls of the bag while simultaneously limiting expansion beyond a predetermined thickness of the bag. When the grout hardens, the bag has predetermined volumetric shape as well as thickness.

3,524,321
WALKING MINE ROOF SUPPORT

Wilhelm Wilkenloh, Duisburg-Wanheim, and Manfred Koppers, Duisburg-Hamborn, Germany, assignors to Rheinstahl Wanheim G.m.b.H., Duisburg-Wanheim, Germany

Filed Mar. 12, 1969, Ser. No. 806,566
Claims priority, application Germany, Mar. 12, 1968 1,608,288
Int. Cl. E21d *15/44*
U.S. Cl. 61—45 7 Claims

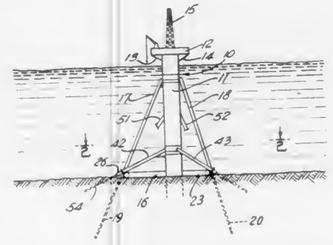


A walking mine roof support including two support units which can be alternatingly advanced with respect to each other by cylinder and piston means located between and operatively connected to the units and in which means are provided for changing the advancing direction.

3,524,322
SPLAY FOOTED PLATFORM ANCHOR

Ivo C. Pogonowski, Houston, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed June 27, 1968, Ser. No. 740,585
Int. Cl. B63c *23/16;* E02b *17/00*
U.S. Cl. 61—46.5 9 Claims



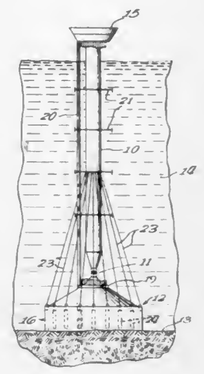
This invention relates to a marine drilling, and/or producing platform for an offshore oil site. It relates in particular to such a platform which, in normal operating position rests on the floor of a body of water and is there anchored by piling. The anchoring means takes the shape of a splayed or spread pile arrangement to provide a more firm anchor, and stabilizing resistance against lateral storm forces.

3,524,323
OFFSHORE STORAGE TANK WITH SELF-CONTAINED GUY SYSTEM

Clarence D. Miller, Naperville, Ill., assignor to Chicago Bridge & Iron Company, Oak Brook, Ill., a corporation of Illinois

Filed Feb. 24, 1969, Ser. No. 801,650
Int. Cl. E02b *17/02*
U.S. Cl. 61—46.5 4 Claims

Disclosed is a structure for offshore exploration and production of oil. The structure has an elongated shaft positioned upright in water, a roofed tank, a pivotal connection joining the lower end of the shaft to a top portion of the tank, and a plurality of guy lines joined at their upper end to the shaft and at their lower end to a plurality

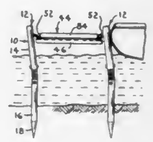


of weight means radially arranged from the shaft and supported by the tank for vertical displacement upwardly upon tilting of the shaft beyond a predetermined tilt, said weights being substantially unsupported by the guy lines when the shaft is vertical.

3,524,324
FLEXIBLE PIER

Louis F. Miklos, Lake County, Ind.
(6151 Delaware St., Gary, Ind. 64607)

Filed July 1, 1968, Ser. No. 741,769
Int. Cl. E02b *3/22*
U.S. Cl. 61—48 3 Claims



A flexible pier comprising posts laterally aligned in transverse rows each of which are formed to include a closed coil spring in the body thereof so that the top section may laterally flex relative to the bottom section. A hanger member pivotally connecting the top section of each post and pendantally supporting a cross beam between a pair of laterally aligned posts through a slotted opening in the ends of the cross beam. Longitudinal frame members on each end of the cross beams being connected together end to end and to the cross beam through the slotted aperture therein. Cross boards laid side by side on the transversely spaced longitudinal runners forming the platform.

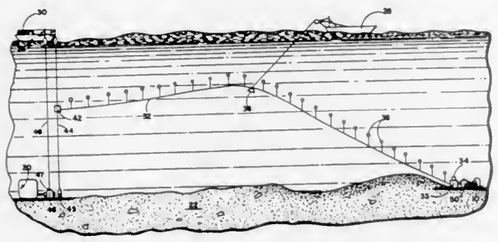
3,524,325
METHOD FOR CONNECTING PIPE BETWEEN TWO UNDERWATER COMPLEXES

Walter Brown, Long Beach, Calif., assignor to North American Rockwell Corporation

Filed May 17, 1968, Ser. No. 730,197
Int. Cl. F16l *1/00*
U.S. Cl. 61—72.3 3 Claims

A lay barge is positioned above an underwater complex and continuous sections of pipe are lowered and connected to a connector at the complex. Flotation means are positioned along the length of the pipe to maintain the

pipe partially buoyant and to prevent undue bending stress in the pipe. The lay barge then moves towards a position above a second complex, playing out pipe as it goes. An auxiliary barge is positioned at the halfway point. When the lay barge reaches the halfway point, a shoe-type support is connected to the pipe and the lay barge continues on to its final position above the second connector. As the lay barge moves to the final position, the shoe is allowed to descend to maintain the pipe in a substantially straight line. When the lay barge is in the final position,



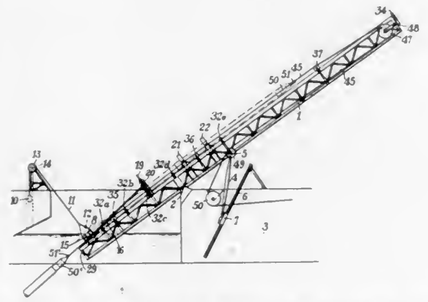
the pipe is cut, a connector stinger is secured to it and the pipe is lowered along guidelines to meet with the second complex's connector. As the pipe end is lowered, the shoe is raised slightly to allow the end of the pipe to travel straight down to the connector. With both connections made, the auxiliary barge moves off substantially perpendicular to the length of pipe and lowers the shoe to the bottom, thereby laying the pipe on its side. The shoe is then disengaged and the flotation devices removed to complete the operation.

3,524,326

METHOD AND MEANS FOR NEUTRALIZING SWELL DURING SUBMARINE PIPELINE LAYING OPERATIONS

Maurice H. Craste, Boulogne-sur-Seine, France, assignor to Societe des Grands Travaux de Marseille, Societe Anonyme, Paris, France

Filed May 21, 1968, Ser. No. 730,802
Claims priority, application France, May 31, 1967, 108,554, Patent 1,532,570
Int. Cl. F16l *1/00*
U.S. Cl. 61—72.3 **3 Claims**



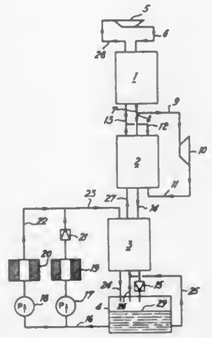
A pontoon on which are mounted a rectilinear pipeline laying beam, a pair of relatively long rods pivotally mounted about a fixed transverse axis connected to said laying beam, a collar adapted to clamp the pipeline end and pivotally mounted about a transverse axis at the end of said relatively long rods, in combination with two sets of rollers having their supports also rigid with said pipeline laying beam, said sets of rollers being each adapted to clamp said pipeline while permitting slight movements thereof along its axis.

3,524,327

METHOD OF MAINTAINING ELECTRICAL APPARATUS AT VERY LOW TEMPERATURES

Emile Carbonell and Pierre Solente, Grenoble, France, assignors to L'Air Liquide, Société Anonyme Pour l'Etude et l'Exploitation des Procedes Georges Claude

Filed May 31, 1968, Ser. No. 733,447
Int. Cl. H02k *9/00*; **F17c** *7/02*
U.S. Cl. 62—52 **5 Claims**



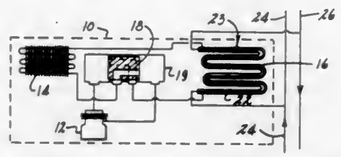
So as to reduce to very small values the energy losses due to the Joule effect, the electric conductors, particularly the turbo-alternators and the transformers of electricity generating stations have to be maintained at very low temperature. Preferably, the electric conductors of the transformers are cooled by heat exchange with a liquefied gas under a pressure slightly higher than atmospheric pressure, and sufficiently supercooled for the heat exchange not to cause the boiling thereof, and those of turbo-alternators are cooled by heat exchange with a liquefied gas at its boiling point. The liquid reheated by heat exchange with the transformers is expanded and sent with the liquid partially vaporized in heat exchange with the turbo-alternators into a cooling exchanger and then into a separator.

3,524,328

AIR CONDITIONER CONSTRUCTION

Donald Ray Schuster, Columbus, Ohio, assignor to American Standard Inc., New York, N.Y., a corporation of Delaware

Filed July 30, 1968, Ser. No. 748,875
Int. Cl. F25d *21/14*
U.S. Cl. 62—285 **13 Claims**



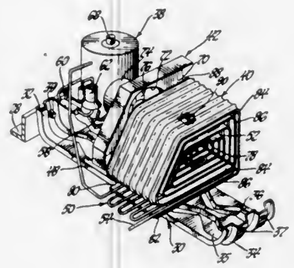
A room air conditioning unit (selective heating and cooling) having a refrigerant coil in the treated air stream, and a tube-in-tube heat exchange coil in a separate chamber for condensing or evaporating the refrigerant passing through the first coil (depending on whether the refrigerant coil is on the air cooling or air heating cycle). Both coils are located in the upper portion of the cabinet, and both coils utilize a common drain pan located in the front central portion of the cabinet. The compressor, coils and blower may be mounted on a slide-out chassis for repair access. Additionally the blower may be mounted as a slide-out assembly from the chassis for repair access. The slide-out chassis may be cushionably mounted within the main cabinet for dampening noise generated in the compressor, blower, and fluid ducts.

3,524,329

REFRIGERANT CONDENSER WITH KEY CONNECTOR

Robert Smith and Edward B. Caden, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 28, 1968, Ser. No. 770,990
Int. Cl. F25d *19/00*
U.S. Cl. 62—295 **4 Claims**



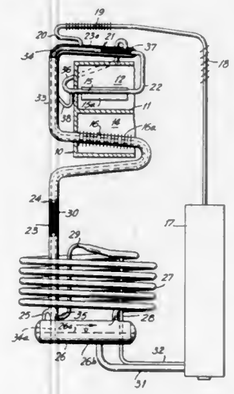
In preferred form, a refrigerant compressor and condenser support system for use in a domestic refrigerator including a pad supporting a compressor unit. An air-cooled refrigerant condenser of the tube and sheet type is wound on itself and is fixedly secured to the pad by means including an elongated multi-toothed key member directed through segments of the wound condenser sheet. The key engages refrigerant tube passes on the wound condenser sheet segments to maintain a desired air flow spacing between wound segments of the sheet while reducing vibration noises in a domestic refrigerator machinery compartment.

3,524,330

ABSORPTION REFRIGERATION SYSTEM OF THE INERT GAS TYPE

Wilhelm Georg Kögel, Stockholm, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden

Filed Sept. 25, 1968, Ser. No. 762,427
Claims priority, application Sweden, Sept. 29, 1967, 13,436/67
Int. Cl. F25b *15/10*
U.S. Cl. 62—490 **10 Claims**



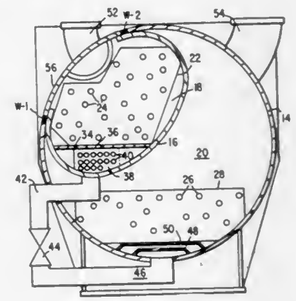
An absorption refrigeration system of the inert gas type in which refrigerant vapor is expelled from solution at a place of heating and condensed at a place of condensation, a circuit for circulating inert gas which includes an absorber and a plurality of cooling elements respectively operable at low and higher temperatures, the circuit having a weak gas line for flowing inert gas weak in refrigerant from the absorber to the low temperature cooling element and a rich gas line for flowing inert gas enriched in refrigerant from the low and higher temperature cooling elements to the absorber, conducting liquid refrigerant from the condenser to the low temperature cooling element in a path of flow which includes a first zone of the rich gas line, conducting inert gas partially enriched in refrigerant from the low temperature element to the first zone of the rich gas line and into the presence of liquid refrigerant therein, the higher temperature cooling element forming apart of the rich gas line at a second zone thereof, and conducting liquid refrigerant from the low temperature cooling element to the higher temperature cooling element in a path of flow which bypasses the first zone of the rich gas line, the higher temperature cooling element being connected in the inert gas circuit to receive inert gas partially enriched in refrigerant in the low temperature cooling element.

3,524,331

REFRIGERATION APPARATUS INCLUDING CONDENSER AND EVAPORATOR IN A HOUSING

William T. Osborne, East Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed Dec. 30, 1968, Ser. No. 787,887
Int. Cl. F25b *1/00*
U.S. Cl. 62—498 **3 Claims**



The present invention is directed to refrigeration apparatus comprised of a compressor, condenser and evaporator, the condenser and evaporator being housed within a generally cylindrical shell having a relatively large opening therein to permit ease of installation of components within the shell, the condenser being partially surrounded by a semi-elliptical casing welded or otherwise secured to the shell and mounting a cover member attached by welding or like techniques to the shell and casing. Such an arrangement minimizes bending moments or stresses at the points of attachment of the shell, casing and cover member, as are occasioned by a pressure difference between the condenser and evaporator compartments, and permits utilization of high pressure refrigerants with a minimum increase in the thickness of the shell and casing walls.

3,524,332

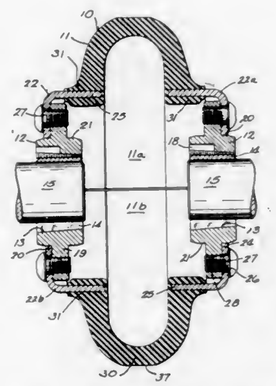
ELASTOMER COUPLING

Fritz A. Callies, Menomonee Falls, Wis., assignor to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed Sept. 6, 1968, Ser. No. 758,016
Int. Cl. F16d *3/52*, *3/14*
U.S. Cl. 64—11 **6 Claims**

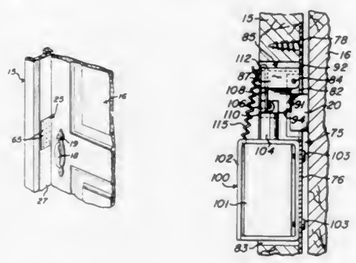
An elastomer coupling has an annular elastomer element joining the shaft-mounted hubs of the coupling by

a combination of chemical bonding and mechanical locking of the elastomer material. The elastomer element is secured at each end to an annular L-ring and the L-ring



is attached to the face of its hub. The element and L-rings secured thereto are split to facilitate assembly of the coupling and replacement of the elastomer element.

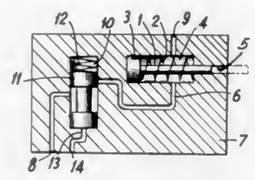
3,524,333
DOOR LATCH RELEASE APPARATUS
Alan F. Meckstroth, Kettering, Ohio
(2357 Shelterwood Drive, Dayton, Ohio 45409)
Continuation-in-part of application Ser. No. 570,894, Aug. 8, 1966. This application Aug. 28, 1968, Ser. No. 755,970
Int. Cl. E05b *37/16*
U.S. Cl. 70—156 **18 Claims**



A control panel is mounted on a door jamb and supports a combination control mechanism. A keeper is also mounted on the jamb and supports an actuating member which is pivotable in response to actuation of the combination control mechanism according to a predetermined combination to release a latch bolt from the keeper. The control panel and keeper are effectively locked on the jamb when the door is closed.

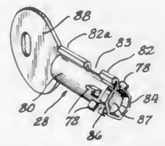
3,524,334
GAS ACTION LOCKING SYSTEM
William R. Salvesen, Brooklyn, N.Y., assignor to Segal Products Co., Inc., Brooklyn, N.Y., a corporation of New York
Continuation of application Ser. No. 683,644, Nov. 16, 1967. This application Apr. 21, 1969, Ser. No. 818,196
Int. Cl. E05b *51/02*
U.S. Cl. 70—275 **27 Claims**

A gas action locking system requiring the key combinations of gas action, either pressure, vacuum or both to actuate a plunger system to release a locking system. In order to effect a locking system of the present invention it is preferable to include the combination of at least two chambers and plungers therein, options as to the type of gas action to be applied and selection as to



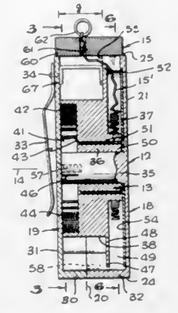
the proper openings to the routed paths to the at least two chambers for delivery of such gas action.

3,524,335
AXIAL TUMBLER TYPE LOCK AND KEY THEREFOR
Harry F. George, 206 S. Northwest Highway, Park Ridge, Ill. 60068
Filed Feb. 6, 1968, Ser. No. 703,309
Int. Cl. E05b *27/08*
U.S. Cl. 70—363 **19 Claims**



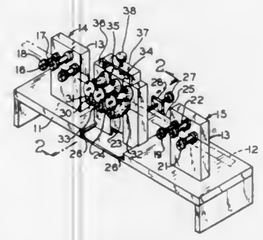
A lock mechanism of the axial tumbler type including a shell having a polygon-shaped key entrance in one end thereof, a locking barrel fixedly disposed within the shell, a locking cylinder rotatably supported within the shell and having an actuating shaft extending outwardly of the shell, tumbler pins slidably supported by the locking cylinder and barrel for axial movement from first locking positions preventing rotation of the actuating shaft to second positions allowing rotation of the actuating shaft, a key ejector disposed within the shell to eject an operating key when the lock is in a locked position, a dust cover substantially closing the key entrance when the key is removed, and a key having a polygon-shaped forward end and outwardly extending bitings adapted to effect movement of the tumbler pins to their second positions upon entry of the key into the shell.

3,524,336
KEY HOLDER
William E. Crosby, 53 Empty Saddle Lane, Rolling Hills Estates, Calif. 90274, and Edward K. Kearney, Brooklyn, N.Y.; said Kearney assignor to said Crosby
Filed Mar. 15, 1968, Ser. No. 713,351
Int. Cl. A45c *11/32*
U.S. Cl. 70—457 **13 Claims**



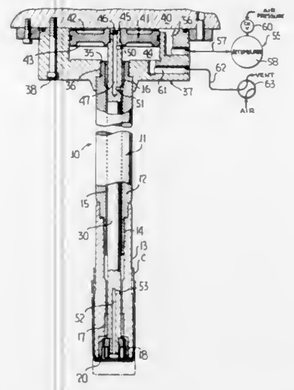
A key holder having a housing containing a spring urged reel about which a key carrying chain is windable to retract the chain, with the keys being carried by a retaining element at the outer end of the chain and being retractable into compartments in the housing located at opposite sides of the spring containing portion of the reel.

3,524,337
VENETIAN BLIND SLAT STRAIGHTENER
Victor J. Randmark, Toledo, Ohio, assignor to Scan-American Industries, Inc., Rossford, Ohio, a corporation of Ohio
Filed Apr. 9, 1968, Ser. No. 719,932
Int. Cl. B21d *1/02*
U.S. Cl. 72—164 **5 Claims**



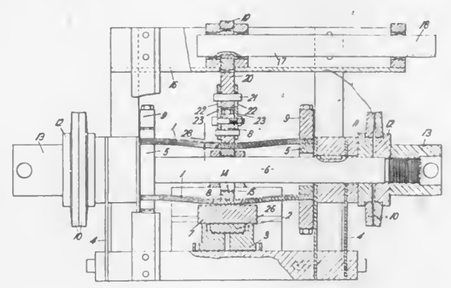
A combination of spaced guide rollers confining the position of Venetian blind strip stock preformed to a crowned cross-section in both the lateral and normal dimension to the plane of the stock, and a set of intermediate pairs of complementary concave and convex rollers generally conforming the crown of the stock and arranged so that at least three pairs of rollers engage the stock and can be shifted laterally of the stock path between the guide means, and so that at least an intermediate pair of rollers can be shifted normal to the plane of the stock and relative to the adjacent complementary rollers. Lateral shifting is employed to correct for twist from the stock while normal shifting is to impart a longitudinal curve in the plane of the stock as for correcting "down bow" and "up bow."

3,524,338
STRIPPING PUNCH
John S. Bozek, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Feb. 5, 1968, Ser. No. 702,939
Int. Cl. B21d *45/00*
U.S. Cl. 72—345 **8 Claims**



This disclosure relates to a punch for automatically stripping articles therefrom, and includes a main tubular body having a fluid cylinder at one end and a nose at an opposite end, the nose being connected by a piston rod to a piston within the cylinder, and a closed fluid pressure system acting against the piston to extend the nose to automatically strip a drawn article from the punch.

3,524,339
IMPELLER DEVICES FOR IMPLEMENTS
Jozef Tadeusz Franek, Cadeleigh, and Brian Grinsted, Pinner, England, assignors to The Metal Box Company Limited London, England, a British company
Filed May 24, 1967, Ser. No. 641,032
Claims priority, application Great Britain, May 25, 1966 23,373/66
Int. Cl. B21j *7/00*
U.S. Cl. 72—435 **11 Claims**



A tool holding structure for punching, stamping, embossing, rivetting or forming tools requiring high impact velocity. The tool shank is engaged with the center portions of a pair of flexure strips whose ends are clamped in hydraulically or pneumatically actuable jaws. Normal condition of the strips is such as to bias the tool toward the work. Actuation counter-flexes the strips, withdrawing the tool from the work, whereafter triggering the release allows the elastic strips to snap the tool against the work with a high velocity, resultant upon release of the stored elastic energy of the flexed strips.

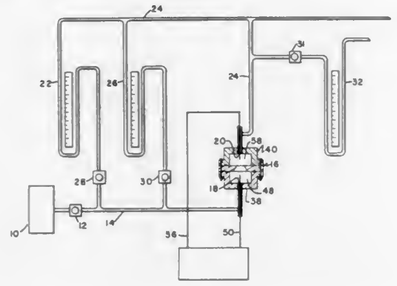
3,524,340
DEVICE FOR DIFFERENTIAL THERMAL ANALYSIS
Jury Alexandrovich Krakovetsky-Kocherzhinsky, Ulitsa Vladimirskaya 9, kv. 69, and Evgeny Andreevich Shishkin, Ulitsa Klovsky spusk. 12, kv. 50, both of Kiev, U.S.S.R.
Filed June 13, 1967, Ser. No. 645,759
Int. Cl. G01n *25/00*
U.S. Cl. 73—15 **3 Claims**



A device for differential thermal analysis, primarily under high temperature conditions (up to 2200° C.) having a common electrode of the differential thermocouple type made in the form of a hollow element including a head containing test and reference specimen chambers and a tublar member connected to the head and made of the same material and housing taut wire electrodes which are connected to screens supported in the head to

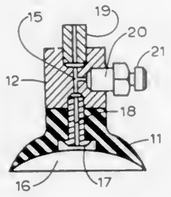
form junctions therewith. The wire electrodes extend through the tubular member without contact and are connected to a measuring instrument.

3,524,341
PORE DETERMINATION OF A POROUS MEMBER
Salil K. Roy, New Brunswick, N.J., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 5, 1968, Ser. No. 750,231
Int. Cl. G01n *15/08*
U.S. Cl. 73—38 **7 Claims**



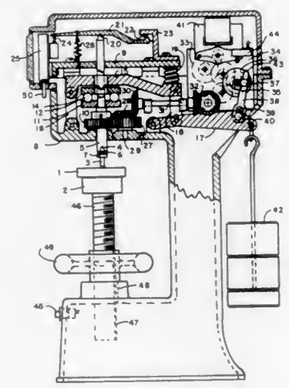
This invention relates to the method and apparatus of determining pore characteristics by measuring impedance through and differential pressure across a porous sample. The method involves applying a conductive metal coating to opposing surfaces of a porous member which is then filled with a conductive fluid. A gas under pressure is applied to the member and the pressure drop of the gas through the specimen together with the impedance of the specimen between the coated opposing surfaces is obtained. The measured pressure and impedance values are used to determine the porosity of the specimen. The apparatus comprises two chambers, a specimen, the porosity of which is to be determined being positioned between the two chambers. The first chamber is coupled to receive a gas under pressure. A manometer is interposed between the first and second chambers to measure the pressure differential between the chambers, and an impedance measuring device is used to measure the impedance across the specimen.

3,524,342
APPARATUS FOR DETECTING SURFACE LEAKAGE
Johnston R. Hobbs, La Jolla, Calif., assignor to Rohr Corporation, Chula Vista, Calif., a corporation of California
Filed June 10, 1968, Ser. No. 735,798
Int. Cl. G01m *3/02*
U.S. Cl. 73—40 **2 Claims**



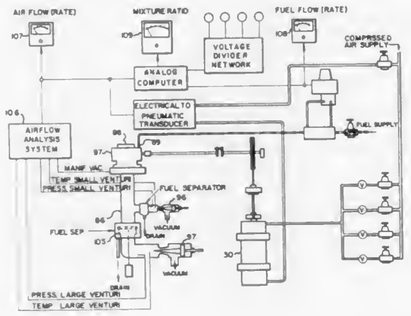
A method and apparatus for detecting leakage, or fluid tightness, of a surface. The method includes the steps of flattening a suction cup over the surface to be tested, pulling on the cup to create a vacuum therein, and measuring the vacuum so developed. A tight or leak-free surface will result in a greater vacuum being created than with a leaky one. Two embodiments of apparatus are disclosed. Each includes a suction cup, a handle and a means for measuring vacuum within the cup when pulled by the handle.

3,524,343
HARDNESS TESTERS
Arthur W. Sear, 200 S. Old Ranch Road, Arcadia, Calif. 91006
Filed Feb. 26, 1968, Ser. No. 708,212
Int. Cl. G01n *3/44, 3/48*
U.S. Cl. 73—83 **4 Claims**



An apparatus for measuring the hardness of solid materials in which a relative rotation is established between the test element and the indentor so as to overcome static friction and provide greater accuracy.

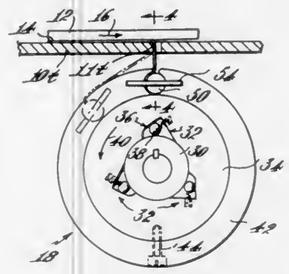
3,524,344
APPARATUS FOR TESTING CARBURETORS
Vernon G. Converse III, Franklin, Robert W. Clayton Plymouth, and James T. Westervelt, Livonia, Mich., assignors to Scans Associates, Inc., Livonia, Mich., a corporation of Michigan
Continuation-in-part of application Ser. No. 667,711, Sept. 14, 1967. This application Sept. 19, 1968, Ser. No. 760,945
Int. Cl. G01m *15/00*
U.S. Cl. 73—118 **15 Claims**



The application discloses an improved variable area venturi meter adapted to be operated "critically," with

the aid of which mass gas media flow rates can be measured or set up precisely and accurately for the purposes of many processes and methods where such operations are the key step thereof, such as in measuring gas flow for gas delivery, producing accurately proportional mixtures of gases, laboratory and production testing of carburetors, and similar processes. The application discloses in particular detail the use and the advantages of such variable area critical venturi meters in testing carburetors wherein a single such meter may be substituted for as many as 15–16 fixed area venturi meters, and successfully perform its intended function with added economy and greatly improved precision.

3,524,345
METHOD AND APPARATUS FOR MEASURING DELAMINATING FORCES
Calvin Isaacson, Beverly, Mass., assignor to Shipley Company, Inc., Newton, Mass., a corporation of Massachusetts
Filed July 22, 1968, Ser. No. 746,501
Int. Cl. G01n *19/04*
U.S. Cl. 73—150 **3 Claims**

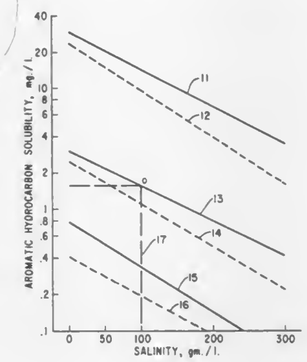


The force required to separate a film from a substrate to which it is bonded is measured in apparatus including a support table which permits the substrate and film to slide as the separated film is pulled over a guide edge on the table. The free end of the film is secured tangentially to a drum which is rotated by an electric motor. A milliammeter measures the current drawn by the motor and provides a direct reading, calibratable in appropriate units, of the required delaminating force. The strip is secured to the drum by means of a slotted pin held for rotation by a spring which exerts a pinching force between the film and pin for gripping.

3,524,346
GEOCHEMICAL PROSPECTING METHOD
Gene W. Schmidt, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed July 15, 1968, Ser. No. 745,027
Int. Cl. E21b *49/00;* **G01n** *31/06*
U.S. Cl. 73—153 **8 Claims**

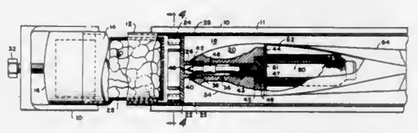
The concentration of at least one aromatic hydrocarbon is determined in a sample of formation water from a reservoir formation in the earth. The measured value is compared with the so-called "target value" for this hydrocarbon. If they are nearly alike, the point from which the sample was obtained is close to a reservoir of crude oil. Greater differences between these two values represent greater distance to the crude oil accumulation.

The target value is determined by contacting the type of crude oil to be expected in the reservoir from which the water sample came with water solutions of salt and measuring the concentration of the aromatic hydrocarbon in the solutions. This permits determining the variation in concentration of this aromatic hydrocarbon as a function of the salinity of the dissolving water. The salinity of the sample of the water from the well is determined. It is then possible to determine the target value, i.e., the



value of concentration of this aromatic hydrocarbon, which would exist at the point of contact between crude oil and formation water of that salinity in the subsurface reservoir.

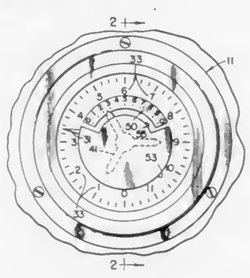
3,524,347
EXPENDABLE BATHYTHERMOGRAPH FOR SUBMARINES AND DEVICE FOR LAUNCHING
Ralph P. Crist, Harrisburg, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 31, 1968, Ser. No. 749,102
Int. Cl. B63b *21/52*
U.S. Cl. 73—170 **9 Claims**



Apparatus for launching a sensor probe for measuring properties of water from a submerged submarine vehicle in which the probe is releasibly attached to a buoyant cannister which is carried in a launcher which may be extended through the vehicle hull. The sensor is connected to instrumentation aboard the vehicle by electrical conductors releasibly wound on a spool carried by the sensor probe.

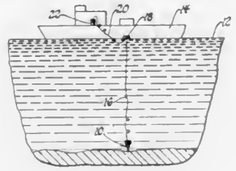
The probe is extended outside the vehicle by the launcher and is released and floats to the water surface. At or near the surface, the probe is released from the float and falls freely to the ocean floor unreeling wire from the spool during ascent and free fall. Since the rate of fall of the sensor probe is a known constant, an accurate representation of the specific water property versus depth is obtained.

3,524,348
MARINE SPEED INDICATOR
Robert D. Ogg, North Windham, Maine, assignor to The Eastern Company, Naugatuck, Conn., a corporation of Connecticut
Filed Nov. 26, 1968, Ser. No. 779,082
Int. Cl. G01c *21/00*
U.S. Cl. 73—186 **4 Claims**



The marine speed indicator disclosed herein employs a pointer for registering overall speed on a coarse scale and a multipointed indicator for registering vernier speed on a finely graduated scale. A mask is provided for obscuring all but one of the points of the indicator thereby to give an unambiguous indication of vernier speed.

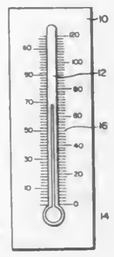
3,524,349
BATHYTHERMOMETER
Robert M. Robertson, Santa Barbara, Calif., and Robert B. Costello, Kokomo, Ind., assignors to General Motors Corporation, a corporation of Delaware
Original application Apr. 10, 1964, Ser. No. 358,746. Divided and this application Apr. 15, 1968, Ser. No. 721,256
Int. Cl. G01k *1/14*
U.S. Cl. 73—343 **1 Claim**



Apparatus for making a temperature-depth profile of a body of water from a moving ship including a hydrodynamically designed probe carrying an electric temperature sensor, a quantity of conductor disposed within the probe to pay out rearwardly as the probe descends, a ship-board canister containing an additional quantity of conductor to be payed out as the ship proceeds away from a launch point, and a buoyant drogue connecting the probe and ship-board conductor portions.

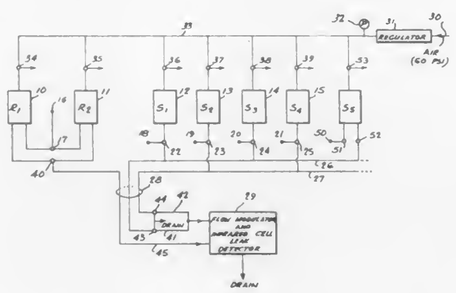
3,524,350
CARD-MOUNTED THERMOMETER AND METHOD OF MAKING THE SAME
Edward Gove, Ocean City, N.J., assignor to Hartley Gove Sons, Inc., Brookhaven, Miss., a corporation of Mississippi
Filed Jan. 27, 1969, Ser. No. 794,160
Int. Cl. G01k *1/14*
U.S. Cl. 73—376 **10 Claims**

A mounted thermometer is supported by a backing card of fibrous stock having a hard surface on which the thermometer temperature scale is printed. An elongated shallow trough-like depression, routed or pressed into or through the surface to expose some of the internal soft fibers, is then filled with adhesive which penetrates



the fibers thus exposed. The glass tube thermometer is disposed on the adhesive so as to cover it and be securely bonded to the card, independently of the card surface, which may be hard, glossy, and incapable of making good bond with the adhesive.

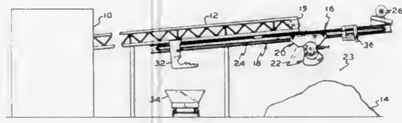
3,524,351
SAMPLE INPUT SYSTEM
John G. Bayly and Cecil Rhodes, Deep River, Ontario, Canada, assignors to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a corporation of Canada
Filed June 4, 1968, Ser. No. 734,486
Claims priority, application Canada, June 21, 1968, 993,558
Int. Cl. G01n *1/10*
U.S. Cl. 73—421 **7 Claims**



An apparatus for delivering samples of liquid from a plurality of sources sequentially to an analyzing apparatus. Each source is provided with a reservoir for collecting samples over a period of time. When a sample from a particular reservoir is to be analyzed suitable valves close off communication with the source, connect the reservoir through a manifold to the analyzer and simultaneously connect the reservoir to a source of air pressure to drive the sample to the analyzer. A similar system is also provided for supplying a continuous flow of reference liquid to the analyzer.

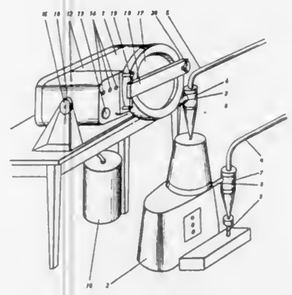
3,524,352
MATERIAL SAMPLER
John M. Paul, Portland, Oreg., assignor to Rogers Construction, Inc., Portland, Oreg., a corporation of Oregon
Filed Mar. 21, 1968, Ser. No. 714,916
Int. Cl. G01n *1/00*
U.S. Cl. 73—423 **8 Claims**

A material sampler which moves a sample bucket with an adjustable upper opening in a straight path through a stream of aggregate or other material falling from the offbear end of a belt conveyor. The bucket travels beneath the conveyor belt in the longitudinal direction of the belt so as to pick up fine aggregate which clings to



the belt as well as coarser aggregate to obtain a true sample. The bucket travels through the stream in one direction with its opening directed upwardly and through the stream in the opposite direction with the opening directed downwardly.

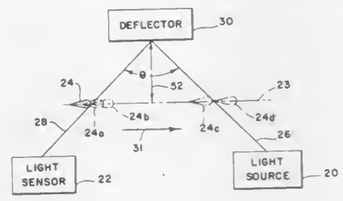
3,524,353
METHOD AND DEVICE FOR THE EXAMINATION OF BITUMEN
Petrus Gerlachus Desiderius Bors, Pastoor Strassenstraat 14, Venlo-Blerick, Netherlands
Filed Apr. 8, 1968, Ser. No. 719,646
Claims priority, application Belgium, Apr. 7, 1967, P 508, P 509, P 510
Int. Cl. G01d *21/00*
U.S. Cl. 73—432 **16 Claims**



A method and apparatus for determining the number of various sized particles in a bituminous mixture. First a suitable solvent and the mixture to be analyzed are placed in a horizontal agitating drum where the solvent with the rotary agitation demixes the bitumin. The agitator is provided with suitable sieves so that in a later centrifugal cycle the solvent and smaller particles are removed, the larger particles remaining in the drum. The solvent and smaller particles are then conveyed to a second centrifugal separator where the smaller particles are filtered. The entire apparatus is sealed to prevent the escape of solvent vapors.

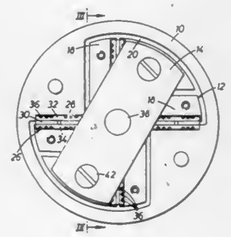
3,524,354
TRACKING SYSTEM FOR MOVING OBJECTS
Edward C. Frank, Glenolden, and Martin J. Rohner, Springfield, Pa., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Continuation-in-part of application Ser. No. 605,699, Dec. 29, 1966. This application Dec. 19, 1967, Ser. No. 697,270
Int. Cl. G01m *1/00, 9/00*
U.S. Cl. 73—455 **26 Claims**

A system is provided for measuring the displacement characteristics of the path of a moving object with respect to an established plane of reference. The system directs two defined beams of energy, and more preferably coherent light beams, through the path of the moving object and at an angle to each other. At least one of the beams of energy is received by a light sensitive means, which means produces an electrical signal every time either light beam is interrupted by the moving object. The dis-



placement characteristics of the moving object with respect to the plane of reference can be determined by measuring the elapsed time interval between sequential interruptions of the angularly disposed light beams by the object. The system is particularly useful in measuring the vertical displacement characteristics of the planes of rotation of rotating helicopter blades.

3,524,355
GYROSCOPE CONSTRUCTIONS
Douglas Barnett and Ivan A. Duck, Watford, England, assignors to S. G. Brown Limited, Watford, England, a British company
Filed June 20, 1967, Ser. No. 647,548
Claims priority, application Great Britain, June 22, 1966, 27,799/66
Int. Cl. G01c *19/02*
U.S. Cl. 74—5 **7 Claims**



The disclosure is of a gyroscope rotor assembly intended for use as a dynamically tuned free rotor gyro.

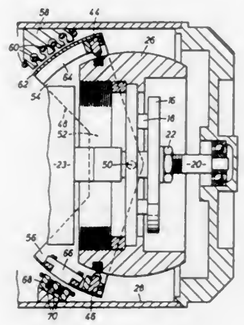
The assembly comprises mounting means and a rotor member surrounding a gimbal member which occupies the centre region of the assembly. The mounting means comprises a bridge rigidly connecting a pair of spaced mounting member between the gimbal and rotor members in a disc-like formation. The gimbal member is connected to the rotor member and to the mounting member respectively by first and second aligned pairs of flexural spring pivots, the pairs of pivots being aligned on orthogonal axes.

The rotor, gimbal and mounting members can be made from a single metal disc and the flexural spring pivots can be connected across slots in the disc before the slots are extended to separate the members.

3,524,356
TORSIONAL RESTRAINING MEANS FOR GYROSCOPES

Douglas Barnett and Norman John Myall, Watford, England, assignors to S. G. Brown Limited, Watford, England, a British company

Filed June 26, 1967, Ser. No. 648,897
Int. Cl. G01c *19/02*
U.S. Cl. 74—5 **16 Claims**



The disclosure relates to magnetic arrangements for applying a torsional force to a rotatable body constituted as a gyroscope rotor.

The rotor described is rotatably mounted by means permitting the rotor spin axis to be angularly displaced from the axis of the torque drive by which the rotor is made to spin. The magnetic arrangements comprise a first magnetic means in the form of an annular stack of laminations set in a slot in the outer surface of the rotor for co-operation with second magnetic means constituted as a pair of flat U-shaped permanent magnets with pole faces adjacent the rotor. In one embodiment, the permanent magnets are fixed on the gyroscope housing in a position such that the magnetic forces pass through the center of suspension of the rotor, so applying a torsional restraint on the rotor if its spin axis diverges from the torque axis. In another embodiment, the magnets are movable relative to the housing by electric means in the form of a linear induction motor so that the rotor can be made to precess. Pick-off means enable the position of the permanent magnets to be precisely monitored.

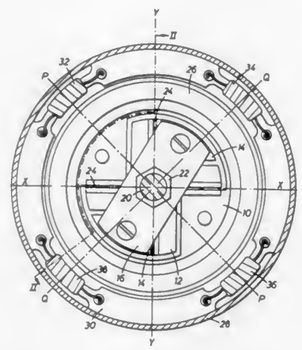
3,524,357
PICKOFF ARRANGEMENTS

Norman John Myall, Watford, England, assignor to S. G. Brown Limited, Watford, England, a British company

Filed June 20, 1967, Ser. No. 647,549
Claims priority, application Great Britain, June 22, 1966, 27,800/66
Int. Cl. G01c *19/28*
U.S. Cl. 74—5.6 **8 Claims**

The disclosure relates to electric pickoff means.

The disclosure is of pickoff means for providing electric signals indicating deflection of a two degree of freedom gyro wheel about perpendicular axes at right angles to the axis of the rotation of the wheel. The pickoff means has an annular stator core of stacked laminations with four coils wound thereabout at equally spaced positions. The stator core surrounds the gyro wheel and co-operates with a rotor in the form of a second stack of laminations set in the wheel. The stator assembly provides a flux path perpendicular to the axis about which movement of the

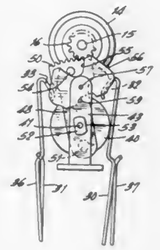


gyro wheel is measured and has an internal diameter greater than the outer diameter of the wheel.

3,524,358
DEVICE FOR ELIMINATION OF INDICATOR WHEEL BOUNCE

Irving Dick, Whitestone, and Leonard Schwartzman, Old Bethpage, N.Y., assignors to Electrospace Corporation, Glen Cove, N.Y., a corporation of New York

Filed Feb. 26, 1969, Ser. No. 802,492
Int. Cl. F16h *21/44;* **G01r** *1/14;* **G08b** *5/00*
U.S. Cl. 74—98 **7 Claims**



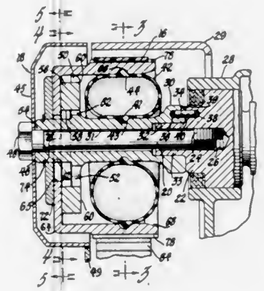
A display device for indicating the condition of certain circuit operations. The device includes a rotatable indicator wheel having colored segments and coupling means to an electromagnetic operating assembly. An inertial ring mounted concentrically with the indicating wheel moves with it for all low accelerating movements. When the acceleration is high, due to high applied voltages, the inertial ring lags behind the movement of the indicator and, near the end of the travel of the ring, its motion absorbs all tendency of the wheel to bounce or flutter.

3,524,359
ACCESSORY DRIVE

Robert M. Buchwald, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 25, 1968, Ser. No. 778,465
Int. Cl. F16h *7/02, 7/14*
U.S. Cl. 74—219 **8 Claims**

The accessory drive transmission shown embodies a cup-shaped camshaft sprocket axially located and radially slidably mounted on a member which is fixedly secured to the camshaft for rotation therewith. An inflated tube or "doughnut" is axially located on the member within the cup-shaped sprocket such that one side thereof is compressed by the sprocket once a belt is

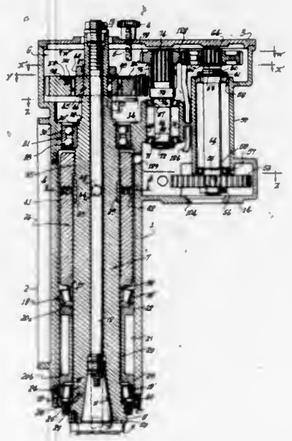


mounted on the sprocket, the compressed tube serving to continually and automatically urge the sprocket radially outwardly against the belt, thereby providing a means for tensioning the belt throughout the operational life thereof.

3,524,360
CHANGE SPEED GEARING FOR MILLING MACHINE

Zane H. Wright, Temple City, Calif., assignor of twenty percent to Sydney Bradpiece, Los Angeles, Calif., and forty percent to Will H. West, Los Angeles, Calif.

Filed May 15, 1968, Ser. No. 729,253
Int. Cl. B23c *1/00;* **F16h** *3/08*
U.S. Cl. 74—325 **5 Claims**

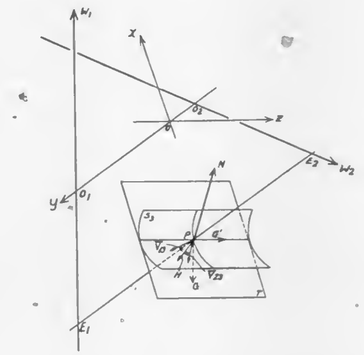


A milling machine unit including a frame structure supporting a driving motor and a tool carrying rotatable spindle characterized by the fact that the motor is reversible and is coupled to a spindle to interchangeable gears constituting a transmission means and including an extra countershaft serving, when employed to add an additional speed reduction means, the speed reversal incident to employment of gearing on said extra counter shaft being offset by the reversible characteristic of the motor.

3,524,361
GEAR TRANSMISSION AND CAM MECHANISM OF A POINT CONTACT SYSTEM WITH AXES AT ANGLES TO EACH OTHER

Hitosi Iyoi, 6–3 Moto-Okubo-3, Narashino-shi, Japan, and Sakae Togashi, % Chiba Institute of Technology, Yatsu-machi, Narashino-shi, Japan

Filed Aug. 29, 1968, Ser. No. 756,134
Int. Cl. F16h *1/14, 55/04*
U.S. Cl. 74—417 **7 Claims**



A gear transmission and cam mechanism of a point contact system comprising a pair of intermeshing gears or cams having axes lying at anlges to each other. The gears or cam surfaces have profiles in a plane running through the current position of contact of the working surfaces and perpendicular to the instantaneous axis of movement of the working surfaces. The profiles are curves which has a set of radii in said plane chosen so that:

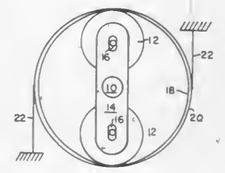
$$H = V_{23}/|V_{23}| \pm V_{13}/|V_{13}|$$

where H is a tangential vector at a contact point to the line of locally linear contact and $V_{23}/|V_{23}|$ and $V_{13}/|V_{13}|$ are unit relative velocity vectors of the pinion and wheel relating to the generating tooth surface. According to the equation, H can be parallel to one of the bisectors of the unit relative velocity vectors V_{23}/V_{23} and V_{13}/V_{13}. This condition produces optimum conformity of the two mating tooth surfaces.

3,524,362
LARGE RATIO PLANETARY FRICTION DRIVE

Fred Hugel, Boxborough, Mass., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

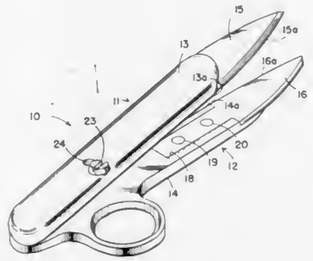
Filed Aug. 26, 1968, Ser. No. 755,033
Int. Cl. F16h *15/50, 37/02*
U.S. Cl. 74—796 **10 Claims**



A large ratio epicyclic friction drive is provided wherein a centrally disposed input drive shaft drives a plurality of planet friction wheels. The planet wheels engage

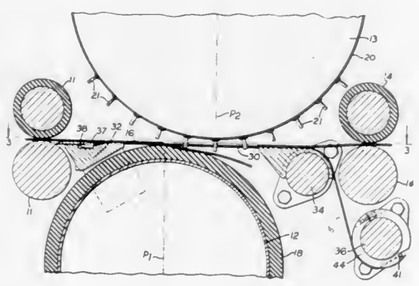
the surface of a first resilient band which is disposed within a second resilient band which is fixed in rotation. The first band is thus measured against the second effecting a high ratio reduction of input revolutions.

3,524,363
METHOD OF PRODUCING BLADE TYPE CUTTING TOOL
Rudolph J. Wertepny, Sr., West Orange, N.J., assignor to J. Wiss and Sons Co., Essex County, N.J., a corporation of New Jersey
Original application Oct. 19, 1966, Ser. No. 587,916, now Patent No. 3,453,651, dated July 1, 1969. Divided and this application Jan. 28, 1969, Ser. No. 810,068
Int. Cl. B21k *11/00*
U.S. Cl. 76—104 **4 Claims**



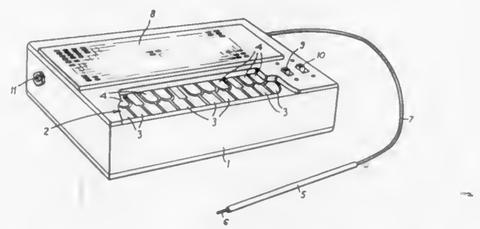
Method for producing a blade-type cutting tool with a body member into which straight, flat cutting blades are inserted. The recesses for the blades are made with a certain lateral and longitudinal inclination at a certain angle to give the blades a desired cross-over and clearance angularity for proper cutting.

3,524,364
APPARATUS FOR STRIPPING WASTE FROM CARDBOARD AND LIKE BLANKS
Thomas Desmond Bishop, Solihull, England, assignor to The Deritend Engineering Company Limited, Birmingham, England, a British company
Filed Feb. 7, 1968, Ser. No. 703,716
Claims priority, application Great Britain, Feb. 21, 1967, 8,155/67
Int. Cl. B26d *7/18*
U.S. Cl. 83—103 **7 Claims**



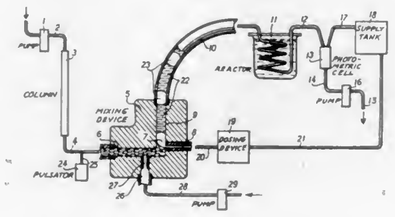
The apparatus comprises a pair of spaced rolls and is provided with guide means for maintaining the blanks substantially in a planar path tangent to both of the spaced rolls and extending substantially beyond the rolls in the direction of feed. A plurality of stripping members project from one of the rolls and pass through such planar path, for stripping the waste from the blanks by displacing it out of such path.

3,524,365
ELECTRONIC MUSICAL INSTRUMENTS PLAYED BY MEANS OF A STYLUS
Brian C. Jarvis, Edgware, Middlesex, England, assignor to Moviecol Enterprises Limited, London, England, a British company
Filed Apr. 4, 1968, Ser. No. 718,883
Claims priority, application Great Britain, Apr. 11, 1967, 16,619/67
Int. Cl. G10h *1/00, 1/09*
U.S. Cl. 84—1.01 **9 Claims**



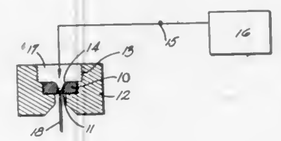
This invention relates to an electronic musical instrument comprising a plurality of contacts representing different musical notes and a stylus having a tip which is electrically connected to an electronic circuit of the instrument by a flexible lead. The stylus is movable in or by the hand of a person playing the instrument so that as the tip is brought into engagement with any of the contacts, the instrument audibly reproduces the note represented by that contact.

3,524,366
DEVICE FOR SUPPLYING SEGMENTIZED SAMPLES OF A FLUIDAL MEDIUM TO AN ANALYSIS APPARATUS
Jiří Hrdina, Prague, Czechoslovakia, assignor to Ceskoslovenska akademie ved, Prague, Czechoslovakia, a corporation of Czechoslovakia
Continuation of application Ser. No. 534,210, Mar. 14, 1966. This application Nov. 12, 1968, Ser. No. 775,591
Claims priority, application Czechoslovakia, Mar. 26, 1965, 2,024/65
Int. Cl. E03b *1/00;* **F17d** *1/00*
U.S. Cl. 137—1 **5 Claims**



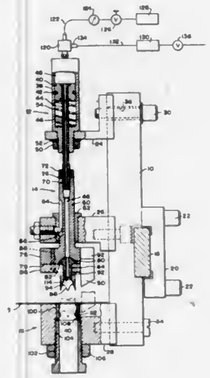
Predetermined equal or programmed quantities of at least one segmentizing fluidal medium are forceably fed in equal or programmed periods into the stream of a basic fluidal medium which uninterruptedly flows for example from a chromatographic column with uniform velocity or with programmatically changing velocity possibly effected by a periodically pulsating pump, the periods of said forceable feeding alternating with the periods when the stream of the segmentizing medium is at rest.

3,524,367
HIGH VELOCITY LIQUID JET
Norman C. Franz, 3311 Dale View Drive, Ann Arbor, Michigan
Filed May 31, 1968, Ser. No. 733,495
Int. Cl. B26d *1700*
U.S. Cl. 83—53 **16 Claims**



A method for improving the cohesiveness of a high velocity liquid jet by dissolving a long chain polymer in the working liquid which is pressurized and ejected through a discharge nozzle as the liquid jet is described. The improved cohesiveness of the liquid jet particularly increases its depth penetration effectiveness into a work surface and reduces wetting when severing absorptive work materials. Particularly described is the use of a water soluble long chain polymer dissolved in water. The high velocity liquid jet is particularly useful for cutting, separating, piercing or otherwise penetrating various work surfaces to obtain a desired final form or configuration.

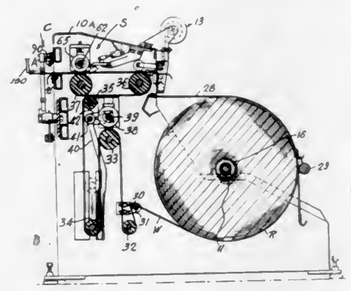
3,524,368
PNEUMATIC PUNCH WITH SLUG REMOVING FACILITY
Rubin Goldman, 22 Park Drive, Newton Highlands, Massachusetts
Filed March 14, 1968, Ser. No. 712,988
Int. Cl. B26d *7/06*
U.S. Cl. 83—98 **3 Claims**



A pneumatic punch having a punch and actuator provided with internal air passages for removing slugs from the region of the cooperating die simultaneously with the pneumatic actuation of the assembly.

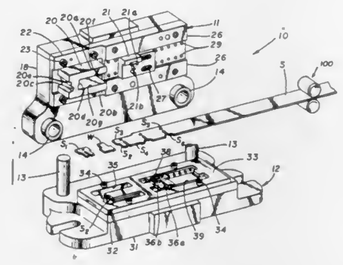
3,524,369
AUTOMATIC PAPER FEEDING UNIT
Wolfgang Hoffmann, Beaconsfield, Quebec, Canada, assignor to Canadian International Paper Company, Montreal, Quebec, Canada
Filed June 2, 1965, Ser. No. 465,825
Int. Cl. B26d *5/20;* **B65h** *75/02*
U.S. Cl. 83—205 **2 Claims**

The machine for producing blanks of paper from a roll of paper is provided with two separate feeding means. One feeding means feeds the paper out of the machine. The second feeding means is operated by the feeding of the paper by the first means to withdraw more paper from the roll of paper. As the paper is fed out of the machine by the first



feeding means, it is cut into required lengths. The first feeding means is driven selectively by a continuously operating drive means. Further means can be provided on the machine for slitting the paper if required. Additional means can also be provided for applying a tear strip glued to the paper.

3,524,370
ADJUSTABLE PROGRESSIVE PUNCH DIE
Thomas T. Thompson, 1573 Fixler Road, Sharon Center, Ohio
Filed Nov. 15, 1967, Ser. No. 683,385
Int. Cl. B26d *5/08;* **B26f** *1/14*
U.S. Cl. 83—255 **3 Claims**

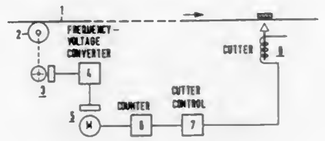


An adjustable progressive punch die wherein material in strip form is fed between reciprocating portions of a punch die and provision is made to adjust the spacing of die punch components with respect to the direction of longitudinal feed of the material whereby the width of the punched product may be varied by adjusting the distance between the die punch components.

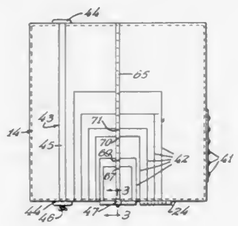
3,524,371
APPARATUS UTILIZING INTEGRATING MOTOR FOR MEASURING THE LENGTH OF YARN IN A TEXTILE MACHINE
Gerhard Kröger, Veitsbronn, Germany, and Erich Goppert, Erlangen, Germany, assignors to Siemens Aktien-gesellschaft, Berlin, Germany, and Munich, Germany, a corporation of Germany
Filed Aug. 6, 1968, Ser. No. 750,658
Claims priority, application Germany, Aug. 12, 1967, S 111,340
Int. Cl. B26d *5/40;* **G01b** *7/04*
U.S. Cl. 83—369 **7 Claims**

A pulse generator driven in synchronism with the speed of movement of yarn produces output pulses corresponding in number to the length of the yarn. A converter coupled to the output of the pulse generator converts the frequency of

the output pulses of the pulse generator to a corresponding voltage. A brushless DC motor connected to the output of the converter has a rotary speed proportional to the voltage produced by the converter. A counter coupled to the motor counts in cooperation with the motor to indicate a desired length of yarn.

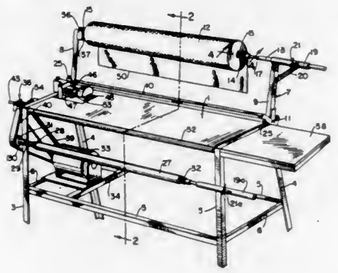


3,524,372
APPARATUS FOR SUPPORTING FILM WHILE BEING EDGE PUNCHED
Norman P. Albrecht, 2430 N. Arona St., St. Paul, Minnesota
Filed Dec. 21, 1964, Ser. No. 419,747
Int. Cl. B26d *7/02, 7/28*
U.S. Cl. 83—451 **3 Claims**



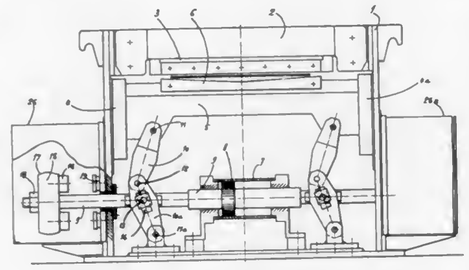
An edge punching apparatus for supporting and holding film on which chromes are mounted so that the film may be edge punched. The supporting table of the apparatus is provided with apertures communicating with a vacuum chamber for holding the film against the surface of the table. Gauge marks are provided on the upper surface of the table to facilitate centering the particular size film to be punched.

3,524,373
FABRIC MEASURING AND CUTTING TABLE
Weldon G. Helmus, Jr., Oakland, New Jersey; James C. Wasson, Jr., Statesville, North Carolina; Paul J. Pero, Statesville, North Carolina; and Clarence A. Sain, Statesville, North Carolina, assignors to J. C. Penney Company, Inc., New York, New York a Corp. of Delaware
Filed Aug. 26, 1968, Ser. No. 755,165
Int. Cl. B26d *7/28*
U.S. Cl. 83—522 **5 Claims**



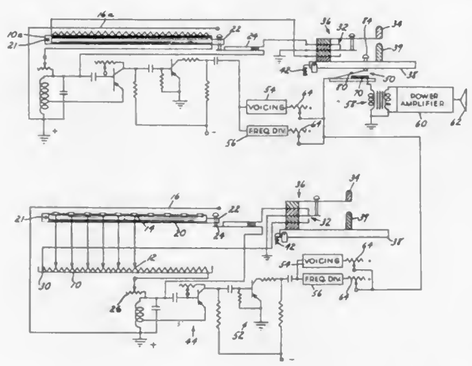
A fabric supply roll is rotatably supported above and at the rear of a table. The fabric is passed downwardly from this roll and threaded around a guide roller at the rear of the table, thence over the table's surface and into engagement with a yardage meter and then downwardly over a second guide roller at the front of the table to a takeup roll mounted on a controllable power driven shaft.

3,524,374
SHEARING MACHINE FOR CONTINUOUS METAL SHEET
Lucien Diolot, Neuilly sur Seine, France, assignor to Societe Nouvelle Spidem, Paris France
Filed Mar. 10, 1967, Ser. No. 622,149
Claims priority, application France, Mar. 11, 1966, 53,194
Int. Cl. B26d *5/12, 5/18*
U.S. Cl. 83—626 **9 Claims**



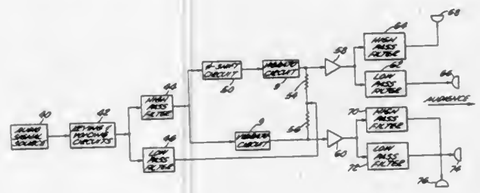
Rapid-cutting guillotine shearing machine for continuously moving metal sheet, the cutting blade being controlled by a fluid jack having a reciprocating jack rod executing one cut for each direction of movement of the jack rod, said jack being supplied with fluid by an electromagnetic valve having a fluid passage of considerable cross section, the jack rod being provided with end-of-travel damping device.

3,524,375
SIMULATED STRINGED ELECTRONIC MUSICAL INSTRUMENT HAVING GRADUAL SWITCH FOR ATTACK, DECAY AND VOLUME CONTROL
Alvin S. Hopping, Nolan's Point, Lake Hopatcong, New Jersey
Filed April 1, 1968, Ser. No. 717,634
Int. Cl. G10h *1/02, 5/12*
U.S. Cl. 84—1.13 **6 Claims**



An electrical musical instrument in which the finger placement of the left hand determines the desired chord and the right hand is used for activating tone generation, as by downward pressure on simulated strings. The instrument contains a voicing control or gradual switch comprising a leaf contact and water-glycerine-graphite impregnated cloth resistor which permits desired attack and decay effects as well as control of output volume by the manner in which the right hand is utilized.

3,524,376
VIBRATO CIRCUIT UTILIZING LIGHT-SENSITIVE RESISTORS AND ORGAN EMBODYING SAME
Solomon Heytow, 23351 Burton St., Canoga Park, California
Filed Oct. 20, 1965, Ser. No. 498,727
Int. Cl. G10h *1/04, 1/00*
U.S. Cl. 84—1.25 **2 Claims**



The vibrato circuit includes a phase-splitting amplifier followed by a phase-shifting network, wherein the phase of one of the two out-of-phase signals may be varied relative to the other signal. The phase-shifting network includes a light-sensitive resistor (LSR), whose resistivity is varied at a suitable vibrato rate. The modulated signal appearing across the LSR is combined with the other (unmodulated) signal to produce a vibrato effect.

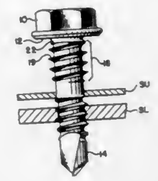
3,524,377
MUSICAL INSTRUMENT CONTAINING INTEGRAL TAPE PLAYER
Johnny Desmond, 85 Chapel Road, Manhasset, New York
Filed Aug. 22, 1967, Ser. No. 662,378
Int. Cl. G10d *1/08, 15/00*
U.S. Cl. 84—267 **2 Claims**



A guitar containing a battery-operated magnetic tape player carried in a compartment formed in the sound box portion of the instrument with the audio transducer of the apparatus being in acoustical relationship therewith. The prerecorded tapes may contain speech or music for playback through the device.

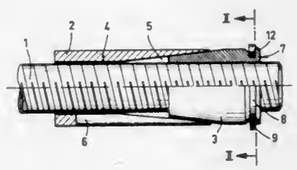
3,524,378
STITCHING SCREW
George L. Wieber, Mount Prospect, Illinois, assignor to Illinois Tool Works, Inc., Chicago, Illinois, a corporation of Delaware
Filed Dec. 5, 1968, Ser. No. 781,444
Int. Cl. F16b *25/00*
U.S. Cl. 85—47 **4 Claims**

A self-drilling stitching screw to pull together and secure relatively thin work sheets after successively drilling a hole in each sheet, and including a drill point extremity merging with a starting thread section above which is an unthreaded shank section serving as an idling, dwell or parking area for the upper sheet until the second or lower sheet moves up to join the upper sheet in that area at which time both sheets move



up a second or upper holding thread section to final position with the clamping surface of the screw head engaged with the adjacent surface of the upper sheet; and wherein there may be provided an idling area immediately adjacent the clamping face of the screw head enabling the lower sheet to be more tightly drawn against the upper sheet in final position.

3,524,379
EXPANSION ANCHOR CONSTRUCTION
Artur Fischer, 133 Grunmettstetterstr., D-7241 Tumlingen, Germany
Filed Nov. 20, 1968, Ser. No. 777,510
Claims priority, application Germany, Nov. 22, 1967, 1,625,338
Int. Cl. F16b *13/06*
U.S. Cl. 85—74 **7 Claims**

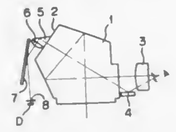


An expansion anchor has an expansion anchor sleeve whose leading end is arranged to be inserted into a hole in a support structure. An actuating member in form of a screw or the like extends through the sleeve and engages at the leading end an expander member so as to draw the same into the leading end thereby radially expanding the same when the screw is rotated. A ring is provided at the end of the expander member which is remote from the sleeve and is secured non-rotatably to the expander member with tongues projecting radially from the ring into engagement with the material of the support surrounding the bore to prevent rotation of the expander member with respect to the sleeve when the actuating member is turned.

3,524,380
FINDER FOR SINGLE LENS REFLEX CAMERAS INCLUDING MEANS TO VIEW ASSOCIATED CAMERA STRUCTURE
Takeo Yamada, Tokyo, Japan, and Jun Shimomura, Tokyo, Japan, assignors to Nippon Kogaku K. K., Tokyo, Japan, a Corp. of Japan
Filed Feb. 27, 1967, Ser. No. 618,808
Int. Cl. G03b *13/18*
U.S. Cl. 88—1.5 **1 Claim**

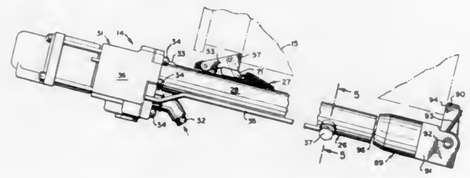
A viewfinder for a single lens reflex camera in which an image of the exposure meter pointer, stop values or distance scales on the lens barrel, or exposure factors may be observed, the images being projected into the lower portion of the visual field. A reflecting surface is provided between the

penta prism and the eyepiece of the viewfinder below the ocular axis, the image rays being directed through the penta



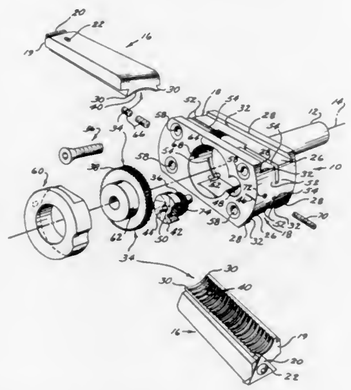
prism onto the reflecting surface and reflected upwardly into the lower portion of the viewfinder.

3,524,381
STORE LAUNCHING SYSTEM
Matthew N. Miller, Topanga, California, assignor to Fairchild Hiller Corporation, Bay Shore, New York, a Corp. of Maryland
Filed April 16, 1968, Ser. No. 721,761
Int. Cl. F41f *5/02*
U.S. Cl. 89—1.5 **9 Claims**



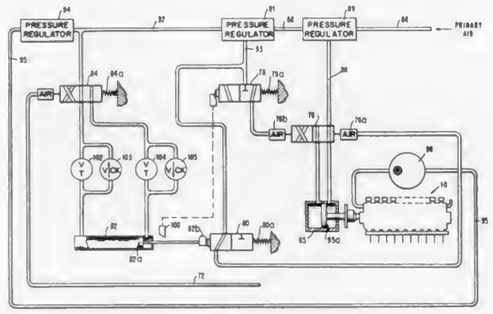
The present invention includes a fluid pressure actuated store launching system having a cylinder assembly formed with an opening extending longitudinally therewithin and further formed with a slot communicating with the opening and the exterior of the cylinder, a piston assembly movably disposed within the cylinder opening and having an exterior portion projecting through said slot, said exterior portion including a spring-biased hinged rearward latch for engaging and urging a store during a launching stroke, and valve means for supplying fluid at a pressure which will cause said piston assembly to move within the cylinder assembly.

3,524,382
ADJUSTABLE-CUTTING-RADIUS ROTARY CUTTING TOOL ATTACHMENT HEAD
Gerard P. Artaud, Torrance, California, assignor of one-half to R. W. Hodgson, Hollywood, California
Filed Feb. 8, 1968, Ser. No. 704,086
Int. Cl. B23c *7/00;* **B23b** *29/08*
U.S. Cl. 90—11 **9 Claims**



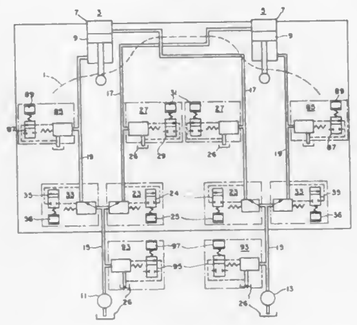
An adjustable-cutting-radius rotary cutting tool attachment head including a rotary base member provided, in a preferred form, with two oppositely mounted slide extension members carrying cutting tips, and with rotary-to-linear movement converting means having an output portion effectively drivingly connected with respect to each slide extension member for positively slidably moving it in a radius-increasing or radius-decreasing manner and having an input portion coupled to said output portion and manually operable for extending or retracting each slide extension member a corresponding radius-modifying positive or negative distance. A preferred form also discloses slide-extension-member locking means.

3,524,383
PNEUMATIC ACTUATOR
Charles H. Locke, 4 Park St., Wappingers Falls, New York
Original application Oct. 10, 1966, Ser. No. 585,542. Divided and this application Aug. 6, 1969, Ser. No. 847,862
Int. Cl. F15b *21/02*
U.S. Cl. 91—35 **10 Claims**



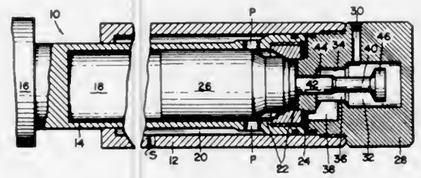
A control having a power means to actuate an element to be controlled, a timing cylinder and piston, a valve for establishing active communication between the cylinder and piston and a source of differential fluid pressure, a first sensor responsive to a first postion of the piston during a timing stroke to actuate the power means, and the second sensor responsive to a later position of the piston during the timing stroke to de-activate the power means.

3,524,384
STROKE CONTROL FOR RAM TYPE MACHINE
Rolland A. Richardson, Alameda, California, assignor to Pacific Press & Shear Corp., a Corp. of Delaware
Filed April 10, 1968, Ser. No. 720,053
Int. Cl. F15b *21/02*
U.S. Cl. 91—35 **8 Claims**



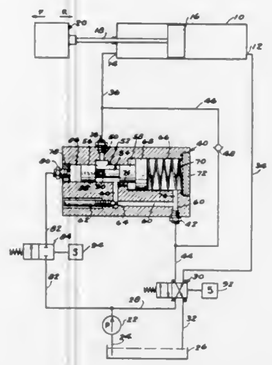
A remote control for the ram of a ram type machine such as a press brake for example, wherein adjustable timing means is employed to determine (1) the extent of the return stroke, and (2) the point of change from fast approach to pressing speed in a work stroke when the machine is provided with a two speed work stroke feature.

3,524,385
CONTROL MEANS FOR FLUID-POWERED DEVICES
Jack B. Ottestad, La Jolla, California, assignor to Impulse Products Corporation, San Diego, California, a Corp. of California
Continuation-in-part of application Ser. No. 564,320, July 11, 1966. This application Jan. 2, 1968, Ser. No. 695,194.
Int. Cl. F01l *15/12, 21/02;* **F15b** *15/17*
U.S. Cl. 91—224 **15 Claims**



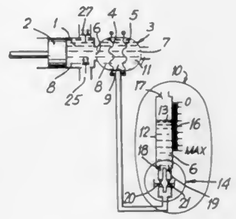
Fluid control means, employing a valving member, to automatically cycle the operation of the device. The valving member is translated in one direction, as the device is fluid-charged, to a point at which said valving opens passages to "-fire" the device; firing of the device returns the valving in the alternate direction, for re-charging of the device.

3,524,386
HYDRAULIC SYSTEM FOR MACHINE TOOL CONTROL
Sylvester R. Cudnohufsky, 1290 Lake Angelus Shore Drive, Pontiac, Michigan
Continuation-in-part of application Ser. No. 693,403, Dec. 26, 1967. This application June 11,1968, Ser. No. 736,127
Int. Cl. F15b *11/04;* **F16k** *31/12*
U.S. Cl. 91—461 **3 Claims**



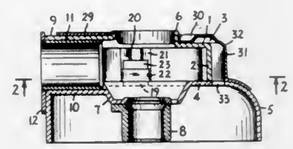
A hydraulic system for controlling the movement of a machine tool slide which includes a pressure compensated flow control valve for regulating the rate of travel of the slide, the flow control valve being of the type which includes a flow controlling valve spool spring biased toward open position and fluid control means associated with the flow control valve for shifting the valve spool toward closed position against the bias of the spring when it is desired to arrest movement of the machine tool slide.

3,524,387
CAPACITY REGULATOR FOR INTERMITTENT-ACTION DISPLACEMENT PUMP
Lev Nikolaevich Britvin, ulitsa Dybenko, 12, kv.51, Moscow, U.S.S.R.
Filed June 7, 1968, Ser. No. 735,302
Int. Cl. F01b *31/14;* **F04b** *49/08*
U.S. Cl. 92—60 **4 Claims**



A capacity regulator for intermittent-action displacement pumps comprises a housing forming a regulator chamber in which an elastic diaphragm is located to provide a variable-volume chamber between the diaphragm and the housing. A second elastic diaphragm is likewise located in the housing so as to form an auxiliary chamber with the other elastic diaphragm which can be filled with a liquid hermetically sealed by the diaphragms. A pressure-head chamber is formed in the housing by the second elastic diaphragm at the side opposite the variable-volume chamber and fixed thrust elements are located in the regulator chamber and limit the displacement of the diaphragms so that one of the diaphragms comes to bear on one of the thrust elements in one direction of movement while the other diaphragm comes to bear on the second of the elements in the opposite direction of movement. The auxiliary chamber is hydraulically connected with a control mechanism in turn communicating with a source of pressure.

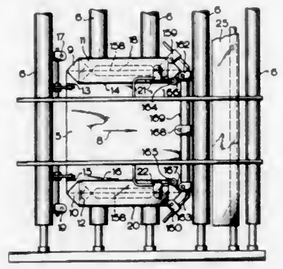
3,524,388
COMPRESSOR HOUSING FABRICATED FROM PREFABRICATED SHEET METAL COMPONENTS
Arne F. Enemark, Sonderborg, Denmark; Knud V. Valbjorn, Nordborg, Denmark; and Kjeld Kjeldsen, Nordborg, Denmark, assignors to Danfoss A/S, Nordborg, Denmark, a company of Denmark
Filed Nov. 20, 1967, Ser. No. 684,301
Claims priority, application Germany, Nov. 18, 1966, D 51,582
Int. Cl. F04b *39/12*
U.S. Cl. 92—161 **6 Claims**



A compressor housing fabricated from sheet metal components which are assembled together. The components can be made of thinner metallic sheet material than heretofore possible and constitute components defining two parallel walls defining a partially enclosed space within which is inserted an up-ended band defining within this space chambers which function in use as silencing chambers. The components jointly define a cylindrical recess within which is inserted a prefabricated sleeve forming a cylinder. The parallel walls are each provided with an opening coaxial with said band, and a bearing sleeve is attached to at least one of the parallel walls coaxial with the opening thereon.

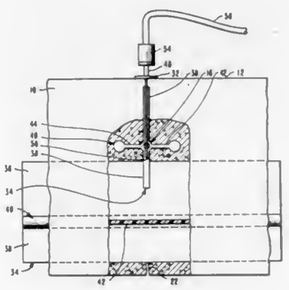
The components are prefabricated independently and assembled without need of tools for assembly. They are soldered or otherwise fixed in assembly without fastensers.

3,524,389
BAG-MAKING MACHINE
Willi Stork, Tecklenburg, Westphalia, Germany, assignor to Windmoller & Holscher, Lengerich, Westphalia, Germany
Filed Nov. 20, 1967, Ser. No. 684,327
Claims priority, application Germany, Nov. 28, 1966, W 42,871
Int. Cl. B31b *1/00*
U.S. Cl. 93—8 9 Claims



A bag-making machine comprises a deflector, which is disposed between the end closure-laying and delivery stations and is controlled by end closure-checking devices to reject defective bags from the path of conveyance. The end closure-checking devices comprise means for checking crossed end closures as to the presence of the inclined edges of the infolded corner portions and the agreement of the actual positions of such edges with their desired position.

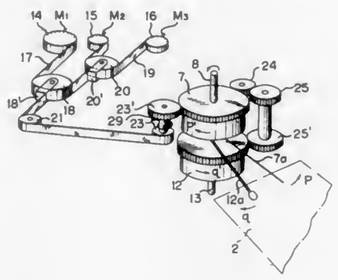
3,524,390
SEALED JOINT INTERSECTION
Robert F. Dill, 13341 Illinois Ave., Westminster, California
Filed May 24, 1968, Ser. No. 731,927
Int. Cl. E01c *11/10*
U.S. Cl. 94—18 10 Claims



The intersection of a plurality of waterstop sealed intersecting joints in a plastic mass is sealed by injecting a sealant into the fractures associated with the joints.

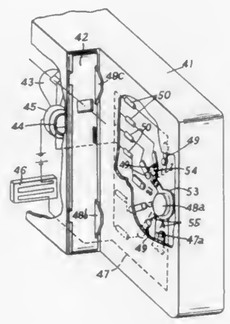
3,524,391
EXPOSURE DETERMINING DEVICE
Tatsuo Fujii, Tokyo, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a Corp. of Japan
Filed Nov. 2, 1967, Ser. No. 680,079
Claims priority, application Japan, Nov. 7, 1966, 41/72,873
Int. Cl. G01j *1/16*; G03b *7/02*
U.S. Cl. 95—10 8 Claims

An exposure determining device is provided for a camera wherein the correct exposure value for an object or scene to be photographed is obtained by considering an intermediate value for the photometric responsiveness to the light and dark portions of the object. Two exposure meters



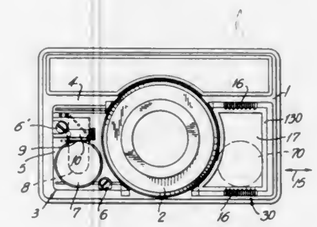
are provided having different light responsive sensitivities to the same degree of illumination, the two meters being interlocked mechanically or combined electrically to utilize the difference between the indicated values.

3,524,392
PHOTOGRAPHIC CAMERA WITH ADJUSTABLE FILM SPEED CONTROL
Kurt Langnau, Dresden, Germany; Walter Hennig, Dresden, Germany; Horst Strehle, Dresden, Germany; and Heinz Schulze, Dresden, Germany, assignors to VEB Pentacon Dresden Kamera und Kinowerke, Dresden, Germany
Original application Mar. 14, 1966, Ser. No. 534,074, now Pat. No. 3,481,259, dated Dec. 2, 1969. Divided and this application Jan. 30, 1969, Ser. No. 795,173
Int. Cl. G01j *1/42*; G03b *7/08*
U.S. Cl. 95—10 2 Claims



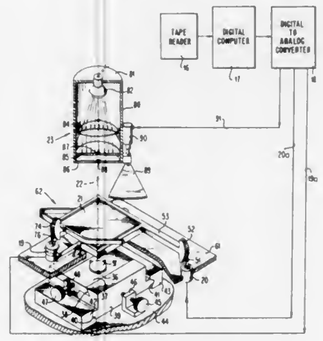
A camera having a built-in photo-electric exposure meter by which exposure of the film is controlled. An aperture diaphragm is automatically controllable by an adjusting device which is dependent on the reading of the exposure meter. There is provided a switchable resistor circuit enabling a required resistor to be selected so that a continuous closed circuit incorporating a resistor, said photo-electric cell and said adjusting means is formed. The value of resistor selected being dependent on the sensitivity of the film, said resistor being selectable either automatically by the insertion of a special film carrier having a contact bridge wherein the position of said contact bridge is arranged to connect the required resistor in circuit, or manually when a conventional film carrier is used, by rotation of the wiper of the switch to include the required resistor indicated by a film sensitivity scale.

3,524,393
CAMERA HAVING A RECEPTACLE FOR A SOURCE OF CURRENT
Paul Greger, Braunschweig, Germany; Walter Gutmann, Braunschweig, Germany; Friedrich Papke, Braunschweig, Germany; and Richard Sommer, Braunschweig, Germany, assignors to Voigtlander AG, Braunschweig, Germany
Filed Sept. 22, 1967, Ser. No. 669,759
Claims priority, application Germany, Sept. 27, 1966, V 19,458
Int. Cl. G03b *19/00, 19/04*
U.S. Cl. 95—11 6 Claims



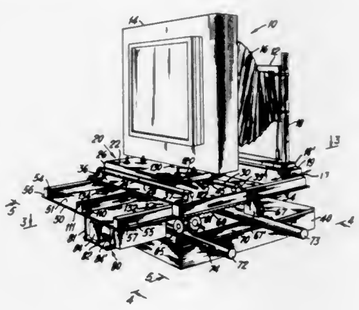
A camera, such as a still or motion picture camera, which does not have in its interior sufficient space to accommodate a source of current. The camera has a structure which has an exterior surface which forms part of the exterior of the camera, and a receptacle is fixedly mounted on this exterior surface of the latter structure for accommodating a source of current in the interior of the receptacle. A cover is provided for the receptacle for closing and opening the latter, and this cover is accessible from the exterior of the camera.

3,524,394
MONOLITHIC CIRCUIT MANUFACTURE AND PHOTORESIST EXPOSURE TECHNIQUE UTILIZED THEREIN
Brian Sunners, Poughkeepsie, New York, assignor to International Business Machines Corporation, Armonk, New York a Corp. of New York
Filed Nov. 16, 1966, Ser. No. 594,752
Int. Cl. E01c *5/08*
U.S. Cl. 95—12 12 Claims



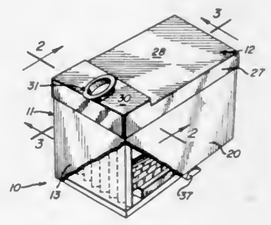
An apparatus for exposing the photoresist coating on a semiconductor wafer to form thereon the metallic interconnection pattern which wires up a plurality of network components to form a single monolithic integrated circuit. A light beam is transmitted through a refracting glass plate before it strikes the photoresist. Relatively large angular displacements of the glass plate provide relatively small displacements of the light beam. The angular displacements of the refracting plate are controlled by a computer which determines the configuration of the wiring interconnection pattern from test data designating which network components are acceptable for use in the pattern.

3,524,395
THREE-DIMENSIONAL CAMERA
Alfred Victor Alasia, Whitestone, New York, assignor of one-half to Leo Rashkin, Beechurst, New York
Continuation of application Ser. No. 678,773, Oct. 18, 1967, which is a continuation of application Ser. No. 453,082, May 4, 1965. This application Feb. 12, 1969, Ser. No. 802,321
Int. Cl. G03b *35/04*
U.S. Cl. 95—18 11 Claims



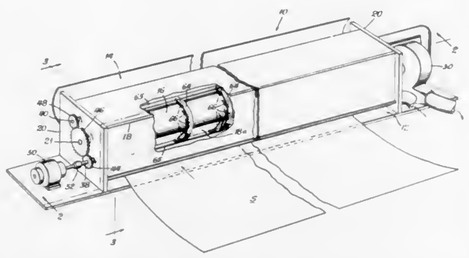
A three dimensional camera is provided in which a series of exposures are made onto a film having a lenticular screen. The film orientation is continuously varied with respect to the subject so as to present a series of viewing aspects. The path followed by the film orientation has a curvature in which the distance between any point on the path and the lens is greatest at the ends and decreases to minimum towards the center. A simple three dimensional camera is also disclosed utilizing a masked lens to define a horizontal slit and has a moving vertical shutter aperture. A lenticular surface is provided in front of the film.

3,524,396
TANK FOR DEVELOPING PHOTOGRAPHIC PAPER
William Blinoff, Jr., 1332 Woodland Lane, Deerfield, Illinois
Filed Jan. 2, 1968, Ser. No. 695,224
Int. Cl. G03d *3/10, 13/04*
U.S. Cl. 95—90 4 Claims



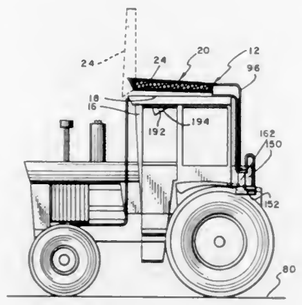
A tank for developing several sheets of photographic paper. The tank is loaded out of the presence of harmful light rays. The filling of the tank with various developing liquids and the draining thereof is accomplished without removing the sheets of photographic paper from the tank. The filling and draining operations and the removal of the developed sheets from the tank may be readily accomplished in the presence of either natural or artificial light. The photographic paper is supported on members which are held in parallel pockets on the walls of the tank.

3,524,397
GAS DEVELOPING APPARATUS
Joseph Hruby, Deerfield, Illinois, assignor to Addressograph - Multigraph Corporation, Mount Prospect, Illinois a Corp. of Delaware
Filed Sept. 6, 1966, Ser. No. 577,402
Int. Cl. G03d 3/12, 3/00
U.S. Cl. 95—94 6 Claims



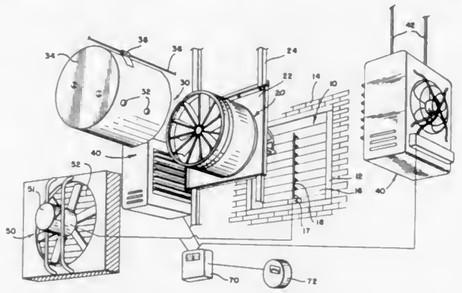
A developer unit comprising a developing chamber, gas generator and a blower. The developing chamber is provided with flexible entry and exit sealing members and a transporting unit within the chamber to transport a copy sheet therethrough between the entry and exit members. The gas generator is connected to the chamber by independent inlet and outlet conduits. The blower is used to circulate a predetermined volume of gas from the generator within the chamber and back to the generator.

3,524,398
AIR CONDITIONING SYSTEM FOR VEHICLE OPERATOR ENCLOSURE
John C. Winfrey, 320 S. Exposition, Wichita, Kansas
Filed June 17, 1968, Ser. No. 737,563
Int. Cl. B01d 47/00
U.S. Cl. 98—17 8 Claims



An air conditioning system for a vehicle operator enclosure (as for example, operator's cabs of truck tractors. agricultural implements and heavy construction equipment such as combines, tractors, harvesters, bulldozers, land levelers, etc.) that will introduce into the enclosure at a superatmospheric pressure air ambient to a location above the enclosure after such air has been filtered and selectively either cooled or heated. The system includes a low profile housing mounted on the top of the operator's enclosure with a passageway (partially defined by an opening in the top of the enclosure) established directly therebetween. Air impelling means are disposed in the housing for forcing air from within the housing through the passageway into the operator's enclosure, with ambient air being thereby drawn into the housing through air inlet openings provided in upstanding sides of the housing. Water wettable air filtering means is provided in the air inlet openings, with means being provided to maintain the filtering means wetted and at least partially cleaned by flowing water downwardly thereover (the rate of water flow being sufficiently low that the water is permitted to cool significantly with respect to the wet bulb temperature of the air passing therethrough, but preferably sufficiently great that the drainage will carry a significant amount of particulate foreign matter therefrom). The last mentioned means includes a water supply tank mounted on the enclosure at a position substantially below the top of the enclosure for receiving through a conduit water draining from the filtering means and for supplying water to the filtering means through another conduit and pump. A water filter is provided in one of the conduits to prevent foreign matter draining with water from the filtering means from being returned to the filtering means. The evaporative cooling effect can be interrupted by interrupting pump operation. A liquid-air heat exchanger is disposed in the passageway, such exchanger being connectible to the liquid coolant circulation system of the vehicle internal combustion engine so that hot liquid coolant from the engine block passes through the heat exchanger during its passage to the conventional cooling radiator. The housing has a pivotally connected top portion which can be unlatched from a lowered position of use, and pivotally swung upwardly to a raised position enabling access to the interior of the housing for maintenance or repair purposes and to enable removal and replacement of the filtering means.

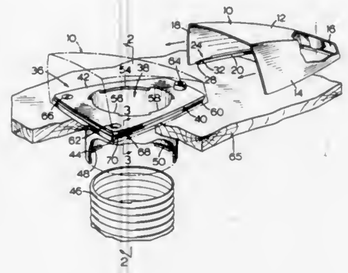
3,524,399
HEATING, VENTILATING AND CIRCULATING AIR SYSTEM
Hoy R. Bohanon, Muskogee, Oklahoma, assignor to Acme Engineering and Manufacturing Corporation, Muskogee, Oklahoma, a Corp. of Oklahoma
Filed June 19, 1969, Ser. No. 834,741
Int. Cl. F24f 13/00
U.S. Cl. 98—33 10 Claims



A heating, ventilating and circulating air system featuring a distribution fan spaced from an adjustable opening within a wall of a building, one or more unit heaters arranged to discharge heated air into the space between the distribution fan and the adjustable opening, an air distribution tube secured to the discharge end of the distribution fan and provided with openings throughout for jetting air into the building and an exhaust fan mounted within a wall of the building. During the circulating mode of operation, the distribution fan is running, the adjustable wall opening is closed, and the unit heater(s) and exhaust fan are inoperative. During the ventilating mode of operation, the distribution and exhaust fans are running, the adjustable wall opening is open and the unit heater(s) are inoperative. During the heating mode of operation, the distribution fan and unit heater(s) are operating, the adjustable opening is closed and the exhaust fan is inoperative.

3,524,400
VENTILATING APPARATUS
Hugo Magi, Etobicoke, Ontario, Canada, assignor to Aqua-Marine Mfg. Limited, Toronto, Ontario, Canada
Filed May 17, 1968, Ser. No. 730,145
Int. Cl. B63j 2/04
U.S. Cl. 98—37 16 Claims

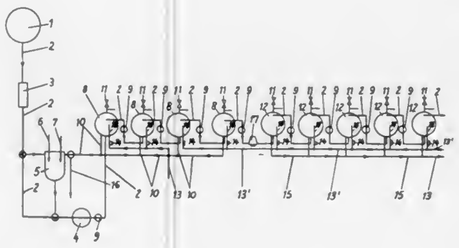
A ventilating apparatus suitable for use on the deck of a marine craft or the like, has a cowl attached to a plate. The plate, in one embodiment, is provided with stop means whereby an open-ended duct is prevented from abutting the inner top wall of the cowl. In another embodiment, the cowl and the plate are interlocked by means of interlocking channel members.



3,524,401
COMPOSITE REFRIGERATED DOUGH COMPOSITION
George W. Hosfield, Excelsior, Minnesota; Lowell Armstrong, Louisville, Kentucky; and Bob K. Davis, Minneapolis, Minnesota, assignors to The Pillsbury Company, Minneapolis, Minnesota, a Corp. of Delaware
Filed Oct. 2, 1967, Ser. No. 672,182
Int. Cl. A21d 8/02
U.S. Cl. 99—90 11 Claims

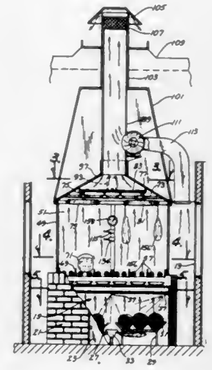
A composite refrigerated dough product for making baked goods such as biscuits. It consists of a body of undeveloped dough at least partially enveloped in a layer of developed dough that prevents gas from escaping and allows the dough bodies to be handled, cut and packed.

3,524,402
APPARATUS FOR TREATING BEER WORTS
Gerhard Bosewitz, Falkensee, near Berlin, Germany; Helmut Ehlies, Berlin-Kopenick, Germany; and Rudolf Dickscheit, Berlin-Karolinenhof, Germany, assignors to Institut fur die Garungs- und Getrankeindustrie, Berlin, Germany, a concern of Germany
Filed Oct. 11, 1966, Ser. No. 585,863
Int. Cl. C12g 1/06
U.S. Cl. 99—276 2 Claims



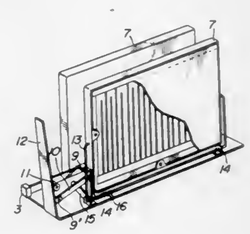
Beer worts are treated by being cleaned and sterilized, then enriched with yeast cells and then fermented while being exposed to ventilation and over-pressure. Thereupon carbon dioxide is supplied to impede further yeast increase, whereby new beer is produced. The yeast is precipitated and a part of the precipitated yeast is returned to the worts about to be fermented. New beer is subject to accelerated ripening and washing with carbon dioxide at varying pressures.

3,524,403
BARBECUE OVEN
Lester D. Treloar, Rte. 2, Fort Dodge, Iowa, and Francis L. Johnson, 1516 6th Ave N., Fort Dodge, Iowa
Filed Nov. 20, 1968, Ser. No. 777,382
Int. Cl. A47j 27/62; A23b 1/64
U.S. Cl. 99—331 9 Claims



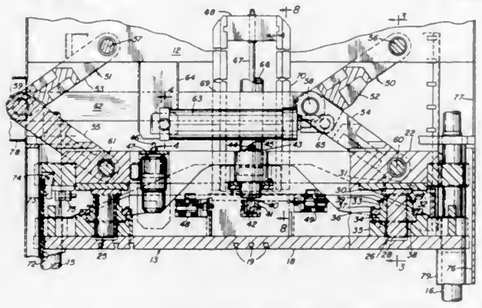
A barbecue oven comprising a housing having a food support means provided therein which is positioned over a combustion chamber of the gas fired, wood burning type. A water sprinkling system is provided in the combustion chamber adapted to spray water on the burning wood at a predetermined time. First and second temperature responsive switches are mounted in the housing adjacent the food support means and are electrically connected to the water sprinkling system and the valve controlling the gas burner means respectively. When the temperature in the oven reaches a predetermined level, the switches are activated to cause the gas firing means to be extinguished and the water sprinkling system to spray water on the burning wood to prevent the food from becoming burned. The oven also includes means to turn the food to evenly cook the same. A blower means is in communication with the oven flue and is adapted to draw air into the flue from outside of the housing thereby reducing the draft in the flue to reduce the combustion rate of the burning wood.

3,524,404
TOASTER
Shinzo Kimura, Higashi-Osaka-shi, Japan, and Hiroo Hosono, Osaka, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a Corp. of Japan
Filed April 22, 1968, Ser. No. 723,072
Claims priority, application Japan, April 25, 1967, 42/27,187
Int. Cl. A47j 37/08
U.S. Cl. 99—390 2 Claims



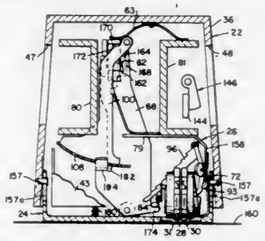
A toaster of the type wherein a slice of bread is toasted by being placed between heating plates in direct contact therewith.

3,524,405
TOGGLE-ACTION PRESS
Glenn D. Garrison, Grand Rapids, Michigan, assignor to Jarecki Corporation, Grand Rapids, Michigan
Filed June 13, 1968, Ser. No. 736,788
Int. Cl. B30b *1/16*
U.S. Cl. 100—257 3 Claims



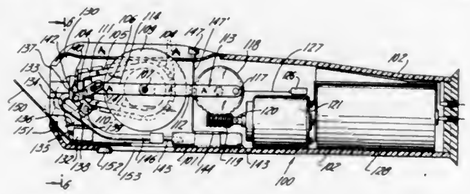
A press having relatively movable interconnected ram components, and a plurality of toggle assemblies interrelated at the joints to drive and accurately position one of the ram components.

3,524,406
MARKING APPARATUS HAVING REGISTER MEANS
John S. Traynor, Palo Alto, California, assignor to Norsta Engineering, Palo Alto, California, a partnership
Filed July 3, 1968, Ser. No. 742,339
Int. Cl. G07g *1/04*; B41j *3/00*
U.S. Cl. 101—93 26 Claims



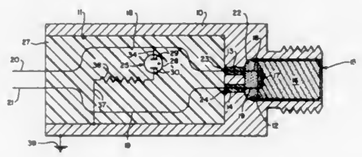
A hand-held marking device which operates like a conventional rubber stamp to apply selective indicia to a surface to be marked. The device has a register responsive to the marking operation so that a record of the operation, including the relative values of the indicia applied to a surface, can be made to thereby render the device suitable for a number of uses, including use as a postage meter.

3,524,407
ELECTRICALLY OPERATED MARKING DEVICE
Howard Price, Whitestone, New York, and Bela Szilagyi, Flushing, New York, assignors, by direct and mesne assignments, to International Patents & Development Corp., a Corp. of Delaware
Filed July 12, 1968, Ser. No. 744,544
Int. Cl. B41j *27/02*, *1/20*
U.S. Cl. 101—103 5 Claims



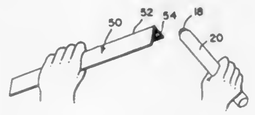
Marking device with settable characters electrically operated for stamping preset characters on the articles to be marked. A switch for operating the device is actuated upon placing the marking device on the article to be marked.

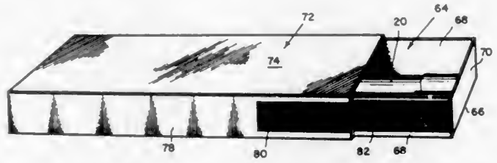
3,524,408
ELECTROSTATIC DISCHARGE DISSIPATOR FOR A HEATER BRIDGEWIRE CIRCUIT OF AN ELECTRO-EXPLOSIVE DEVICE
Edward G. Pierson, Grand Island, New York, assignor, by mesne assignments, to Conax Corporation, New York, New York, a Corp. of Delaware
Filed Jan. 22, 1968, Ser. No. 699,450
Int. Cl. F42b *3/18*
U.S. Cl. 102—28 16 Claims



The heater bridgewire circuit of an electro-explosive device is rendered safe against unintentional firing resulting from electrostatic discharge by operatively associating with such circuit an electrostatic discharge dissipator of a gaseous electrical conductable type which includes electrodes arranged in a predetermined environment of an ionizable gas so that one electrode is electrically connected to a lead wire for the heater bridgewire and another electrode is electrically grounded.

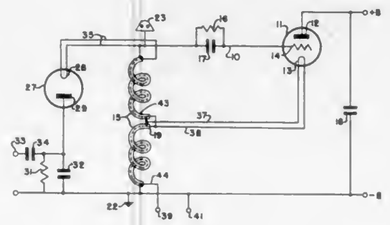
3,524,409
FUSEE FLARE KIT
Paul H. Griffith, Penn Valley, Norberth, Pennsylvania, assignor to Bristol Flare Corporation, Bristol, Pennsylvania, a Corp. of Delaware
Continuation-in-part of application Ser. No. 709,854, Feb. 6, 1968, and application Ser. No. 525,985, Feb. 8, 1966. This application March 26, 1969, Ser. No. 814,507
Int. Cl. C06d *1/10*
U.S. Cl. 102—37.4 7 Claims





A fusee flare kit for motorists comprising a box having a drawer or tray and a sleeve adapted to slip on and off the tray, with a mounting hole formed in the bottom of the tray. The box contains three fusee flares, with each flare including a body member containing a flare material and having an ignition button at one end which is covered by a removable cap. A rigid scratch strip is provided that is separate from the fusee flares and is adapted for a wiping action with the ignition button to ignite the flare after the cap has been removed. The scratch strip is mounted on the box, or is a separate piece of elongated paperboard that is V-shaped or is curved in cross section. In one embodiment, the scratch strip is mounted on the tray and is exposed only when the box is open. In another embodiment the sleeve is provided with cutaway portions at one end for easier opening of the box and for locating the scratch strip visually when the box is closed.

3,524,410
OSCILLATOR-DETECTOR DEVICE
Louis W. Erath, Houston, Texas and Gerald N. Plotkin, Silver Spring, Maryland, assignors to The United States of America as represented by the Secretary of the Navy
Filed Nov. 28, 1950, Ser. No. 197,962
Int. Cl. F42c *13/04*; G01s *9/02*
U.S. Cl. 102—70.2 3 Claims

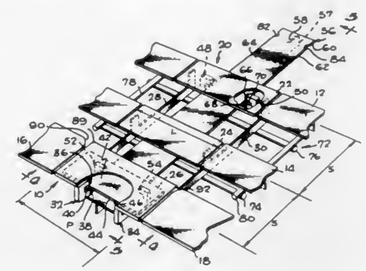


1. A proximity fuse for a projectile comprising a firing circuit having an electroresponsive detonator and input terminals and capable of actuating said electroresponsive detonator upon receiving a signal of predetermined character at said input terminals, an oscillator-detector device including an oscillator having a resonant circuit and including a filamented vacuum tube, an antenna system, means coupling said antenna system to said resonant circuit for radiating a portion of the electromagnetic energy generated by said oscillator into space, said oscillator-detector device also including a detector circuit having a filamented rectifier and a load circuit, said detector circuit being connected across said resonant circuit for detecting variations in the resonant voltage thereacross produced when said radiated energy strikes a reflecting object and a reflected portion of said radiated energy is received by said antenna system, and coupling means between said load circuit and said input terminals for applying the detected variations to said firing circuit, said resonant circuit including a bifilar impedance having two sections, one section being connected with the bifilar members in series with the filament of said oscillator, both sections of said impedance being connected to supply a current to the filament of said detector, the filaments of the oscillator and the detector being connected in parallel.

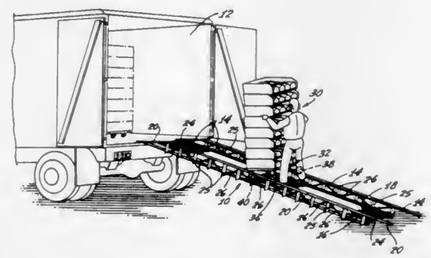
3. An oscillator-detector circuit having at least one vacuum tube in the oscillator circuit and at least one vacuum tube in the detector circuit, each of said tubes having a current heated filament, said oscillator and detector circuits having a resonant impedance in common, said filaments being connected through said resonant impedance with one lead of each filament non-inductively wound with said resonant impedance such that no high frequency current flows through the filament circuit, and an antenna connected to said resonant impedance.

3,524,411
VEHICLE SHUNTING APPARATUS
Jack Rooklyn, Northridge, California, assignor to Republic Corporation, Beverly Hills, California, a Corp. of California
Filed Oct. 31, 1968, Ser. No. 772,260
Int. Cl. E01b *25/06*, *25/12*, *25/20*
U.S. Cl. 104—130 9 Claims

Apparatus for use with a transportation system that employs vehicles for carrying small goods in a factory, to shunt the vehicles between a siding and either of two main tracks. The apparatus comprises a laterally movable carriage with three short track sections, for repositioning each track section from alignment with a main track to alignment with another main track or with the siding.



3,524,412
INCLINED RAMP WHICH ENABLES A WHEELED BASE TO TRAVERSE THEREALONG IN A HORIZONTAL POSITION
James D. Wilson, Long Beach, California, assignor to Banner Metals, Inc., Compton, California, a Corp. of Ohio
Continuation-in-part of application Ser. No. 747,231, July 24, 1968. This application Nov. 18, 1968, Ser. No. 776,739
Int. Cl. B65g *1/02*
U.S. Cl. 104—134 5 Claims

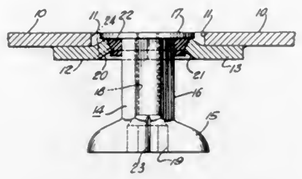


A ramp is provided for unloading dolly-supported or rack-supported receptacles from a truck, or for loading the same. The dollies and racks with which the ramp of the invention is intended to be utilized normally support their receptacles in a vertical tiered position. The ramp of the invention enables the dolly or rack to be loaded onto the truck, or unloaded, in a manner such that the receptacles are supported in a generally horizontal position when so loaded, one on top of the other in a vertical tier. In this way, there is no tendency for the tier of receptacles to tilt or fall over while it is being loaded into the truck or unloaded from the truck on the ramp of the invention.

3,524,413
CARGO TIE-DOWN ANCHOR
Frank Kenneth Veasman, Hamburg, New York, assignor to Buffalo Brake Beam Company, a Corp. of New York
Filed Aug. 9, 1968, Ser. No. 751,560
Int. Cl. B61d *45/00*
U.S. Cl. 105—369 11 Claims

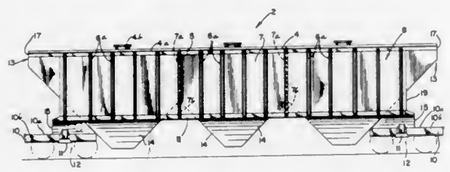
The anchor comprises an internally threaded spool shaped anchor nut having a non-circular shaft formed with a spherically shaped base and capped by a flat disk-like top, and a pair of cutout plates in which the anchor nut is mounted for rotation and up and down movement, said plates being attachable to the underside of the vehicle floor around an opening formed therein, and said plates being

formed with a bottom spherical surface conforming to the spherically shaped base, whereby the nut when not in use will



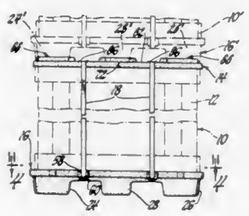
be permitted to fall down into position to present its disk-like top flush with the vehicle floor.

3,524,414
HOPPER VEHICLE CONSTRUCTION
Kent N. Johnson, South Holland, Illinois, and Bradford Johnstone, Blue Island, Illinois, assignors to Pullman Incorporated, Chicago, Illinois, a Corp. of Delaware
Filed June 24, 1968, Ser. No. 739,331
Int. Cl. B61d *7/00*
U.S. Cl. 105—404 **15 Claims**



A vehicle hopper construction having a hopper end slope sheet, upright vertical web and flat lower shear plate forming a torsion box design in the area of the side girder of the car to reduce torsional stresses to the coupler forces, where said shear plate may be bowed upwardly in gull wing design for coupling the center sill to the side sill to reduce the depth of the side girders and wherein the slope sheet may be bowed inwardly or the bolster web may be bowed outwardly to increase the cross sectional area of the torsion box and thereby reduce the stresses upon it due to coupler force.

3,524,415
PLASTIC SHIPPING TRAY
Albert W. Heiman, Anderson, Indiana, assignor to General Motors Corporation, Detroit, Michigan, a Corp of Delaware
Filed Nov. 14, 1968, Ser. No. 775,810
Int. Cl. B65d *19/38*
U.S. Cl. 108—53 **3 Claims**



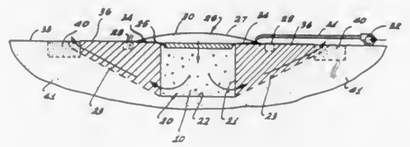
A nestable shipping tray formed from a single sheet of plastic material includes a generally rectangular base having an upwardly extending peripheral wall for horizontally restraining a load supported thereon and a series of downwardly extending support legs formed along the longitudinal sides thereof which are arranged to permit four-way entry of a fork lift truck and an unobstructed passageway for longitudinal entry of a lifting platform. Reinforcing means are formed in the base to permit the tray and load to be supported at the edges of the legs and banding ribs are formed on the wall to locate and retain banding means used to fasten the load to the base. In storage, stacking lugs formed on the wall limit wedging between the support legs of the nested trays thereby facilitating easy separation of the trays for reuse.

3,524,416
EXTENSION TABLE WITH PIVOTED LEAF STORED BELOW TOP
Franz Hero, Im Baumgarten 8630 Tann-Rutl, Zurich, Switzerland; Karl Odermatt, Im Baumgarten 8630 Tann-Rutl, Zurich, Switzerland; and Walter Müller, Im Hofli 8714 Feldbach, Zurich, Switzerland
Filed July 16, 1968, Ser. No. 745,321
Claims priority, application Switzerland, July 19, 1967, 10,285/67
Int. Cl. A47b *1/04*
U.S. Cl. 108—76 **1 Claim**



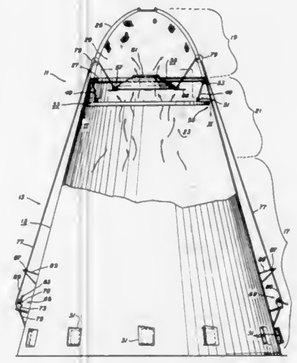
An extension table has a pull-out main table top and a unitary leaf pivotally mounted below the main table top and near one end of the table for swinging into the space freed by the main table top pulled out.

3,524,417
METHOD FOR COMBUSTING REFUSE AND OTHER ORGANIC MATERIAL
Ralph Stone, 1044 Hanley Ave., Los Angeles, California
Filed March 29, 1968, Ser. No. 717,104
Int. Cl. F23g *5/00*
U.S. Cl. 110—8 **7 Claims**



A method for combusting refuse or other combustible material comprising the passing of air through the combustible material while burning to thereby force combustion gases through the combustible material so that the combustible material filters, cools and removes particulate matter and toxic gaseous air pollutants from the combustion gases before the latter pass into the atmosphere. The combustion gases, after flowing through the combustible material, may be flowed through a porous media prior to being emitted into the atmosphere to thereby further clean and deodorize the gases. The method of this invention may be conducted in pits in field operations or in assembled units on a commercial level or in households.

3,524,418
INDUSTRIAL BURNER DRAUGHT REGULATING MECHANISM
William C. Cowan, Shelby County, Tennessee, assignor of fifty percent to Rees Burner & Blow Pipe Co., Memphis, Tennessee Continuation-in-part of application Ser. No. 718,834, April 4, 1968. This application May 2, 1969, Ser. No. 825,111
Int. Cl. F23g *7/00*
U.S. Cl. 110—18 **12 Claims**



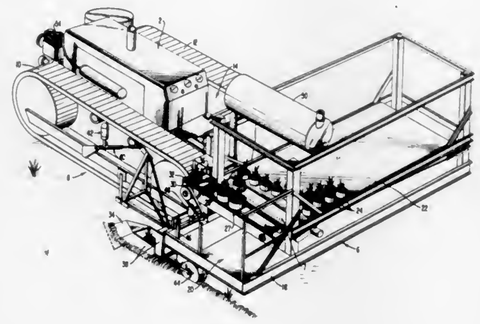
For use with a typical large industrial conical burner having a screened outlet arranged at its apex for the emission of combustion gases and residue of combustion; mechanism comprising combustion air draught regulating means including two vertically spaced centrally apertured baffle members arranged in the upper interior of the burner and with one of the apertured baffle members being movable relative to the other for regulating the flow of combustion gases and residue emitted into the outside atmosphere.

A second embodiment is also included which comprises a generally annular baffle body adapted to be stationarily supported horizontally in the upper interior of the industrial burner body and a plurality of coactingly operative doors pivotally mounted on the annular baffle body adapted to be pivotally moved either together or separately between open or closed dispositions.

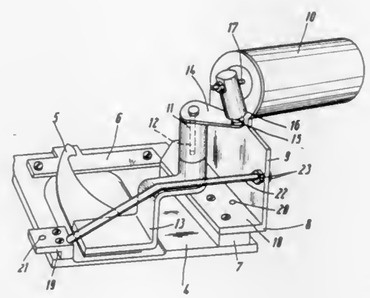
3,524,419
METHOD AND APPARATUS FOR TRANSPLANTING PLANTS
Frederic H. Middleton, Honolulu, Hawaii; Warren O. Gibson, Kaneohe, Hawaii; and Leonard H. Anderson, Honolulu, Hawaii, assignors to Hawaiian Sugar Planters' Association, Honolulu, Hawaii, a voluntary, non-profit agricultural organization
Filed June 27, 1968, Ser. No. 740,569
Int. Cl. A01c *11/02*
U.S. Cl. 111—2 **27 Claims**

A method which is intended to transplant plants of the type wherein each plant includes root portions surrounded by an individual plug of earth enclosed within a separate container for each plant. The method utilizes vehicle means adapted for motion on the ground and includes an initial step of storing a plurality of the plants on the vehicle means. The plants are conveyed at least one at a time from storage to a planting station on the vehicle from which each plant may subsequently be delivered to the ground. The container is automatically removed from each plant during passage of the plant from storage to the planting station.

An apparatus which is intended for transplanting plants of the type wherein each plant includes root portions surrounded by an individual plug of earth enclosed within a separate container for each plant. The apparatus includes vehicle means adapted for motion along the ground with the vehicle means being provided with a planting station at which plants may be planted in the ground. Storage means fixedly connected with the vehicle means is adapted to store a plurality of the plants. At least one of the plants at a time is conveyed from the storage means to the planting station along a predetermined path by conveying means. During passage along the predetermined path the container is removed from each plant by container removing means connected with the vehicle means.



3,524,420
YARN SEPARATING DEVICE FOR SEWING MACHINES
Gunter Peschke, 49 Niederhofheimer Strasse, Hofheim, Taunus, Germany
Filed June 7, 1968, Ser. No. 735,212
Claims priority, application Germany, Feb. 23, 1968, P 44,094
Int. Cl. D05b *65/00*
U.S. Cl. 112—252 **5 Claims**

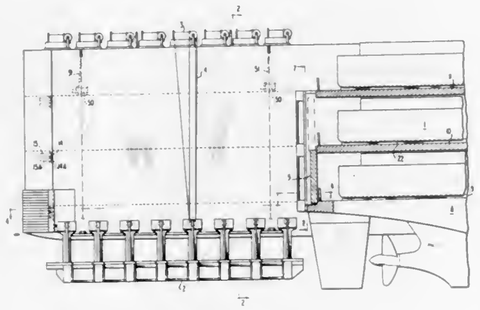


A yarn separating device for operative attachment to various types of sewing machines, said device having a blade and counter blade means, said means including a mounting plate means which replaces the conventional baseplate slide of a sewing machine and mounts said device in a desired operative position on said machine when installed by a layman.

3,524,421
BARGE HANDLING MEANS AND METHOD

Alfred H. Schwendtner, New York, New York, and James F. Convery, New York, New York, assignors, by mesne assignments, to Lykes Enterprises, Inc., a Corp. of Louisiana.

Continuation-in-part of application Ser. No. 526,904, Feb. 11, 1966. This application Dec. 11, 1967, Ser. No. 689,451
Int. Cl. B63b *35/44, 27/16*
U.S. Cl. 114—43.5 12 Claims

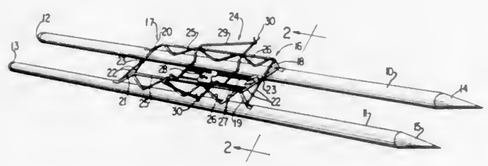


Automatic system for engaging and positioning barges to be stowed aboard a marine carrier for ocean transport that includes a control panel together with electrical connectors from that panel to the hydraulic and mechanical means to engage and position the barges.

3,524,422
WATERCRAFT

Richard Buckminster Fuller, P.O. Box 909, Carbondale, Illinois

Filed March 28, 1968, Ser. No. 716,957
Int. Cl. B63b *1/14*
U.S. Cl. 114—61 10 Claims



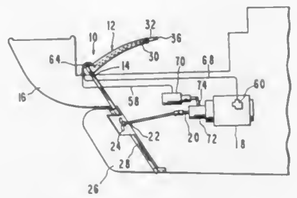
A watercraft useful for rowing, sailing, and the like, wherein there are two spaced substantially parallel float members, the float members being joined by longitudinally spaced transversely extending structural means, each structural means including a vertically extending post, means, or column on its float, the tops of said posts being joined by at least one structural cross member extending therebetween so as to keep the floats parallel or at the desired angle relative to each other and so as to inhibit rolling thereof relative to each other.

3,524,423
CONTROL UNIT FOR SAILBOAT

Jerry L. Bitney, 2594 Leghorn, Mountain View, California

Filed March 7, 1968, Ser. No. 711,408
Int. Cl. B63h *25/06*
U.S. Cl. 114—162 3 Claims

A control unit for a sailboat having a motor wherein a tiller has a shiftable handgrip and a manually actuated switch thereon with the switch being adjacent to the handgrip and in a position to be accessible as the handgrip is shifted. The switch is adapted to control transmission gear changes of the

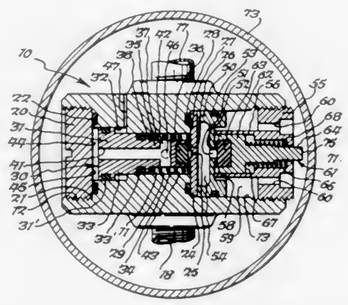


motor and the handgrip is adapted to control the throttle setting of the motor.

3,524,424
LOW PRESSURE ALARM

Wesley J. Roland, Sloan, New York and Ronald C. Voisard, Williamsville, New York, assignors, by mesne assignments, to Automatic Sprinkler Corporation of America, Cleveland, Ohio, a Corp. of Ohio

Filed May 3, 1967, Ser. No. 635,820
Int. Cl. G01l *19/12*
U.S. Cl. 116—70 7 Claims



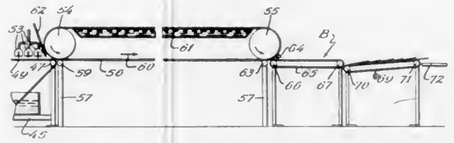
A plunger is movable in a chamber having an outlet orifice, into and out of orifice closing relation. A spring biases the plunger in a direction to close the orifice. Pressure fluid from a line or container being sensed is admitted to the chamber at opposite ends of the plunger. The plunger ends are of unequal effective area, creating a fluid pressure differential urging the plunger into orifice closing position. When the fluid pressure drops to a predetermined level, the plunger moves away from the orifice, admitting pressure fluid to a chamber and against a piston normally closing the chamber outlet. The piston is driven against a bell, and uncovers a vent which exhausts the chamber faster than it is replenished through the orifice. The piston is seated, closing the chamber outlet, until the chamber pressure builds up to a level unseating the piston and driving it against the bell. This results in repeated striking of the bell under low pressure conditions.

3,524,425
APPARATUS FOR WAXING CARTONS

Bayard I. Barnes, Oakland, California; James Aubrey Sweet, Orinda, California; and Kramer L. Barnes, Oakland, California, assignors to American Can Company, Jersey City, New Jersey, a Corp. of New Jersey

Continuation of application Ser. No. 286,974, June 11, 1963. This application March 8, 1967, Ser. No. 621,706
Int. Cl. B05c *11/00*
U.S. Cl. 118—47 1 Claim

A method and apparatus for coating sheet material such as paperboard cartons with a coating of wax. The method and apparatus provides for applying a high gloss finish to the wax coating by means of heating the coating and subsequently cooling the coating by means of a water bath or by means of a cooled casting belt. During the course of heating the coated surface, the opposite surface of the sheet is simul-

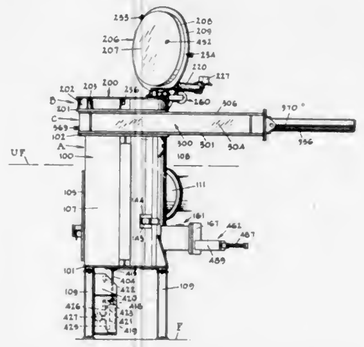


taneously cooled to enhance the high gloss finish imparted to the carton. The carton may be pressed onto the lower run of a cooled casting belt so to be delivered from the casting belt in a face-up position, the better to inspect the high gloss finish of each carton as it is removed from the casting belt.

3,524,426
APPARATUS FOR COATING BY THERMAL EVAPORATION

James C. Ogle, Jr., Toledo, Ohio, and Anthony Olszewski, Natrona, Pennsylvania, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a Corp. of Ohio

Filed Feb. 29, 1968, Ser. No. 709,376
Int. Cl. C23c *11/00*
U.S. Cl. 118—49 7 Claims



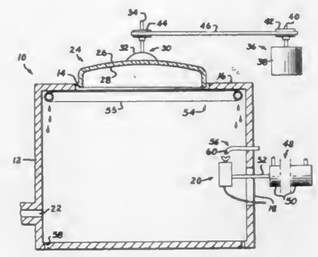
Vapor deposition apparatus including a vacuum chamber containing a source of coating material to be evaporated; a separate vacuum chamber having means supporting a substrate therein; a housing which is intermediate to and integral with said chamber and has a valve member therein which is movable whereby to selectively communicate said chambers with one another; and an annular shield which is movable from within the evaporating chamber to the position intermediate the chambers to confine the vapor path and to shield the valve member.

3,524,427
APPARATUS FOR THE FABRICATION OF IMAGE DISPLAY SCREENS

Andrew Glovatsky, Seneca Falls, New York; Joseph B. Shinal, Seneca Falls, New York; and Walter W. Slobbe, Seneca Falls, New York, assignors to Sylvania Electric Products Inc., a Corp. of Delaware

Original application Dec. 20, 1965, Ser. No. 514,901, now Pat. No. 3,440,081, dated Apr. 22, 1969. Divided and this application Aug. 7, 1968, Ser. No. 750,944
Int. Cl. B05b *15/02*
U.S. Cl. 118—302 3 Claims

Method and apparatus are disclosed for applying a substantially uniform coating of viscous material to a cathode ray tube face plate in a series of sequential passes each of which encompasses approximately half of the face plate area. The spraying passes are performed with the inner surface of the face plate downwardly oriented and by spraying the

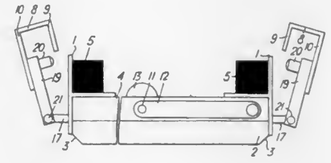


viscous material upwardly thereon. The spraying takes place in an enclosure provided with a saturated atmosphere to retard evaporation of the solvent contained in the viscous material.

3,524,428
FIXTURE MEANS TO SUPPORT PLURAL WORKPIECES IN A COPLANAR RELATIONSHIP

Roger Alexander Buttery, Ferring, England and Thomas Turnbull, Headington, England, assignors to Quickfit & Quartz Limited, Walton, Stone, England, a Corp. of Great Britain

Claims priority, application Great Britain, June 10, 1964, 24,166/64
Continuation of application Ser. No. 459,369, May 27, 1965. This application April 11, 1968, Ser. No. 720,739
Int. Cl. B05c *11/14*
U.S. Cl. 118—503 4 Claims



Apparatus for clamping chromatography plates by their end marginal portions during coating comprising a vertically disposed pair of locating members and a complementary pair of resilient supporting members actuated by ancillary means effecting a progressive relative clamping movement comprising a series of cams coaxially mounted in spaced relation lengthwise of the apparatus simultaneously operable to engage abutments carried transversely of the apparatus and connected to the clamping means whereby the ends of the chromatography plates are progressively clamped between the locating members and the resilient supports.

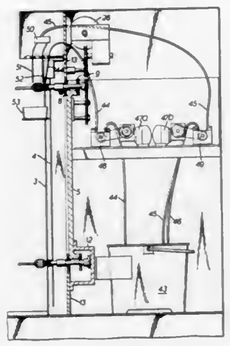
3,524,429
IMPREGNATING MACHINES FOR ELECTRICAL WINDINGS

Gerard Edward Wilding, 48 Wavendene Ave., Thorpe Lea, Egham, Surrey, England

Filed March 25, 1968, Ser. No. 715,890
Int. Cl. B05c *5/00*
U.S. Cl. 118—620 9 Claims

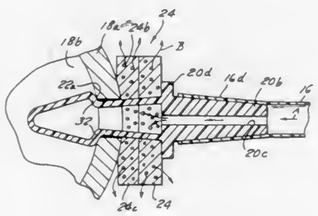
Electrical components having windings to be impregnated with an insulating resin are rotatably carried near the periphery of a vertically mounted circular carrier. The components are carried on spindles driven by sprockets having a common drive chain. The carrier is itself rotationally in-

dexed intermittently to bring the components in position below feed tubes from which resin is ejected onto the windings. At the impregnating point, the components are rotated at a higher speed by a separate chain which takes over from the common drive chain at that point. On ap-



proach to and following the point of impregnation the component windings which are for example small armature windings, are heated by the passage of an electrical current through them. Timing devices control the intermittent motion of the component carrier and pumps for the resin.

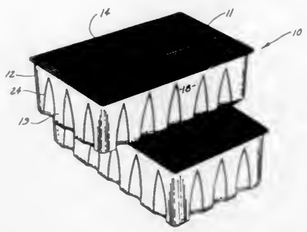
3,524,430
AQUARIUM AERATOR ORNAMENT
Allan H. Willinger, New Rochelle, New York, assignor to Metaframe Corporation, a Corp. of Delaware
Filed Aug. 26, 1968, Ser. No. 755,289
Int. Cl. A01k *63/00*
U.S. Cl. 119—5 **6 Claims**



An aquarium ornament having a mounting element force fit in a mounting opening thereof and an exposed, extending portion connected to an air pump conduit and wherein fibrous material, serving as an airstream diffuser, is mounted on the mounting element over the mounting opening and serves to both hold the mounting element firmly in place and also to release the air supply in the desirable form as a stream of numerous, small bubbles.

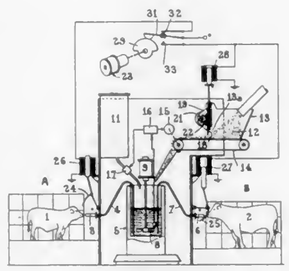
3,524,431
ANIMAL SHIPPING CAGES
Walter Robert Graham, Kalamazoo, Michigan, and William Bradley Reid, Kalamazoo, Michigan, assignors to The Upjohn Company, Kalamazoo, Michigan, a Corp. of Delaware
Filed Feb. 1, 1968, Ser. No. 702,275
Int. Cl. A01k *31/18*
U.S. Cl. 119—19 **5 Claims**

An enclosure structure having plural, superimposed compartments formed from a plurality of substantially identical, thin-walled containers having recessed bottom walls which permit transverse stacking of the containers in positions opposing relative, lateral movement. Each container has a perforate cover sheet secured to the flanged upper edges of the side and end walls of the containers, which are



capable of substantially complete nesting for economical shipment.

3,524,432
FOOD DISPENSER FOR YOUNG ANIMALS
Adolphe Tartar, 139 Rue Jean Jaures, 62 Blendecques, France
Filed Dec. 21, 1967, Ser. No. 692,549
Int. Cl. A01k *9/00*
U.S. Cl. 119—51.11 **10 Claims**

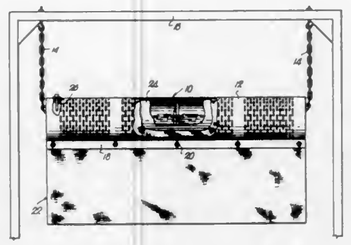


Apparatus for dispensing artificial food for feeding young animals, characterized in that it comprises at least two teats to which access may be had respectively by animals divided into two groups requiring different feeding conditions, a movable shutter associated with each teat for preventing or permitting the access thereto according to the shutter positions and timing means for alternately opening and closing said teat-barring shutters, and a device responsive to said timing means and acting upon other means controlling the output of powdered food at the outlet of said storage hopper in order constantly to adjust the powdered food content of the dispensed mixture as a function of the particular one of said teats which is freely accessible to the animals.

3,524,433
LIQUID APPLICATOR FOR ANIMALS
Darwin L. Sampson, Wichita, Kansas, assignor to Grain Belt Supply Company, Inc., Salina, Kansas, a Corp. of Kansas
Filed March 4, 1968, Ser. No. 709,983
Int. Cl. A01k *29/00*
U.S. Cl. 119—157 **9 Claims**

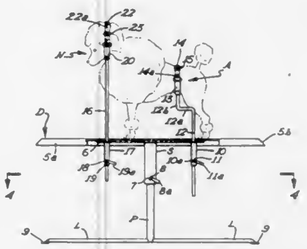
A liquid applicator for animals including an elongated, cylindrical tank surrounded by a layer of fabric and received within an elongated, cylindrical animal rubbing member. The tank is supported in a generally horizontal position for rotation about its longitudinal axis. Apertures, located substantially midway between the ends of the tank, communicate with elongated tubes extending into the liquid in the tank and

having upwardly opening cups at their ends. Rotation of the tank about its longitudinal axis transfers liquid through the



tubes and apertures to the fabric layer for distribution to a depending fabric apron.

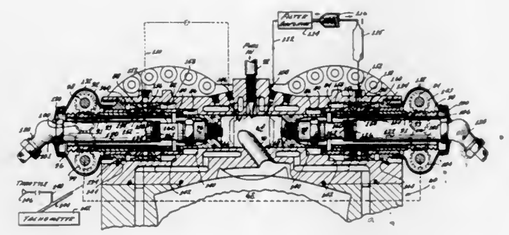
3,524,434
HOLDING DEVICE FOR RESTRAINING SMALL QUADRUPED ANIMALS TO FACILITATE TRIMMING, GROOMING AND OPERATING
Dallas L. Finley, Hayfield, Minnesota
Filed Jan. 5, 1968, Ser. No. 696,076
Int. Cl. A61d *3/00*
U.S. Cl. 119—103 **2 Claims**



A holding device for efficiently restraining smaller quadruped animals such as dogs and cats to facilitate trimming and other operations thereon. Essentially, the device combines with a horizontal support medium of an area to support animals varying in size in normal standing position, an anchored vertically and angularly adjustable abdominal supporting member having preferably a strap or other medium for encircling the torso of an animal and a head-restraining member also anchored to the horizontal support medium and disposed forwardly of the abdominal support member and including an adjustable neck-encircling and restricting element. An important feature of the invention provides for the positioning and complete restraint of the animal through adjustment of the supporting members to the end that the rear feet of the animal cannot be actuated to shift its position. With such restraining, a small quadruped animal may be held to readily permit clipping of its fur or hair, grooming of the animal or the performing of certain surgical operations thereon.

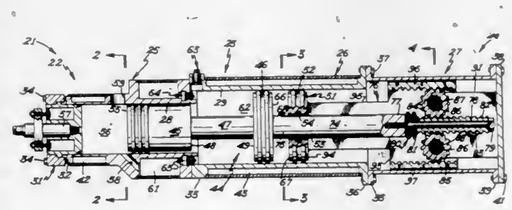
3,524,435
VARIABLE COMPRESSION RATIO INTERNAL COMBUSTION ENGINE
James C. Hambric, Los Angeles, California, assignor to K.M.F. Development Corporation, a Corp. of California
Filed June 20, 1968, Ser. No. 738,557
Int. Cl. F02b *55/14, 75/04*
U.S. Cl. 123—8.07 **7 Claims**

A variable compression rotary combustion engine is disclosed wherein the effective size of the combustion chamber changes in accordance with control criteria, to establish favorable compression ratios appropriate to current operating conditions. The engine includes a pair of synchronized rotors that are driven by combustion to revolve in intersecting annular passages, combustion occurring in somewhat-separated chambers and expanding into the spaces defined between the lobes of the rotors to provide drive power. The combustion chambers are generally cylindrical, having end



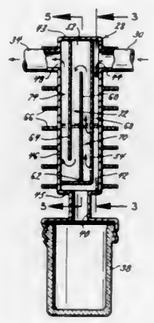
walls which receive spark plugs and which are slidably disposed within the cylindrical chambers to vary the effective size of the combustion chamber and thereby accomplish variation in the compression ratio of the engine. As disclosed, the end walls are positioned in the combustion chambers by a fluid servo drive arrangement whereby adjustment is substantially continuously adapted to current operating conditions.

3,524,436
FREE PISTON ENGINE APPARATUS
Anton Braun, Minneapolis, Minnesota (6421 Warren Ave., Edina, Minnesota)
Application Dec. 17, 1968, Ser. No. 805,063, which is a continuation of application Ser. No. 669,353, Sept. 12, 1967, which is a continuation-in-part of application Ser. No. 619,374, Feb. 28, 1967, now abandoned, which is a continuation-in-part of application Ser. No. 584,710, Oct. 6, 1966, now abandoned Divided and this application June 2, 1969, Ser. No. 829,329
Int. Cl. F02b *71/00;* **F04b** *31/00;* **F16b** *21/44*
U.S. Cl. 123—46 **18 Claims**



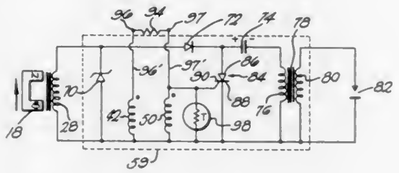
Synchronization apparatus for synchronizing and balancing free piston engines, comprising racks, that are attached to one end of a shaft which has its other end attached to and carried by a piston assembly, each of the racks having teeth engageable with the teeth of a pinion mounted for rotation and fixed within and relative to the engine housing. The teeth of each of the pinions also engage the teeth of another rack attached to and carried by a piston or counter-balancing weight. The racks and pinions are arranged so that when the piston assembly, and thus the shaft, move in one direction in the engine, the other racks and the piston or weight move in the opposite direction in the engine. The specific arrangement of the racks and pinions minimize the frictional losses in the synchronizer.

3,524,437
VAPOR-CONDENSING DEVICE
Morris N. Crandall, 8177 Stratford, St. Louis, Missouri
Filed Aug. 28, 1968, Ser. No. 756,069
Int. Cl. F02f 9/00
U.S. Cl. 123—119 7 Claims



A vapor-condensing device, interposed between the crankcase and an intake of an internal combustion engine, has baffles therein which cause vapors from the crankcase to flow along a cooling surface and then expand; and the resulting condensate is collected in a removable receptacle.

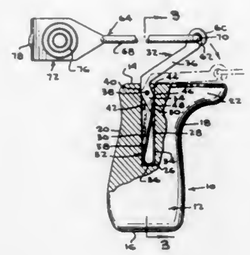
3,524,438
IGNITION CIRCUIT
Douglas G. Janisch, Mequon, Wisconsin, assignor to Tecumseh Products Company, Tecumseh, Michigan a Corp. of Michigan
Filed Nov. 17, 1967, Ser. No. 684,051
Int. Cl. F02p 1/00
U.S. Cl. 123—148 5 Claims



A capacitor discharge ignition and manufacturing process for making the same wherein a silicon controlled rectifier is gated by triggering signals from two substantially identical trigger coils having substantially equal air gaps with a magnet on the rotor of a magneto. The trigger signals are time separated and a selected resistor is connected in series with one of the coils to obtain a proper amplitude relationship between the two signals and thereby provide an automatic timing shift from a retarded ignition timing during cranking of the engine to an advanced ignition timing when the engine is running. The resistor is individually matched to each ignition circuit during production.

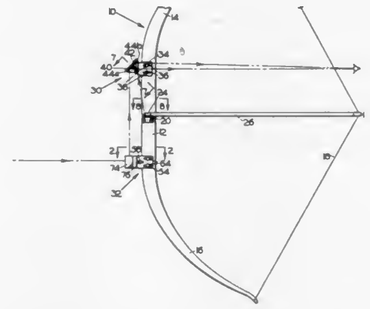
3,524,439
CATAPULT
Cecil H. Dantzler, 129 W. Haig St., Prichard, Alabama
Filed Sept. 3, 1968, Ser. No. 756,741
Int. Cl. F41f 7/00
U.S. Cl. 124—20 6 Claims

A catapult or slingshot has a handle with a chamber formed therein. A propulsion member is movably disposed in the chamber and extends outwardly thereof for connection with elastic strand members, and the propulsion member has an associated spring means within the chamber to effect



movement of the propulsion member in coordination with release of the strand from an extended position.

3,524,440
ARCHERY BOW INCLUDING MIRROR TYPE SIGHTING DEVICE
Walter D. Hill, 10803 SE. Harold St., Portland, Oregon
Filed Jan. 17, 1968, Ser. No. 698,447
Int. Cl. F41b 5/00
U.S. Cl. 124—24 11 Claims



An archer's bow sight comprises an upper mirror, and an upper bracket for mounting the upper mirror on the upper portion of the riser of a longbow. A lower mirror is mounted on a lower bracket attached to the riser, below the upper bracket. The two mirrors are aligned substantially vertically with each other, forwardly of the bow. Cross hairs or other target aligning means are mounted on one of the mirrors. The lower mirror is focused on the target, while the upper mirror is focused on the lower mirror and reflects the target image to the archer's eye. The mirror mounting the cross hairs may be adjusted vertically to compensate for distance, and horizontally to compensate for windage. Corrections further are made for draw and bow torquing.

3,524,441
DETACHABLY MOUNTED ARCHERY BOW STABILIZING DEVICE
Owen E. Jeffery, Grayling, Michigan, assignor to Victor Comptometer Corporation, a Corp. of Illinois
Filed March 25, 1968, Ser. No. 715,827
Int. Cl. F41b 5/00
U.S. Cl. 124—24 7 Claims

An archery bow stabilizer having an isolated shock cushion mounting base providing ready attachment to and

removal from the bow of weighted heads and rods of various masses and lengths, respectively. A resilient, compressible

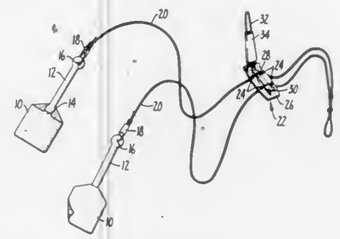


elastomeric bushing in the base provides a captive support for attaching the rod and head to the archery bow.

3,524,442
ARRHYTHMIA DETECTOR AND METHOD
Thomas C. Horth, Burlington, Massachusetts, assignor to Hewlett-Packard Company, Palo Alto, California a Corp. of California
Filed Dec. 1, 1967, Ser. No. 687,379
Int. Cl. A61b 5/04
U.S. Cl. 128—2.06 11 Claims

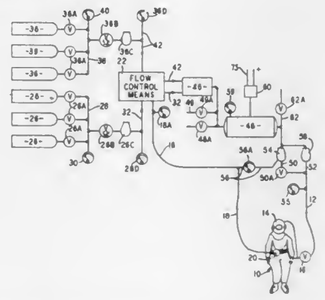
A system operates to threshold detect electrocardiographic (ECG) signals received from a patient to determine the presence of QRS wave portions. The widths of the QRS waves are measured by digital techniques. During a first operating period, a QRS width is stored in memory as a "normal" for the patient, and during a subsequent operating period, the patient's QRS waves are compared with the stored "normal". Additional digital circuitry detects when QRS waves are premature by a predetermined amount. The recurrence of abnormally wide or premature QRS waves causes the activation of alarms and control signals. Rejection circuitry operates to distinguish the QRS waves from T waves which follow wide beats and also from spurious noise signals.

3,524,443
FACIAL SKIN SUPPORTING DEVICE
Helen W. Batlin, 2825 Pierce St., San Francisco, California
Filed Aug. 8, 1967, Ser. No. 659,575
Int. Cl. A61f 5/01
U.S. Cl. 128—76 1 Claim



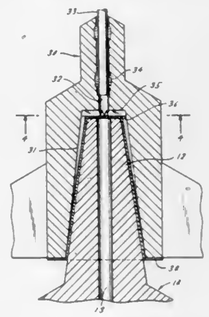
A facial skin uplifting device to be worn over the head and temporarily support facia for improved cosmetic appearance. A nylon line detachably supports replaceable adhesive pads at each end thereof and an anchor member comprising a plate member and pivoted retaining clip is used to hold adjusted portions of the nylon line in selected positions of tension while fastening the device in a user's hair. A resilient soft rubber connector is provided between the ends of the nylon line and each adhesive pad to allow for various facial movements during eating, talking and laughing while maintaining tension on facia.

3,524,444
UNDERWATER GAS SUPPLY SYSTEM AND METHOD OF OPERATION
Paul R. Ellard, Greenlawn, New York and Walter B. Moen, Berkeley Heights, New Jersey, assignors to Air Reduction Company Incorporated, New York, New York a Corp. of New York
Filed March 11, 1966, Ser. No. 535,647
Int. Cl. A62b 7/02
U.S. Cl. 128—142 7 Claims



Apparatus for supplying a breathing atmosphere of mixed gases to a diver comprising a plurality of gas sources each being individually pressure regulated to a pressure above the pressure at the maximum depth of a dive, a pair of parallel gas systems, and a pressure sensing means in close proximity to the diver, each gas system including individual flow control means for adjusting the rates of flow of each of the gases independently of one another; a mixer to which the gases are supplied at the controlled rates of flow, and a surge tank to which the mixed gases are supplied from the mixer, the flow control means of one of said pair of gas systems being adapted to be responsive to the pressure sensing means or manual control; pressure regulation means for regulating the pressure of the mixed gases from one or both surge tanks, respectively, either in response to said pressure sensing means or manual control; a supply line adapted to connect either of said surge tanks to the diver, and valve means for selectively, operatively connecting both of the surge tanks with said diver during manual operation.

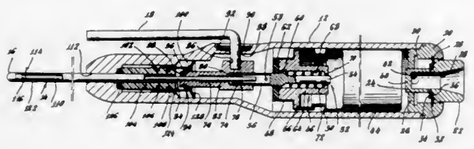
3,524,445
HYPODERMIC SYRINGE
Allan Stewart Frieze, Maplewood, New Jersey, assignor to Becton, Dickinson and Company, Rutherford, New Jersey a Corp. of New Jersey
Filed May 22, 1968, Ser. No. 731,188
Int. Cl. A61m 5/18, 5/14, 5/32
U.S. Cl. 128—218 9 Claims



A hypodermic syringe capable of storing a medicament in the barrel thereof for an extended period of time prior to

use. The syringe includes a hub having a tapered internal bore portion for receiving and frictionally engaging a correspondingly tapered projecting tip on the barrel. A highly elastic and stretchable film is secured across the receiving end of the hub bore to close the tapered bore. When the projecting tip is inserted fully into the tapered bore, the elastic film is stretched to closely surround and seal the projecting tip to seal the medicament in the barrel.

3,524,446
DISPOSABLE CRYOSURGICAL INSTRUMENT
Ralph E. Crump, Trumbull, Connecticut; Frank L. Reynolds, Monroe, Connecticut; and Victor A. Thyberg, Fairfield, Connecticut, assignors to Frigitronics, Inc., Bridgeport, Connecticut a Corp. of Connecticut
Filed May 31, 1968, Ser. No. 733,408
Int. Cl. A61b *17/36*
U.S. Cl. 128—303.1 **11 Claims**

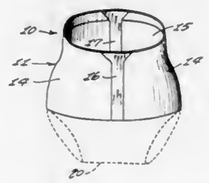


A cryosurgical instrument having a container of liquefied gas sealed therein. The gas is dispensed from the container through a delivery tube to a boiler valve located adjacent a cooling tip to reduce the temperature of the tip. The spent gas is exhausted from the housing through an opening therein. A selectively operable finger actuated lever located at the exterior of the housing operates the boiler valve.

3,524,447
METHOD OF MAKING A RIGID TIPPED POLYVINYL CATHETER
Robert P. Evans, Kenmore, New York; Edward G. Dykstra, East Aurora, New York; and Richard R. Van Geem, Kenmore, New York, assignors to Sterilon Corporation, Buffalo, New York
No Drawing. Filed April 6, 1964, Ser. No. 361,321
Int. Cl. A61m *25/00*; **B29c** *25/00*
U.S. Cl. 128—348 **2 Claims**

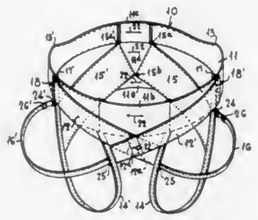
A method of making a rigid tipped catheter by immersing approximately 1½ inches of a length of extruded polyvinyl tubing in a mixed solution of toluene and acetone, the mixture containing 30% by volume of acetone. The tip portion is soaked for 30 minutes, air dried and allowed to age for about one week, whereupon the tip portion will display sufficient rigidity to permit insertion thereof into a body passageway in a normal fashion.

3,524,448
WOMAN'S BUDDY
Oresto J. Parco, 518 Edmond St., Pittsburgh, Pennsylvania
Filed June 27, 1968, Ser. No. 740,580
Int. Cl. A41c *1/00*
U.S. Cl. 128—522 **4 Claims**



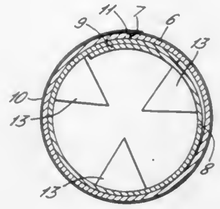
A woman's undergarment designed particularly for women who by nature are slim and are not generously endowed at certain portions of their anatomy, the undergarment comprising a one piece member including a plurality of durable semi-hard or rigid plastic panels having soft inner linings, the panels being separated by Y-shaped elastic center pieces.

3,524,449
ABDOMINAL MUSCULAR SUPPORTING GIRDLE
Kathleen S. Peters, 5005 23rd St. S., Arlington, Virginia
Filed July 11, 1968, Ser. No. 744,044
Int. Cl. A41c *1/00*
U.S. Cl. 128—524 **9 Claims**



A self-contained girdle for providing substantially parallel support for the external oblique, the internal oblique, and the transversalis muscles of the human body. Specifically, the girdle is characterized by a belt adapted to fit around and upon the wearer's hips, in combination with biased bands which follow the above-named muscles to form a snug cradle which supports the abdomen. The upward pull by the bands upon the abdomen at the fore portion of the belt is counteracted by a sidewise downward pull by other bands upon the gluteus maximus muscles at the aft portion of the belt.

3,524,450
SMOKERS' ARTICLES
Desmond Walter Molins, London, England, and Tom Rowlands, London, England, assignors to Molins Machine Company Limited, London, England, a Corp. of Great Britain
Filed Jan. 30, 1968, Ser. No. 701,648
Claims priority, application Great Britain, Feb. 8, 1967, 5953/67
Int. Cl. A24d *1/04*; **A24f** *7/04*
U.S. Cl. 131—10 **8 Claims**

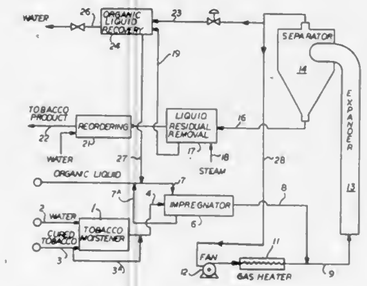


A tubular mouthpiece to be joined to a cigar, cigarette or the like, consists of a composite tubular member comprising an outer and an inner tube of stiff paper, the outer tube having a butt joint while the edges of the inner tube do not abut, e.g., they may overlap. The composite tubular member is contained in a thin paper wrapper. The inner tube may have bent-up lugs projecting inwardly, and contains a generally cylindrical filter plug therewithin. The filter plug has a substantially shorter axial length than that of said composite tubular member.

3,524,451
PROCESS FOR INCREASING THE FILLING CAPACITY OF TOBACCO
James Donald Fredrickson, Winston-Salem, North Carolina, assignor to R. J. Reynolds Tobacco Company, Winston-Salem, North Carolina a Corp. of New Jersey
No Drawing. Filed April 10, 1968, Ser. No. 720,406
Int. Cl. A24b *3/18*
U.S. Cl. 131—140 **8 Claims**

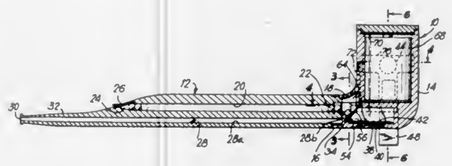
Tobacco is impregnated with a volatile organic liquid and then heated by rapidly passing a stream of hot gas in contact therewith to volatilize the liquid and expand the tobacco. The hot tobacco contacting gas is at a temperature at least 30° F. above the boiling point of the said liquid.

3,524,452
PROCESS FOR INCREASING THE FILLING CAPACITY OF TOBACCO
Glenn Philip Moser, Winston-Salem, North Carolina and Grant Mathews Stewart, Winston-Salem, North Carolina, assignors to R.J. Reynolds Tobacco Company, Winston-Salem, North Carolina a Corp. of New Jersey
Filed April 10, 1968, Ser. No. 720,068
Int. Cl. A24b *3/18*
U.S. Cl. 131—140 **10 Claims**



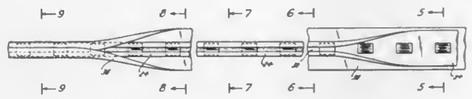
The filling capacity of stream of tobacco is increased by adjusting the moisture content of tobacco, wetting the tobacco with an inert organic liquid and rapidly vaporizing the liquid from the tobacco by passing the stream of tobacco into contact with a rapidly moving stream of gas heated to a temperature substantially above the boiling point of the organic liquid. The tobacco expansion occurs in the disclosed technique in a period of less than about 4 seconds.

3,524,453
PIPE CONSTRUCTION
Josef Halaby, 1402 New York Ave., Brooklyn, New York
Filed Aug. 6, 1968, Ser. No. 750,517
Int. Cl. A24d *1/14*; **A24f** *1/26*
U.S. Cl. 131—174 **5 Claims**



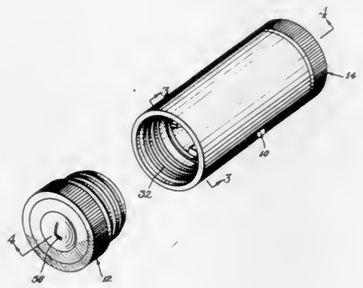
A pipe construction is provided for the sequential smoking of tobacco pellets which are stored in a channel in a pipe. A control is provided for releasing the pellets one by one into a receptacle whereat a filament is provided for igniting the pellets. The filament is operated by a battery housed in the pipe body and provided with prongs for recharging. Adjacent the receptacle is provided a chamber with a displaceable closure for receiving ashes from the receptacle.

3,524,454
MULTIPLE FILTER ASSEMBLY
John H. Sexstone, 3413 Janell Road, Louisville, Kentucky
Original application Jan. 12, 1968, Ser. No. 697,339. Divided and this application May 29, 1969, Ser. No. 844,232
Int. Cl. A24f *7/04*; **A24d** *1/04*; **A24c** *5/50*
U.S. Cl. 131—265 **6 Claims**



A composite cigarette mouthpiece rod which is divisible into mouthpieces having at least three sections. Components of one character are fed in endwise and spaced relationship onto a moving conveyor. Components of the same or second character are similarly fed and placed between the first components. The components are transferred onto a first wrapper moving on another conveyor. This wrapper is of a width substantially less than the circumference of the components and extends around the bottom of the components and over a major portion of the circumferentially extending periphery of the components. A top opening is defined between the marginal side edges of the first wrapper and is in communication with the space of predetermined size between the components. The partially wrapped components pass through a particulate material dispensing station at which the spaces between components are filled with this material through the top opening. The partially wrapped components and interposed particulate sections pass onto a second wrapper of increased width which is folded around the rod including the first wrapper and top opening. The marginal side edges of this wrapper are overlapped and suitably sealed together. The continuous rod is then subdivided into the desired length of rods which are then introduced into conventional filter tip attaching machinery for forming cigarettes with a mouthpiece having two spaced components of certain character and interposed particulate section.

3,524,455
CONTACT LENS STORAGE CASE
Paul A. Hoogesteger, Penfield, New York, and Charles R. McDougal, Irondequoit, New York, assignors to Bausch & Lomb Incorporated, Rochester, New York a Corp. of New York
Continuation of application Ser. No. 679,909, Nov. 1, 1967. This application Sept. 8, 1969, Ser. No. 856,913
Int. Cl. B08b *11/02*
U.S. Cl. 134—143 **1 Claim**



An improved contact lens storage case of the type wherein there is provided, lens supporting structure for main-

taining the lenses in a generally sphero-convex shape and in contact with a hydrating fluid.

3,524,456
WALKING AID
Leroy Dixon, 47 Mc Keever Place, Brooklyn, New York
Filed Feb. 19, 1969, Ser. No. 800,570
Int. Cl. A45b *9/04*
U.S. Cl. 135—45 5 Claims

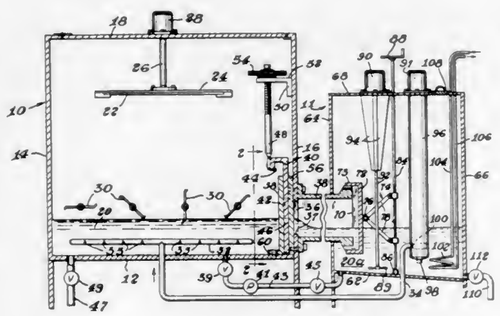


A walking aid in the form of a single hand-held support member has a horizontal handle from the ends of which two diverging shafts extend downward to front and rear inverted transverse T-shaped feet having inner and outer ends. The shafts have a single brace extending between their lower portions and the shafts bend laterally inward so that the handle is disposed above the inner ends of the feet.

ERRATUM

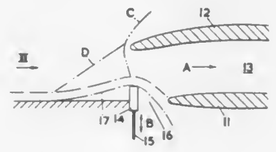
For Class 137—1 see:
Patent No. 3,524,366

3,524,457
ETCHING APPARATUS
Jahannes F. Laimböck, Rotterdam, Netherlands, assignor to The Dow Chemical Company, Midland, Michigan, a Corp. of Delaware
Filed Nov. 15, 1967, Ser. No. 683,409
Int. Cl. F16k *1/16*; B41n *3/02*
U.S. Cl. 137—2 2 Claims



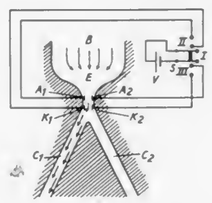
This invention relates to etching machines of the type particularly adapted to powderless etching of metal plates, such as printing plates and the like. A more particular aspect of this invention concerns an improved apparatus for controlling the level of etching fluid in an etching machine through use of an adjustable weir, or equivalent means, in the main etching machine, which operates in conjunction with an auxiliary tank containing an additional supply of etching fluid.

3,524,458
INTAKES FOR FLUID FLOW
Eustace Laurence Goldsmith, Harrold, England, assignor to Minister of Technology in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England
Filed Feb. 14, 1968, Ser. No. 705,370
Claims priority, application Great Britain, Feb. 14, 1967, 6,916/67
Int. Cl. F02b *27/00*; F02c *7/04*
U.S. Cl. 137—15.1 12 Claims



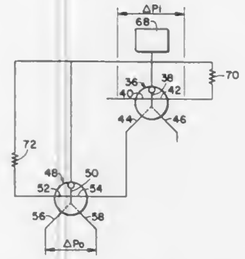
The invention relates to fluid flow intake ducts particularly for aircraft engines for aircraft required to operate throughout a speed range embracing both subsonic and supersonic speeds and according to the invention an intake duct has a bluff forward facing wall or step movable transversely across the duct to deflect the boundary layer from an aerodynamic surface forward of said wall, said surface comprising for example part of the intake or the surface of a streamlined center body extending forward from the duct, and having a bleed aperture extending through the wall of the duct downstream of said movable wall through which some at least of the deflected boundary layer which passes over said movable wall flows away from the free mass of fluid flowing through the duct downstream of said wall.

3,524,459
ELECTROLYTIC FLUID AMPLIFIER
Karl Gunnar Brunberg, Segeltorp, Sweden, and Göran Anders Henrik Hemdal, Tyreso, Sweden, assignors to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a Corp. of Sweden
Filed Jan. 31, 1968, Ser. No. 702,009
Claims priority, application Sweden, March 14, 1967, 3,479/67
Int. Cl. F15c *1/04*
U.S. Cl. 137—81.5 4 Claims



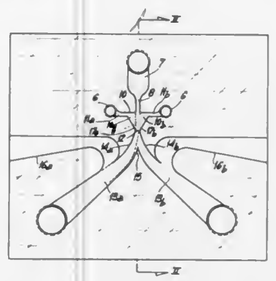
An electrolytic liquid amplifier has an inlet channel section, a constricted channel section and a bifurcated outlet channel section connected serially for passing an electrolyte. Electrodes in the constricted channel section when energized cause the generation of a gas which controls the direction of flow of the electrolyte to one of the branches of the bifurcated channel section.

3,524,460
SATURABLE PROPORTIONAL FLUID AMPLIFIER DEVICE
Thomas W. Bermel, Corning, New York, assignor to Corning Glass Works, Corning, New York, a Corp. of New York
Filed May 31, 1967, Ser. No. 642,417
Int. Cl. F15c *1/14*
U.S. Cl. 137—81.5 7 Claims



A proportional fluid amplifier device wherein an increase in the differential input pressure across the control nozzles thereof, beyond the working range, does not cause the differential output pressure to reverse and decrease.

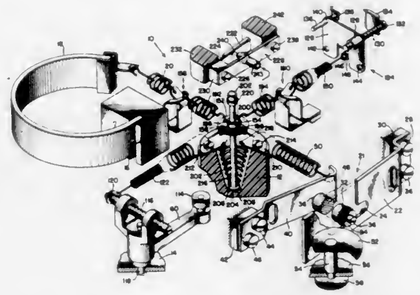
3,524,461
FLUID LOGIC ELEMENT
Cyrille F. Pavlin, Jouy-en-Josas, Yvelines, France; Pierre J. A. Facon, La Verriere, Yvelines, France; and Gérard D. G. Breant, Versailles, Yvelines, France, assignors to Societe Bertin et Cie, Paris, France a French body corporate
Filed April 11, 1968, Ser. No. 720,542
Claims priority, application France, April 21, 1967, 103,679; Feb. 28, 1968, 141,616
Int. Cl. F15c *1/08*
U.S. Cl. 137—81.5 23 Claims



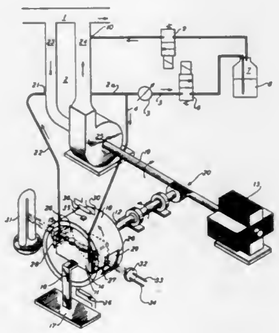
This invention comprehends a fluid logic element operated by pressure fluids and serving to direct a fluid stream in various directions in dependence upon appropriate actuation, the fluid logic element comprising a nozzle of a fluid trigger extending into a reflection chamber for delivering a fluid stream into said chamber so that said stream divides said chamber into two compartments, means defining an exit orifice from said chamber, of substantially the same cross-section as said stream, between two convergent walls of said chamber, and means to produce pressure differences as between the two compartments so as to deflect said stream, said exit orifice being followed by divergent walls for guiding the deflected stream towards appropriate exit passages.

3,524,462
CONTROL APPARATUS
William W. Bassett, 5 Rue d'Arles, Amiens, France
Filed Mar. 11, 1968, Ser. No. 712,276
Int. Cl. G05b *11/50*
U.S. Cl. 137—86 9 Claims

An apparatus to provide direct and reverse proportional control as well as direct and reverse differential gap with or without reset and rate action by employing a hollow block shaped casing to accommodate the insertion of different interchangeable process variable, set point, and negative feedback modules through the sides of the casing that have springs on their inner ends for eliminating any undesired difference in the gradient of these modules and for introducing forces in different angular directions to the free end of a rockable post member located at the center of the block and wherein a flapper that is spring biased for moving contact against the post member and a nozzle supplying a regulatable fluid pressure against the flapper is mounted for rotatable movement with a proportional band adjusting disc to different individual positions that will provide any selected one of the aforementioned four types of control.



3,524,463
AUTOMATIC VAPORIZER CONTROLLER
Fred A. Rose, Madison, Wisconsin, and George L. Congdon, Fort Atkinson, Wisconsin, assignors to Air Reduction Company, Incorporated, New York, New York, a Corp. of New York
Filed Dec. 6, 1967, Ser. No. 688,480
Int. Cl. A61m *17/00*, *15/00*; G01n *21/00*
U.S. Cl. 137—93 11 Claims



An optical-electrical-mechanical apparatus comprising a revolving drum mounted on a drive shaft, said drum having two apertures at 180 degrees, one of said apertures being vacant and the other containing a fluorescent screen with a light conversion peak at a predetermined wave length. A sensor cell is fixed within the drum and has quartz windows at each end. An emitter lamp of the predetermined wave length is positioned on one side of the drum, and a photocell is positioned diametrically opposite to the lamp on the other side of the drum with the sensor cell quartz windows along the diameter. A gas sample is continuously introduced to the cell as a parallel branch to the main gas circuit. A meter reading is obtained from the photocell through a comparison circuit derived from the alternation of drum apertures to a position

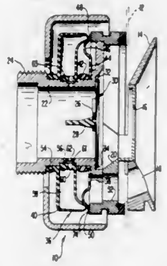
adjacent the lamp. The meter reading not only indicates concentration but also leads to a meter relay which signals a vapor input circuit if the concentration reads below a variable predetermined level. Alarms are provided to notify an attendant or stop the functioning under certain specific conditions.

3,524,464

PRESSURE DEMAND EXHALATION VALVE

Galen M. Glidden, South Haven, Michigan, assignor to "Automatic" Sprinkler Corporation of America, Cleveland, Ohio

Filed March 22, 1968, Ser. No. 715,270
Int. Cl. A62b *9/02*; F16k *15/14*
U.S. Cl. 137—102 6 Claims



A pneumatic tire element cooperates with a flapper valve disk by engaging the disk along an annular line of contact displaced inwardly of but close to the marginal edge of the disk which engages the valve seat. The marginal edge of the disk thus is positively located with respect to the valve seat but is free to flex out of contact with it.

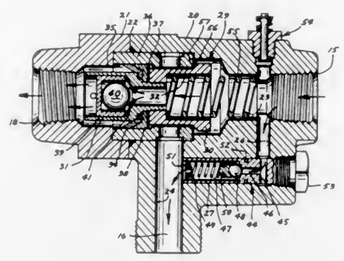
3,524,465

UNLOADER VALVE ASSEMBLY

Harry J. Sadler, St. Paul, Minnesota, assignor to Hypro, Inc., St. Paul, Minnesota, a Corp. of Ohio

Filed Sept. 3, 1968, Ser. No. 757,066
Int. Cl. F16k *17/04*
U.S. Cl. 137—115 8 Claims

A combined unloader and pressure relief valve having an inlet, a normal discharge outlet, and a bypass outlet, the unloader valve portion comprising a valve plunger with a central bore providing communication between said inlet and said normal discharge outlet, and a check valve means disposed within said bore to provide fluid isolation between said inlet and said normal discharge outlet upon substantial interruption of flow with its attendant increase in pressure in the discharge. A radial flange is provided on said valve plunger in communication with the discharge outlet with a surface area sufficient to apply a force to overcome a resilient bias and move the valve plunger axially to a second stable position and thereby providing fluid communication between the inlet and the bypass outlet. A pressure relief valve is interposed in common communication with the inlet and between the inlet and the bypass outlet to provide fluid



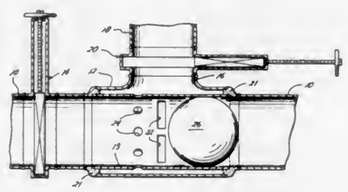
flow from the inlet to the bypass whenever a predetermined pressure is exceeded in said inlet.

3,524,466

FLOW T FOR PIPELINE PIGS

Davis A. Van Scoy, Houston, Texas, assignor to Helmerich & Payne, Inc., Houston, Texas, a Corp. of Delaware

Filed Dec. 26, 1967, Ser. No. 693,209
Int. Cl. B08b *9/04*
U.S. Cl. 137—268 11 Claims



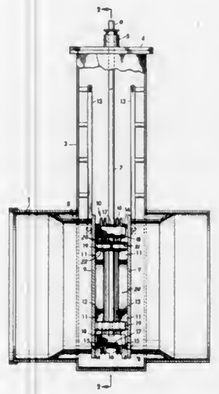
A T for installation in a main pipeline to connect a side pipeline for alternate delivery of fluid therethrough, wherein both the main pipeline and the side pipeline have valves for operation to determine direction of flow, the T containing a tubular element connecting the inlet and outlet portions of the main pipeline and slotted for passage of fluid from the main pipeline to the side pipeline without undue flow restriction, and further containing holes spaced downstream from the slots to allow exhausting of liquid trapped between a pig and a closed valve in the main pipeline, said holes having a maximum size determined by the maximum bypass flow allowable to maintain adequate pressure drop to cause the pipeline pig to continue moving through the line when the main pipeline valve is closed; and alternatively, check valve means are provided to prevent bypass flow through the holes.

3,524,467

FLUID EXPANDED DISK VALVE

Arthur C. Worley, Mendham Township, Morris County, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Oct. 13, 1967, Ser. No. 675,083
Int. Cl. F16k *49/00, 25/00*
U.S. Cl. 137—340 2 Claims



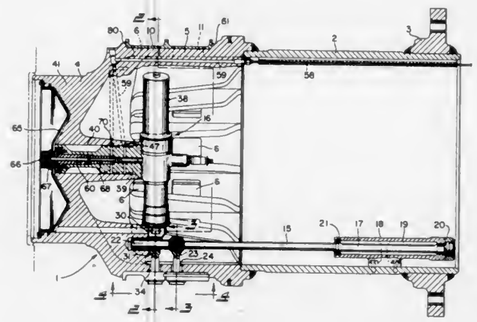
A valve assembly for use in a pipeline comprises a pair of spaced and expandably connected disks adapted to be expanded by fluid means against seats arranged around the inside periphery of the pipe.

3,524,468

SAFETY VENTILATION VALVE

Erwin H. Hartel, Brunswick, Ohio, assignor to The Cleveland Pneumatic Tool Company, Cleveland, Ohio, a corporation of Ohio

Filed Sept. 20, 1968, Ser. No. 761,104
Int. Cl. F16k *31/12*
U.S. Cl. 137—494 11 Claims



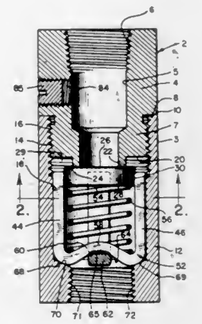
A safety ventilation valve in which the main valving element is a porting ring rotatable about a stationary valve housing, and a torsion bar supplies the actuating force for moving the porting ring from open to closed position.

3,524,469

CHECK VALVE

Howard S. Jebe, 8759 S. 81st Court, Oak Lawn, Ill. 60458

Filed Jan. 25, 1968, Ser. No. 700,452
Int. Cl. F16k *15/02*
U.S. Cl. 137—543.19 3 Claims



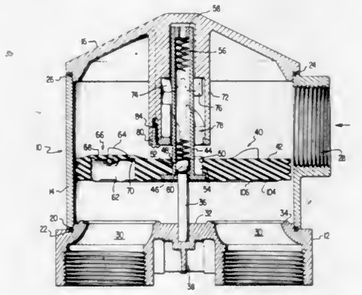
A check valve having a guiding cage in intimate contact with the valve body for dissipating heat and dividing the air flow to provide substantially equal thermal balance about the entire valve body.

3,524,470

SEQUENCING VALVE

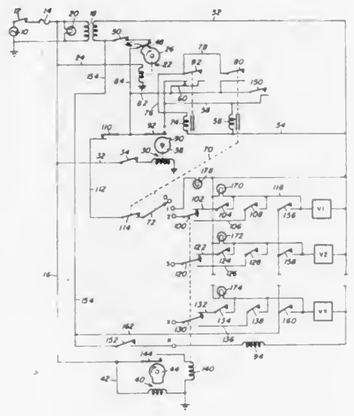
Carl L. C. Kah, Jr., Apt. 138, Garden Villas Apt., Plant Road, and Roger D. Slagel, 294 Balsam St., both of Palm Beach Gardens, Fla.

Continuation-in-part of application Ser. No. 562,653, July 5, 1966. This application Nov. 29, 1967, Ser. No. 686,664
Int. Cl. F16k *11/00, 31/12*
U.S. Cl. 137—624.18 10 Claims



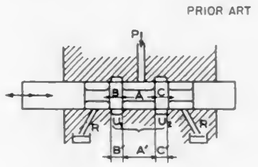
The disclosure is directed to a valve which distributes line pressure from a single inlet flow line, sequentially, through a plurality of outlet flow lines as a function of pulsating line pressure. The valve includes a housing having a valving member positioned between the inlet line and the outlet lines which undergoes reciprocable and step-by-step rotatable movement in response to changes in input line pressure. The valving member has a single opening therein which is sequentially aligned with a single one of the outlet lines and provides a seal for the remaining outlet lines. The opening in the valving member is provided with a pressure responsive valve, which may be a flap valve, that functions to increase the sensitivity of the valving member to reduced flow rates.

3,524,471
PROGRAMMED CENTRAL CONTROL GREENHOUSE IRRIGATION SYSTEM
Henry W. Bresser, 211 S. 12th St., Muskogee, Okla. 74401
Filed Apr. 24, 1968, Ser. No. 723,809
Int. Cl. G05d *7/06*
U.S. Cl. 137—624.12 **12 Claims**



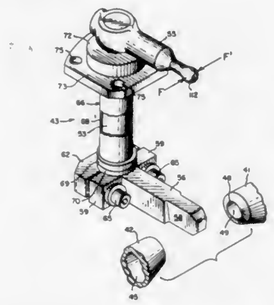
An automatic watering system for greenhouses utilizing a plurality of solenoid valve watering circuits is provided. Stepping switch means are utilized to advance the system from one watering circuit to the next in accordance with a predetermined timing program. Two or more watering programs may be set into the system, with the system following one program during a first cycle of operation, and automatically shifting to another program in a subsequent cycle. A pulsing source steps the system from one watering circuit to the next thus controlling the duration of energization of each circuit within each preset program, variations in the pulsing intervals and the plurality of watering programs providing a wide variety of options which may be chosen to meet the conditions required by the particular crop being grown.

3,524,472
SLIDE VALVE
Jacques Faisandier, 32 Bd Felix Faure 92, Chatillon-sous-Bagneux, France
Filed Jan. 8, 1968, Ser. No. 696,259
Claims priority, application France, Jan. 13, 1967, 90,991
Int. Cl. F16k *11/06*
U.S. Cl. 137—625.21 **4 Claims**



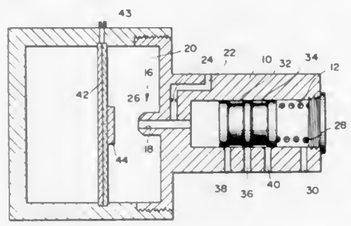
A slide valve having a rotary flat slider, the axle of rotation of which is mounted in an eccentric. The preferred embodiment includes a slider having a peripheral portion connected to the axial portion by a plurality of arms.

3,524,473
FLOW CONTROL VALVE HAVING CONSTANT OUTLET ORIFICE AREA
John F. Grundmann, Redondo Beach, and James W. Hager, San Marino, Calif., assignors to Moog Inc., East Aurora, N.Y., a corporation of New York
Filed Jan. 11, 1968, Ser. No. 697,191
Int. Cl. F16k *11/00*
U.S. Cl. 137—625.44 **11 Claims**



A valve which controls the flow of fluid through a pair of outlets, characterized by the features of thermally and otherwise isolating a control section from a fluid section having a constant total outlet orifice area at all times, thereby rendering the valve especially suitable for handling unregulated hot gas from a solid propellant gas generator in the flight attitude control of aero-space vehicles and the like.

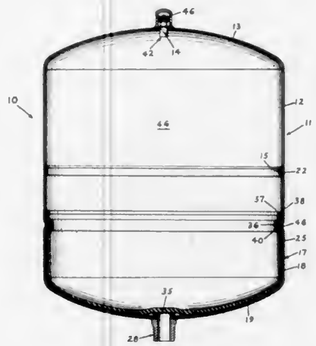
3,524,474
SERVO-VALVE WITH CERAMIC FORCE MOTOR
Joseph F. McCormick, Hingham, Mass., assignor to Delta Hydraulics Company, Braintree, Mass., a corporation of Massachusetts
Filed Oct. 12, 1967, Ser. No. 674,975
Int. Cl. F16k *11/02, 11/24*
U.S. Cl. 137—625.61 **4 Claims**



A servo-valve having a ceramic bimorph mounted about its periphery and serving as a force motor to control a spool valve and extend the linear range of the device. An hydraulic transformer in the form of ratioed bellows may convert the very small displacement of the bimorph to a larger displacement at the spool valve either directly or indirectly through a flapper valve assembly.

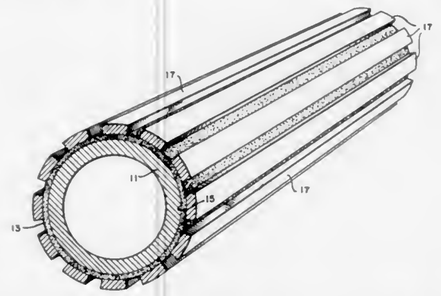
3,524,475
EXPANSION TANK
Chester H. Kirk, Jr., Warwick, R.I., assignor to American Tube and Controls Incorporated, West Warwick, R.I., a corporation of Rhode Island
Filed Jan. 10, 1968, Ser. No. 696,853
Int. Cl. F16l *55/04*
U.S. Cl. 138—30 **11 Claims**

An expansion tank the interior of which is divided by a flexible diaphragm into two sections, one of the sections adapted to be precharged by gas under pressure and the other section adapted to receive a liquid, a liner covering the interior surfaces of the portion of the tank



defining the liquid-containing section, so that the liquid is contained between the diaphragm and the liner.

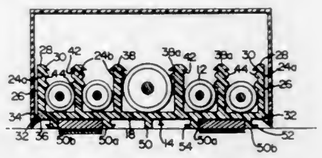
3,524,476
PIPE WALL SHEAR DAMPING TREATMENT
Edward V. Thomas, Severna Park, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 28, 1967, Ser. No. 671,501
Int. Cl. F16l *55/02, 55/04*
U.S. Cl. 138—103 **4 Claims**



A hollow part such as metal pipe carrying high pressure fluid is surrounded by an adhesive viscoelastic cylinder of high dynamic shear upon which are laid spatially separated staves of metal. The staves act as shear strain inducers on the viscoelastic material converting the pipe wall vibration to heat and damping the modal motions of the pipe.

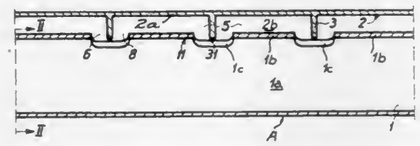
3,524,477
PLASTIC PNEUMATIC TRANSMISSION DUCT INSTALLATION
Lyall O. Steger, Jr., Richmond, Va., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Nov. 20, 1968, Ser. No. 777,355
Int. Cl. F16l *3/00*
U.S. Cl. 138—106 **14 Claims**

A plastic duct installation for pneumatic control systems involving polyethylene tubing in lengthy lines supportingly attached at spaced points in varying geometrical layouts on a supporting surface by relatively short plastic brackets, each having lengthwise separate channels in which the lines of tubing are laterally snap-fitted and restrained from accidental lateral dislodgement by beadings on the confronting faces of the channel walls while, during placement, being longitudinally slidable therein, and relatively long sections of U-shaped plastic covers encasingly overlying the entire extent of the tubing and spaced



brackets and interlockingly snap anchored onto the brackets which have longitudinally ribbed base faces fixedly superimposed by adhesive or penetrating fasteners onto the supporting surface.

3,524,478
PIPE LINE CONSTRUCTION FOR PNEUMATIC AND HYDRAULIC CONVEYANCE OF SOLID MATERIAL
Hermann Rapp, Uzwil, and Walter Allenspach, Niederuzwil, Switzerland, assignors to Gebruder Buhler AG, Uzwil, Switzerland, a company of Switzerland
Filed June 15, 1967, Ser. No. 646,401
Claims priority, application Switzerland, June 16, 1966, 8,739/66
Int. Cl. F16l *9/18*
U.S. Cl. 138—111 **25 Claims**

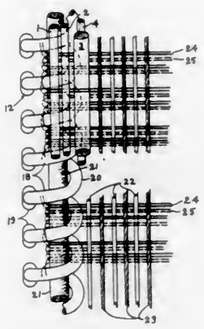


Pipe sections for use in constructing pipe lines for conveying solid particles of material either pneumatically or hydraulically and formed by a main conduit and a branch conduit disposed in parallel relationship and having openings therebetween. A web section is disposed within the branch conduit at the opening between the conduits for directing the flow of material. The conduits can be formed of two separate closed passageways, of a closed passageway forming the main conduit and an inverted trough-like shaped wall section secured to the closed tubular passageway member forming the branch section, and of a single tubular member having a divider plate separating it into the two conduits. Depending on the use to which the conduits are employed and the structure forming the two passageways, the members may be secured together either by an integral connection or by mechanical means.

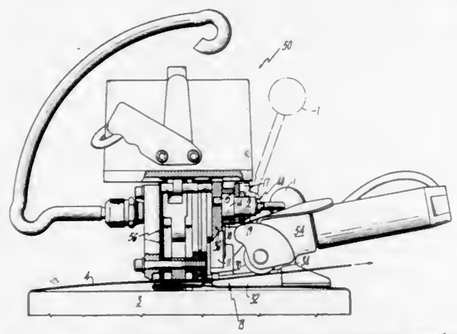
3,524,479
WOVEN ZIPPER STRINGER AND METHOD OF MAKING THE SAME
John Emerson Burbank, Middlebury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed July 19, 1968, Ser. No. 746,081
Int. Cl. A44b *19/12*
U.S. Cl. 139—384 **5 Claims**

By means of a new method of making an integrally woven zipper stringer, a new and improved product results, in which a slider track structure is made by two separate weft systems, one of which is interlaced with covering warps above a fastener element strip, and the

other with lower covering warps. Each weft system passes around the connecting portions of the strip and then directing into a flat web or tape. Such "connecting portions" may include a cord inside a filamentary coil.



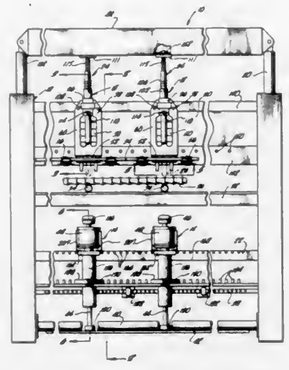
3,524,480
STRAPPING TOOLS
Benjamin Dunn, Newington, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Apr. 8, 1968, Ser. No. 719,321
Int. Cl. B21f *9/00*
U.S. Cl. 140—93.4 **9 Claims**



A powered strapping tool includes a stationary tensioning unit and a strap sealing and shearing mechanism cam driven by a single control handle between a retracted and a sealing position. The single handle also controls operation of a valve regulating fluid flow to the tensioning unit so that the unit is started at the same time the handle operatively moves the sealing and shearing apparatus into its sealing position.

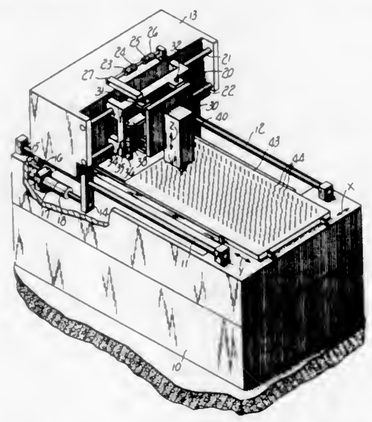
3,524,481
WIRE TYING APPARATUS
Richard G. Laucher and Kirkwood M. Lee, Ogden, Utah, assignors to Nicholas E. Griffin, Pasadena, Calif.
Filed Mar. 4, 1968, Ser. No. 710,070
Int. Cl. B21f *27/08*
U.S. Cl. 140—93.6 **31 Claims**

A plurality of side-by-side wire tying units operate to simultaneously tie a transverse reinforcing bar to a plurality of longitudinal reinforcing bars. Each unit includes a magazine, an ejector assembly and a twister head assembly. The magazine stores a plurality of generally U-shaped wire ties and feeds these ties into the ejector assembly. The ejector assembly includes a magnetic chuck which is capable of rotation in a housing between a first and second position. The magnetic chuck positions individual wire ties such that they will be driven over crossed reinforcing bars at about a 45° angle with respect to their intersecting axes. The rotational facility of the chuck allows alternate 45° positioning of wire ties with successive tyings of transverse to longitudinal bars. An individual wire tie is driven over the crossed reinforcing bars by an ejector shaft and held in position at its crown against the uppermost reinforcing bar. The twister head assembly includes a sleeve with a cavity and an axially disposed and displaceable head. The sleeve accepts the legs of a positioned wire tie with the head out of the cavity. The legs



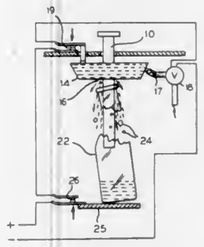
of the wire tie are firmly clamped between the walls of the cavity and the head by the head drawing inwardly of the cavity. While being clamped, a tension force is applied on the legs to deform the wire tie into intimate contact with the reinforcing bars which it straddles. With the legs so clamped and the tension maintained on the wire tie, the head and sleeve rotate to twist a portion of the legs together into a tight spiral and to sever the legs by overtwist at about the midpoint of the spiral. The twisting stretches the wire into a tight loop around the reinforcing bar joint.

3,524,482
WIRE UNWRAPPING APPARATUS
Hoye D. Church and Edwyn H. Petree, Burlington, N.C., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed June 28, 1968, Ser. No. 740,945
Int. Cl. B21f *45/00*
U.S. Cl. 140—149 **18 Claims**



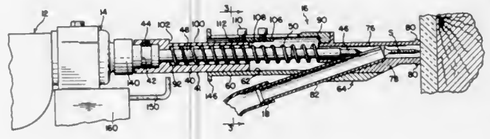
An automatic wire unwrapping apparatus includes an unwrapping head mounted on an X, Y, Z coordinate indexing mechanism. The indexing mechanism is numerically controlled to sequentially unwrap the ends of wires wrapped on terminals. The unwrapping head includes facilities for rotating an unwrapping tool in alternate directions to unwrap wires which may be wound in alternate directions. There is also included facilities for sensing when the wrapped wire has been loosened to terminate the unwrapping of the wire. Additional facilities sense an obstruction in the path of the unwrapping tool.

3,524,483
FILLING SPOUT FLUSHING SYSTEM
Gordon Smith, 2804 N. 44th St., Milwaukee, Wis. 53210
Filed Dec. 9, 1968, Ser. No. 782,341
Int. Cl. B65b *3/04*
U.S. Cl. 141—90 **6 Claims**



A system for automatically flushing bottle filling spouts to clear them of broken glass when a bottle breaks during the filling operation. A solenoid valve controls the water flow. The solenoid is actuated when a bottle breaks.

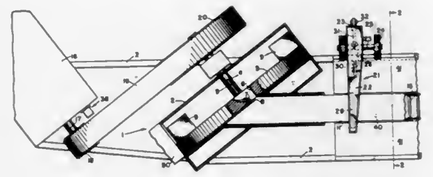
3,524,484
ADJUSTABLE NOSEPIECE FOR POWER SCREWDRIVER
Richard George Miller, Elgin, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed May 1, 1968, Ser. No. 725,770
Int. Cl. B25b *23/10*
U.S. Cl. 144—32 **6 Claims**



This invention relates to a nosepiece for a portable power screwdriver and an external adjustment means for controlling the position of the driver bit within the nosepiece to thereby adjustably fix the depth to which a screw will be driven into a workpiece by said bit.

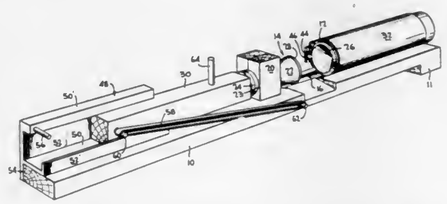
3,524,485
LOG CHIPPING APPARATUS
Leward N. Smith, Remus, Mich., assignor to Morbark Industries, Inc., Winn, Mich., a corporation of Michigan
Filed Aug. 5, 1968, Ser. No. 750,199
Int. Cl. B27c *1/12;* **B02c** *18/24*
U.S. Cl. 144—176 **15 Claims**

Log chipping apparatus comprising a rotatable chipping disk and a feed conveyor for feeding a log lengthwise into engagement with the chipper and including a speed sensing device operable to sense changes in the speed of rotation of the chipper. The speed sensing device is coupled to the feeding conveyor and includes means to enable and disable operation of the latter in accordance



with changes in the speed of movement of the chipper. A stop member is coupled to the sensing device for movement into and out of holding engagement with a log in response to changes in speed of the chipper.

3,524,486
NUTCRACKER
Henry H. Turner, 2702 Techwood Drive, Columbus, Ga. 31906
Filed Dec. 9, 1968, Ser. No. 782,293
Int. Cl. A23n *5/02;* **A47j** *43/26*
U.S. Cl. 146—15 **11 Claims**

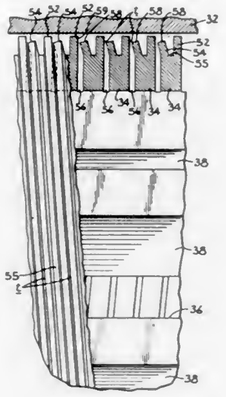


A nutcracker comprising anvil and impact member, both guided for rectilinear movement on a suitable base in alignment with each other so that a nut disposed between them may be cracked by sudden impact imparted to the impact member by means of a spring projected hammer. The impact member has a restricted operative stroke to avoid crushing of the nut meat, and the anvil member is retractable away from the impact member to permit positioning and removal of the nut. A shield, telescopically disposed on the anvil member, is movable toward the impact member to largely enclose the nut during the cracking operation and is connected to the anvil member by tensional means to move the latter toward the impact member, whereby to grip the nut between the two members, and to effect a retractive or cocking movement to the impact member preparatory to its impacting action, and to retract the shield after the nut is cracked. Means are provided on shield and anvil to maintain alignment with one another and with the base, to protect against undesirable frictions, to maintain sightliness, and to facilitate separation for cleaning and repair.

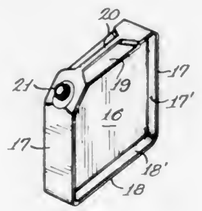
3,524,487
MACHINE FOR CONTINUOUS PRODUCTION OF BONELESS COMMINUTED MEAT
Stephen A. Paoli, 520 6th St., Rockford, Ill. 61108
Filed June 26, 1968, Ser. No. 740,132
Int. Cl. A22c *17/00, 25/16;* **B02c** *18/00*
U.S. Cl. 146—76 **6 Claims**

An improved machine for the continuous production of boneless comminuted meat from a dressed animal carcass or any portion thereof which has been reduced to a

coarse agglomeration of meat and fragments of hard tissue material such as bone, gristle or the like, the machine automatically separating the meat from the fragments and discharging each separately.



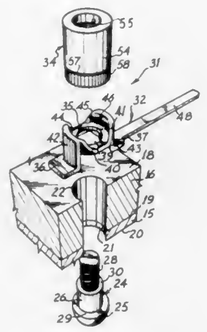
3,524,488
DISPENSING CONTAINER
William R. Scholle, Long Beach Calif., assignor to Scholle Container Corporation, North Lake, Ill., a corporation of Illinois
Filed July 31, 1968, Ser. No. 749,083
Int. Cl. A45c *7/00*
U.S. Cl. 150—.5 **1 Claim**



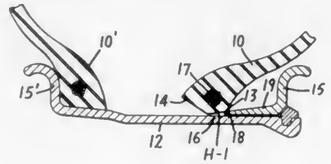
A dispensing container for liquids composed of stiff, flexibly resilient, synthetic plastic material, said container comprising an integral top, bottom, an opposed pair of end walls, an opposed pair of sidewalls and a tubular neck portion, said container being formed laterally collapsed and adapted to be expanded to substantially rectangular contour.

3,524,489
TWO-PIECE BLIND NUT ASSEMBLY
John O. King, Jr., 711 Trabert Ave., NW., Atlanta, Ga. 30318
Filed Aug. 30, 1968, Ser. No. 756,464
Int. Cl. F16b *39/00*
U.S. Cl. 151—41.7 **3 Claims**

A two-piece nut assembly for a shoulder bolt for connecting together at least two juxtaposed apertured work pieces by inserting the nut assembly through the aligned apertures of the work pieces to the blind side of the work pieces. The nut assembly includes a support plate with an apertured support platform and support legs extending on opposite sides of the platform in such a manner that the support platform will be supported in spaced relationship from the blind side of the work piece by the support legs. An internally threaded nut of cylindrical configuration is threadable onto the threaded stub of a bolt which extends through the apertures of the work pieces and the aperture of the support platform. The support platform includes corrugated wall portions, and the nut includes a corrugated surface which mates with the wall portions of the platform, to prevent the nut and platform from rotating with respect to each other.



3,524,490
TIRE CASINGS
Henri Verdier, Beauregard-l'Eveque, France, assignor to Compagnie Generale des Etablissements Michelin raison sociale Michelin & Cie, Clermont-Ferrand, Puy-de-Dome, France
Filed Feb. 26, 1968, Ser. No. 708,038
Claims priority, application France, Feb. 27, 1967 96,698
Int. Cl. B65c *5/00, 15/00*
U.S. Cl. 152—362 **7 Claims**

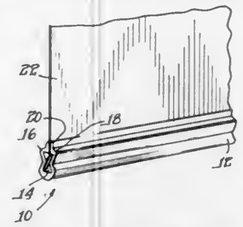


The bead of a tire casing is formed with a heel surface in truncating relation to the bottom and outer bearing surfaces of the bead. The heel surface and at least one of the bottom and outer surfaces are substantially equidistant from the bead wire.

3,524,491
WEB SECURING DEVICE
Carl G. Olson, 705 N. Elmhurst Road, Box 4, Prospect Heights, Ill. 60070
Filed July 5, 1968, Ser. No. 742,660
Int. Cl. A47h *13/00*
U.S. Cl. 160—393 **11 Claims**

A device for attachment to a free margin of a piece of flexible webbing material, including an elongated mounting strip to which an end of the webbing material is attached, and an elongated open-ended holder element, having a longitudinally extending aperture therethrough, which has the shape of an hour-glass in cross-section and a longitudinally extending slot opening laterally of the holder element and communicating with the aperture.

The mounting strip is inserted into one end of the aperture in the holder element with the webbing material extending outwardly therefrom through the slot, thereby to secure the end of the material in the holder element.



Tension applied to the material away from the holder element causes the mounting strip to be rotated within the aperture about the constricted section thereof and to be interlocked against opposite walls and in a corner thereof.

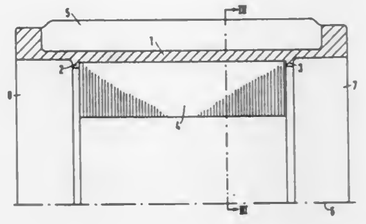
3,524,492
METHOD OF MAKING A JIG FOR BEADING OF COLOR ELECTRON GUN ASSEMBLIES
Seymour Janowsky, Clifton, Harold Skurnik, Bloomfield, and John Turow, West Paterson, N.J., assignors to Aiken Industries, Inc., % Superior Electronics Company (a division of Aiken Industries, Inc.), Clifton, N.J., a corporation of Delaware
Filed Dec. 18, 1967, Ser. No. 691,503
Int. Cl. B22d *19/00*
U.S. Cl. 164—98 **7 Claims**



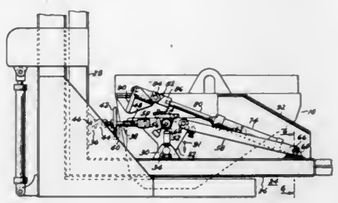
A method of making a jig for holding a color electron gun assembly for beading so that the axes of the guns converge at a predetermined angle includes the steps of providing a casting jig with spaced apart locating plates having axial parallel holes therein, positioning casting pins in the holes on an angle to the axis equal to the angle of convergence of the guns with the casting pins contacting the side edges of the axial parallel holes. Then a bushing is placed on the end of each casting pin, a sleeve is positioned around the bushings, and material is cast in the space between the sleeve and bushings resulting in an article having bushings extending in precise directions for holding the electron guns during their mechanical assembly.

3,524,493
METHOD OF MAKING STATOR CORE BY CASTING GRAY IRON AROUND LAMINATION STACK
Justin Doll, Muhlbach, near Bad Neustadt an der, Saale, Henryk Fidos, Nuremberg, Dirk Forkel, Bad Neustadt an der, Saale, and Horst Schreiner, Nuremberg, Germany, assignors to Siemens Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
Filed Dec. 12, 1968, Ser. No. 783,297
Claims priority, application Germany, Dec. 15, 1967, 1,613,439
Int. Cl. B22d *19/00;* **H02k** *15/00*
U.S. Cl. 164—109 **8 Claims**

Electric machines with a stack of stator laminations enclosed in a housing of gray cast iron is produced by preheating the stator stack to a temperature between 300 and 900° C., inserting the heated stack into a mold so that it forms a core structure in the mold, and then filling the mold with a molten iron to thereby form the cast-iron housing with the stator stack seated therein. The preheating of the stator stack is preferably effected by electric induction and in an oxidizing atmosphere at a temperature of approximately 500° C.



3,524,494
TUNDISH DUMPING AND SKEWING DEVICE FOR CONTINUOUS CASTING
Wilbur R. Smith, Allentown, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed Mar. 28, 1968, Ser. No. 716,763
Int. Cl. B22d *11/10, 41/04*
U.S. Cl. 164—281 **4 Claims**

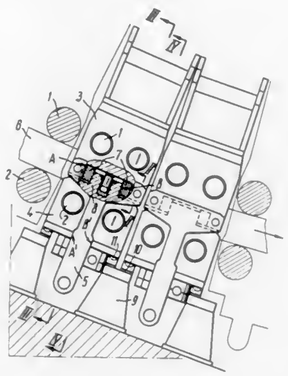


A tundish, adapted to be rotated about its trunnions, is disposed above a vertical mold. The trunnion seats are pivotally mounted and independently movable whereby the tundish may be skewed about a vertical axis. A hydraulic cylinder controls the rotation of the tundish about its trunnions whereby the tundish can be leveled prior to casting and dumped following casting. The cylinder is connected to the trunnion seat and the tundish whereby skewing of the tundish results in substantially no rotation of the tundish about its trunnions.

3,524,495
ROLLER ZONE IN THE SYSTEM OF SECONDARY COOLING IN CONTINUOUS CASTING PLANTS
Vitaly Maximovich Niskovskikh, Ul. Festivalnaya, 21, kv. 60; Evgeny Jukhimovich Gelfenbein, Ul. 40 let Oktyabrya, 28, kv. 51; Viktor Fedorovich Dyshkant, Ul. Kalinina, 56, kv. 10; and Georgy Lukich Khimich, Ul. Lenina, 53, kv. 92, all of Sverdlovsk, U.S.S.R.; and Alexei Ivanovich Varaxin, Ul. Dybenko, 22, korp. 5 kv. 374, Moscow, U.S.S.R.
Filed Mar. 1, 1967, Ser. No. 619,815
Int. Cl. B22d *11/12*
U.S. Cl. 164—282 **1 Claim**

A roller stand for use in the secondary cooling zone of a continuous casting machine, especially where a curved mold is used, and in which a plurality of rollers are disposed in a curve to receive and withdraw a solidifying ingot from the mold, the stand being provided with two

lower rollers arranged parallel to each other, adjustable to accommodate the curved ingot, and mounted in lower pads, and two upper rollers arranged parallel to each other in upper pads, connecting rod means pulling the



upper roller pads toward said lower rollers, and guides on said lower pads to engage said upper pads and said connecting rod means to assure correct alignment between the upper and lower rollers.

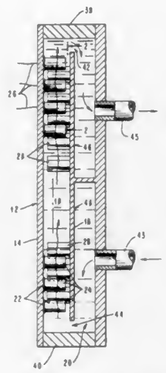
3,524,496
FINE PARTICLES
William Richard Barnes, Wintrena, York Drive, Grappenhall, Cheshire, England
Filed Dec. 7, 1967, Ser. No. 688,811
Claims priority, application Great Britain, Dec. 8, 1966, 55,110/66
Int. Cl. F25b *13/00*
U.S. Cl. 165—2 **1 Claim**



A process for the manufacture of submicron, substantially nonporous spherical silica particles in which fine silica is vaporised in a plasma generator and then subjected to a controlled quench in an atmosphere which is non-reactive with respect to the silica.

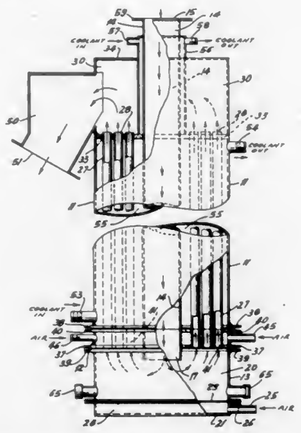
3,524,497
HEAT TRANSFER IN A LIQUID COOLING SYSTEM
Richard C. Chu, Martin G. Cohen, and Omkarnath Gupta, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Apr. 4, 1968, Ser. No. 718,856
Int. Cl. F28f *7/00;* **H01l** *1/12*
U.S. Cl. 165—80 **6 Claims**

Electronic components, such as semiconductors, are mounted on one end of heat conducting cooling studs. The semiconductor carrying ends of the cooling studs are connected to one side of a circuit board. The circuit board forms one wall of a narrow channel thru which cooling liquid is forced to flow. The studs extend from the wall into the channel in spaced relationship with respect to one another. Further studs, connected to the



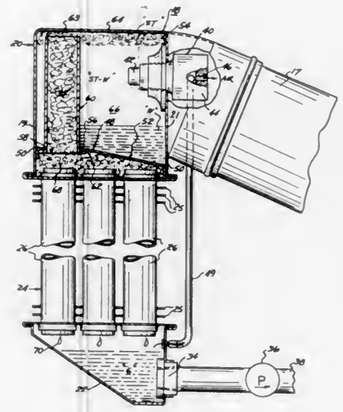
opposite wall, extend into the channel, parallel to the cooling studs and in spaced, staggered relation thereto. The further studs cause an increase in the turbulence of the flowing liquid around the heat conducting studs and direct the flow of cooling liquid over a greater area of the cooling studs, thus increasing the heat transfer therefrom.

3,524,498
COOLING APPARATUS
Richard E. Galer, Alpena, Mich., assignor to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware
Filed Apr. 10, 1968, Ser. No. 720,275
Int. Cl. F28d *13/00*
U.S. Cl. 165—104 **40 Claims**



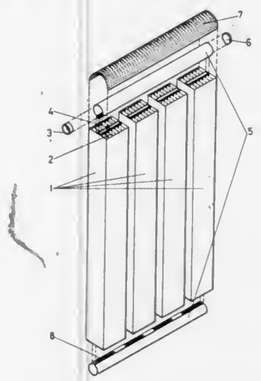
This invention is directed to cooling apparatus, particularly adapted for cooling pulverulent material such as cement to a temperature quite usable in industry. In its broadest form, the cement is supplied into a cooling unit through a generally large supply element and is cooled by being forced through smaller tubular elements within the container. A coolant is caused to flow about the smaller tubular elements and the flow is regulated in accordance with the incoming volume of supplied material and the amount of cooling desired.

3,524,499
MULTISTAGE CONDENSER FOR INTERNAL COMBUSTION ENGINES
Oaklan R. Senf, Muskegon, Mich., assignor to Continental Motors Corporation, Muskegon, Mich., a corporation of Virginia
Filed Sept. 10, 1968, Ser. No. 758,836
Int. Cl. F28g *1/02*
U.S. Cl. 165—110 **8 Claims**



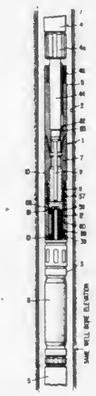
A vapor cooling system for internal combustion engines including an upper tank and a lower tank separated by finned heat exchange tubes, the upper tank being sealed from the lower tank and containing a number of steam condensing tubes connecting the upper tank to the exchange tubes which, in turn, are connected to the lower tank. The lower tank is provided with a temperature sensing vent to extract air from the system prior to the condensation phase of the steam-water entering the system and to automatically close upon the system reaching a predetermined temperature to seal the system.

3,524,500
HEAT TRANSMISSION SYSTEM
Carlos Benjumeda, Tomas Heredia 25, Malaga, Spain, and Jose Hermida Dominguez, Almirante 28, Madrid, Spain
Filed July 2, 1968, Ser. No. 741,981
Int. Cl. F24h *9/12*
U.S. Cl. 165—129 **4 Claims**



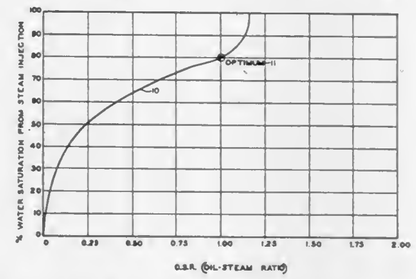
A heat transmission system generally made of material of good heat conductivity and chambers providing for the flow therethrough of one fluid under pressure and a second fluid by convection, the chamber through which the fluid under pressure passes having a generally horizontal cross section which is long and narrow so as to promote heat transmission through the surface of the chamber over an extended area in relation to the fluid passing through said chamber which may be a relatively thin film, the chamber through which the fluid passes by convection including a multiplicity of conduits of vertical height sufficient to promote convection and which are in association throughout their vertical height with a wall of said first chamber which in generally horizontal cross section has been characterized as long.

3,524,501
PACKER APPARATUS WITH LATCHING MECHANISM
Harold R. Armstrong, Wichita Falls, Tex., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed July 15, 1968, Ser. No. 744,819
Int. Cl. E21b *23/00*
U.S. Cl. 166—182 **8 Claims**



An apparatus for releasably latching a well packer in its expanded condition, the apparatus being characterized by a latching device carried internally of the packer and operable in response to reciprocation of a conduit string supporting the packer.

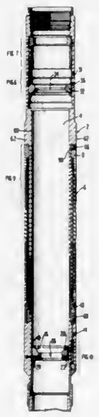
3,524,502
STEAM INJECTION METHOD FOR PRODUCING OIL
Richard L. Sloan, Houston, Tex., assignor to Tenneco Oil Company, Houston, Tex. a corporation of Delaware
Filed Feb. 3, 1969, Ser. No. 795,831
Int. Cl. E21b *43/24*
U.S. Cl. 166—250 **4 Claims**



The method of steam injection and producing a hydrocarbon bearing formation penetrated by a well bore to achieve optimum steam soak. The method includes injecting a predetermined quantity of water as steam into

the well bore followed by logging of the well bore to determine the percent of liquid saturation of the formation adjacent the well bore. Thereafter oil is produced from the formation for a predetermined period of time and the quantity of oil produced is compared with the amount of oil recovered. The foregoing steps are repeated with the saturation level of the formation being increased to an optimum level where the rate of increase of units of oil recovered per unit of water injected as steam starts to decline.

3,524,503
CEMENTING TOOL WITH INFLATABLE PACKER AND METHOD OF CEMENTING
Eugene E. Baker, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Sept. 5, 1968, Ser. No. 757,620
Int. Cl. E21b *33/12*
U.S. Cl. 166—289 **19 Claims**

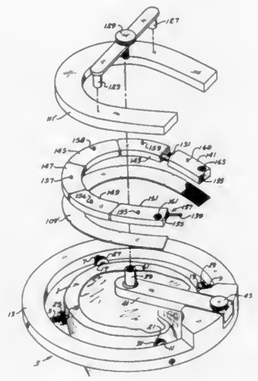


A well tool which is of the type adapted to be actuated by plug members dropped from the surface. The tool includes a tubular body having a central passage in which are positioned vertically spaced, annular upper and lower members. A first plug member is dropped from the surface to seat on the lower member. A first increase of fluid pressure thereafter moves the lower member down to a fixed final position. A second plug member is then dropped from the surface onto the upper member. A second increase of fluid pressure applied thereafter moves the upper member downwardly. To prevent a body of trapped liquid between the upper and lower members from exerting a hydraulic lock which would prevent movement of the upper member, the lower member is arranged to separate into at least two parts to permit some of the trapped liquid to escape.

3,524,504
WELL STIMULATION WITH VAPORIZATION OF FORMATION WATER
Joseph C. Allen, Bellaire, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 8, 1968, Ser. No. 753,839
(Filed under Rule 47(b) and 35 U.S.C. 118)
Int. Cl. E21b *43/24*
U.S. Cl. 166—303 **4 Claims**

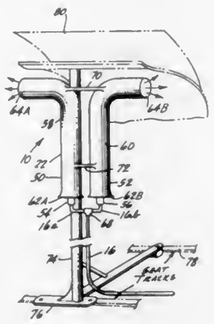
A method of stimulating a subterranean hydrocarbon-bearing formation by injecting therein a heated non-aqueous fluid at a temperature sufficient to vaporize the water contained in the formation. Preferably, the injected fluid is miscible with the hydrocarbons contained in the formation and has a vapor pressure below that of the water contained therein.

3,524,505
THERMALLY CURED ADHESIVELY BONDED HORSE SHOE
Henry M. Ross, The Lawn, Nokesville, Va. 22123
Filed Jan. 29, 1968, Ser. No. 701,188
Int. Cl. A01l *03/00, 11/00*
U.S. Cl. 168—4 **7 Claims**



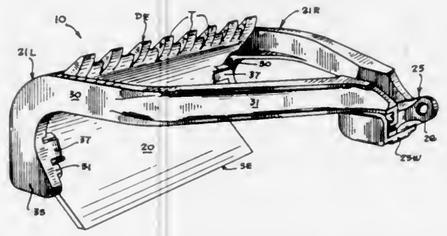
The method includes the steps of preparing the horse's hooves by leveling the bottom surfaces and bonding shoe members thereto. The apparatus comprises a clamping and guiding device attachable to the hoof to support a motorized planing device for leveling the hoof. A first embodiment utilizes an electrically-heated and fluid-cooled platen to fuse a shoe, pre-coated with adhesive, to the hoof. A second embodiment utilizes a special hollow shoe containing a compound for producing an exothermic metallic oxidation reduction reaction operable without external power and cooling sources. The shoes used may be formed by hand and have replaceable heels to vary the heel height. Positive traction means are provided for each shoe.

3,524,506
FIRE EXTINGUISHING APPARATUS
Carl A. Weise, San Pedro, Calif., assignor to McDonnell Douglas Corporation, a corporation of Maryland
Filed Aug. 26, 1968, Ser. No. 755,031
Int. Cl. A62c *3/00*
U.S. Cl. 169—2 **3 Claims**



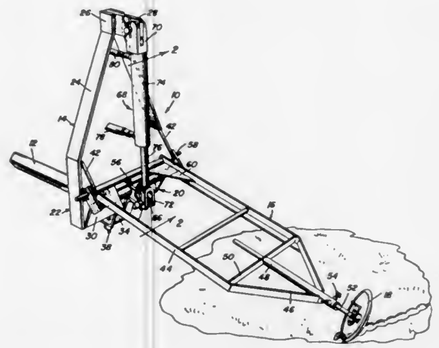
A fire extinguishing system including a supply system for an extinguishing agent such as bromotrifluoromethane, a control system, and a diffuser assembly. The diffuser assembly is adapted for placement in a space to be protected from fire and includes a nozzle connected to the supply assembly by suitable conduit means, and an aspirator positioned to receive the output of the nozzle. The construction of the diffuser assembly is such as, upon energization, to provide a rapid, diffused and blanketing discharge of the extinguishing agent in an appropriate concentration with air or other gases. The control system may be controlled by a detector unit placed in the protected space.

3,524,507
SLUSHING SCRAPER
Robert P. Arsenault, Joliette, Quebec, Canada, assignor to Abex Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 24, 1967, Ser. No. 685,641
Int. Cl. E02f *3/60*
U.S. Cl. 172—26.5 **3 Claims**



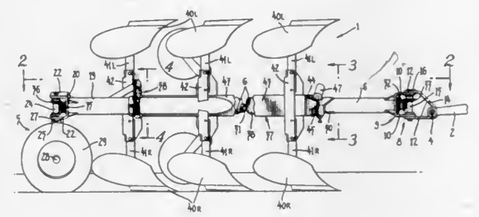
A scraper is assembled from a back plate, a pair of attaching arms and a locking shoe without the need for bolts or other fasteners, specifically by hooks at the rear of the arms which couple with apertures in the back plate and forward ends of the arms in a sliding wedge fit with a separable shoe.

3,524,508
ROW MARKER
Wilbur C. West, P.O. Box 52, Pine Bluff, Ark. 71601
Filed Dec. 16, 1966, Ser. No. 602,390
Int. Cl. A01b *35/32*
U.S. Cl. 172—126 **3 Claims**



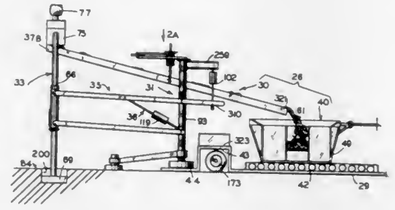
A farm machine mounted device for defining a laterally spaced parallel guide mark. The device is mounted on an end of a tool bar and movable between an operative and inoperative position by means of a double-acting hydraulic cylinder.

3,524,509
SEMI-MOUNTED EARTHWORKING IMPLEMENT
Clarence B. Richey, Fresno, Calif., assignor to Massey-Ferguson Inc., Detroit, Mich.
Filed Feb. 1, 1966, Ser. No. 524,191
Int. Cl. A01b *3/34, 69/08*
U.S. Cl. 172—212 **4 Claims**



A multi-bottom turnover plowing implement has a longitudinal tube forming its main frame to be supported at one end by a tractor hitch linkage and at its rear end by a tail wheel for constant height above the furrow bottom when plowing and above the land when in transport. Two arrays of plows of opposite hand are mounted on a carrier comprising another tube telescoped over the frame tube. Means are provided to steer the tail wheel as the tractor turns and to tilt the tail wheel as the carrier is turned over.

3,524,510
GRAVE DIGGING AND FILLING APPARATUS AND METHOD
Andrew O. Connell, Stead, N. Mex. 88438
Filed Nov. 9, 1967, Ser. No. 681,784
Int. Cl. E02f *3/06, 5/20*
U.S. Cl. 175—88 **2 Claims**

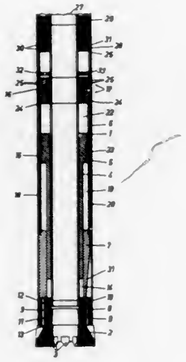


A grave-digging assembly comprising a vertical auger and a group of horizontal toothed rollers near the bottom thereof cooperate to smoothly excavate a straight sided rectangular hole. The digging assembly position is adjustably located by a support assembly and is provided with a conveyor and earth storage assembly whereby to receive and store earth excavated thereby. The discharge assembly and the conveyor may also be arrayed relative to the earth storage assembly to return the excavated earth to the finished grave to close it.

3,524,511
CORE TYPE HAMMER DRILL WITH ANNULAR PISTON
Günter Klemm, 2 In der Stesse, Attendorn, Germany
Filed Oct. 23, 1968, Ser. No. 770,036
Int. Cl. E21b *1/06, 9/16*
U.S. Cl. 175—92 **2 Claims**

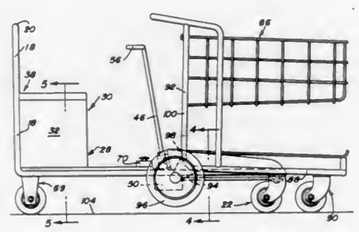
A core-type deep-drilling hammer drill, especially for carrying out core drilling in rock, having an annular core bit, a core barrel and a core-catcher ring, wherein on the

drill hole floor a hollow piston is provided as striker element which is guided between an inner cylinder, serving at the same time as core barrel, and an outer cylinder resting on the inner side of the external housing and



clamped in between annular core bit and an upper part, and which acts upon the rear end of the core bit. The piston is driven by air, which also flushes cuttings from the core bit.

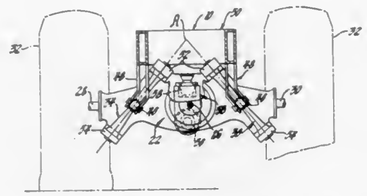
3,524,512
SELF-PROPELLED DRIVING AND STEERING TRUCK FOR SHOPPING CARTS
Elton L. Voeks, P.O. Box 97, and Arwed J. Barnowsky, R.R., both of Baileys Harbor, Wis. 54202
Filed Feb. 21, 1968, Ser. No. 707,179
Int. Cl. B60d *3/00;* **B62d** *63/00*
U.S. Cl. 180—14 **5 Claims**



A self-propelled truck including a rear operator's position and front steerable wheel means, the cart including a forward portion adapted to be disposed beneath and to support the rear portion of a shopping cart with the rear wheels of the shopping cart in at least slightly elevated position above the ground whereby the self-propelled truck may be utilized to propel and steer the shopping cart.

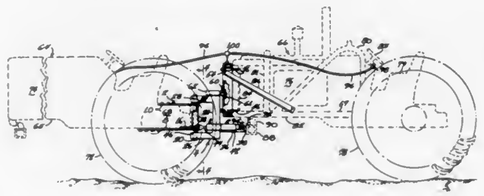
3,524,513
VEHICLE SUSPENSION LINKAGE
Russell C. Williams, Rocky River, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 12, 1968, Ser. No. 759,266
Int. Cl. B60k *17/32*
U.S. Cl. 180—52 **6 Claims**

A suspension linkage for supporting a transverse axle for oscillation about an axis extending longitudinally and centrally of a vehicle. The linkage includes first and second arms respectively located on opposite sides of the



axis and also a rigid link lying in a plane passing through the axis.

3,524,514
OSCILLATING TANDEM HITCH
Earl S. Kratzke, Cologne, Minn. 55322
Filed Apr. 29, 1968, Ser. No. 724,766
Int. Cl. B62d *5/06*
U.S. Cl. 180—79.2 **4 Claims**

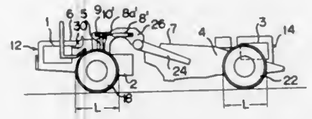


A hitch mechanism for coupling two vehicles in tandem, such as two farm tractors, is comprised of two coupling members, one of which is rigidly secured to the rear of one of the vehicles and the other of which is pivotally fastened to the front end of the other vehicle for swinging movement in a vertical plane. The vertically swingable coupling member is conveniently secured to the front axle of the rear vehicle for pivotal movement therewith. A horizontal shaft extending from the rear coupling member is shiftably received in an arcuate slot formed in a rigid plate attached to the front of the rear vehicle, and as the two vehicles oscillate vertically with respect to each other about the horizontal axis extending through the rear coupling member pivot point, the arcuate slot supportably engages the swinging coupling shaft. The two coupling members are releasably fastened together for relative, horizontal steering movement about a vertical kingpin extending through aligned holes therein. A pair of supplemental, hydraulic turning cylinders extending between the front of the rear vehicle frame and the front coupling member and actuated by the hydraulic steering mechanism of the rear vehicle serve to turn the front vehicle horizontally about the vertical kingpin.

3,524,515
SCRAPER VEHICLE
Hideo Imai, Tokyo, Japan, assignor to Mitsubishi Jokogyo Kabushiki Kaisha, Tokyo, Japan
Filed Mar. 25, 1968, Ser. No. 718,979
Claims priority, application Japan, Apr. 22, 1967 42/25,739
Int. Cl. B62d *5/00*
U.S. Cl. 180—79.2 **2 Claims**

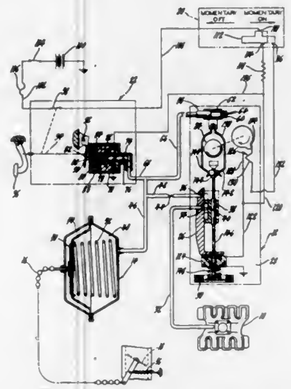
A ground scraper vehicle construction includes a front chassis and a rear chassis pivotally connected to the front chassis. Each of the chassis carries respective ground

wheels at each end of a single axis on each chassis element. The rear chassis is pivotally connected to the forward chassis, and steering of the vehicle may be effected by the controlled pivoting of the forward chassis relative



to the rear chassis. Each chassis is constructed so that a ratio of the total chassis weight to the total projected area of the ground-engaging tires fall within a range of from 0.4 to 0.7 kg./cm.^{2}.

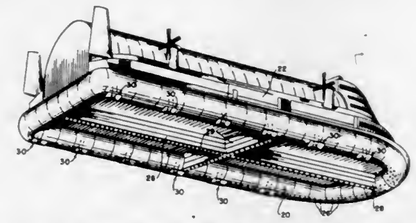
3,524,516
CRUISE RELEASE SOLENOID VALVE
Richard W. Bremmann, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 23, 1968, Ser. No. 746,990
Int. Cl. B60k *31/00*
U.S. Cl. 180—108 **5 Claims**



A vehicle road speed control system in which a vacuum actuated servomotor is controlled to move the engine throttle valve as necessary to correct vehicle speed errors from a set speed as the road load changes. The system has a control valve controlling atmospheric air bleed to the servomotor in accordance with the set vehicle speed and the actual vehicle speed. Manual controls for this system include a control switch and the brake pedal, with the control switch permitting energization and causing de-energization of a solenoid coil actuating a first control valve, and the brake pedal when actuated opening a switch controlling the first solenoid coil as well as a second solenoid coil which controls an atmospheric vent valve. Further brake pedal actuation will mechanically insure opening of the atmospheric vent valve to de-energize the system.

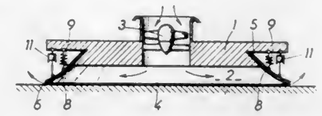
3,524,517
AIR SUPPORTED VEHICLE UNDERCARRIAGE
Jean L. La Fleur, Chippawa, Ontario, Canada, assignor to Bell Aerospace Corporation, Wheatfield, N.Y.
Filed May 29, 1968, Ser. No. 733,067
Int. Cl. B60v *1/16*
U.S. Cl. 180—124 **8 Claims**

An undercarriage for aircraft and/or ground effect machines comprising a ground contacting braking and/or maneuvering control device for such vehicles including, in conjunction with an air-inflated envelope type air cushion confining arrangement, a series of extendible pads disposed in spaced relation and defining portions of the footprint areas of the envelope device and adapted upon inflation to extend downwardly beyond the bottom contour of the footprint area of the envelope device. The pad extension retraction operations are under control of the



vehicle pilot, whereby the lift effects of the air cushion under the vehicle at opposite sides of the vehicle yaw axis may be regulated selectively by the pilot for vehicle braking and/or maneuvering purposes. The pads are preferably surfaced with wear resistant material and drag on the ground when extended, thereby contributive to the braking action.

3,524,518
PLENUM CHAMBER CUSHION SYSTEM FOR SURFACE EFFECT MACHINES
Marc Henri Jean Faure, Saint-Maur-des-Fosses, France, assignor to Bertin & Cie, Plaisir, France, a company of France
Continuation-in-part of application Ser. No. 498,258, Oct. 20, 1965. This application June 17, 1968, Ser. No. 737,450
Claims priority, application France, May 7, 1965, 16,285, Patent 1,442,532
Int. Cl. B60v *1/16*
U.S. Cl. 180—127 **1 Claim**

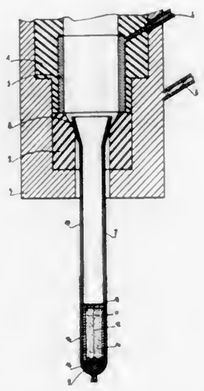


In a ground effect machine, a plenum chamber cushion system with a side-wall device of polygonal cross-section composed of successive flexible panels flaring outwardly towards the bearing surface along which the machine moves and ending with a rectilinear free edge parallel to said surface, adjacent panels having free sides very close to each other, deflection of said panels due to cushion pressure exerted thereon being resiliently counteracted and oscillations being damped. In a preferred embodiment, said panels are made of rubber-like trapezoidal plates with said free edge being the larger base of the trapezium.

3,524,519
DEVICE FOR DETONATING EXPLOSIVE CHARGES IN A LIQUID MEDIUM
Jacques Cholet, Rueil-Malmaison, and Jean Claude Dubois, Royan, France, assignors to Institut Francais du Petrole des Carburants et Lubrifiants, Rueil-Malmaison, France
Filed Dec. 18, 1967, Ser. No. 691,289
Claims priority, application France, Dec. 22, 1966, 88,875; Oct. 13, 1967, 124,503
Int. Cl. G01v *1/06, 1/12, 1/38*
U.S. Cl. 181—.5 **15 Claims**

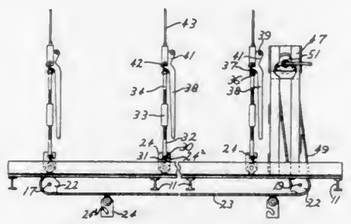
In a device for detonating an explosive charge in a liquid medium, there is provided a hollow cartridge body having one flared end which serves as a means for seating

the body in an immersed end of a carging tube. An explosive charge is provided in a portion of the cartridge body and is disposed at the end thereof away from the flared end. A first conductive material is provided on the inner wall of the cartridge body between the end of the charge closest to the flared end and the flared end to electrically connect the charge to a terminal disposed within the immersed charging tube. A second conductive



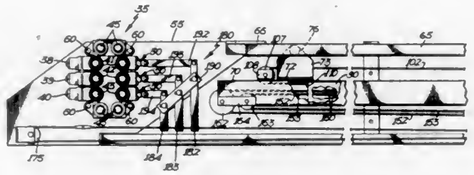
material is provided on the outer wall of the cartridge body, at least on a portion thereof nearer the end of the charge most remote from the flared end of the cartridge body, so that the second conductive material together with the water in which the device is immersed electrically connects the charge to a second terminal which is electrically insulated from the first terminal. Means, for example a wire, are provided in the charge to electrically connect one end thereof to the other.

3,524,520
TRAVELING SCAFFOLD
Paul J. Tidwell, 209 Garden Lane, Birmingham, Ala. 35215
Filed Aug. 29, 1968, Ser. No. 756,154
Int. Cl. E04g *3/10*
U.S. Cl. 182—36 **6 Claims**



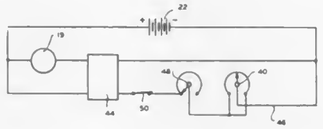
A work platform type of scaffold adapted to be supported by an overhead structure, such as the parts of a building, and in which means is provided on the scaffold itself to move the scaffold relative to the members which support the scaffold from the overhead structure. A pair of flexible members such as chains are carried by the deck of the scaffold and these chains carry attachments for the suspension members. By removing a pair of the suspension members from one end of the scaffold, the scaffold may be moved relative to the supporting superstructure, and the suspending members which have just been removed may be attached to others of the attaching connectors on the chains, thereby to move the scaffold along.

3,524,521
EXTENDABLE BOOM REMOTE CONTROL SYSTEM
Steven L. Boomgaarden, Richfield, and Orlo J. Johnson, Lakeville, Minn., assignors to Tel-E-Lect, Inc., Minneapolis, Minn.
Filed Jan. 8, 1969, Ser. No. 789,849
Int. Cl. B66f *11/04*
U.S. Cl. 182—46 **9 Claims**



A remote control system for an extendable boom assembly in which the control system includes operating handles connected through a cable system to stationary valve controls on the stationary portion of the boom. The cable system is connected over movable control frame parts which change the position of the supporting sheaves to compensate for slack in the cable with boom extension and contraction.

3,524,522
APPARATUS FOR VARYING TRUCK SPEED RELATIVE TO UPRIGHT EXTENSION
Henry J. Thomas and George J. Trusock, Battle Creek, Mich., assignors to Clark Equipment Company, a corporation of Delaware
Filed Mar. 26, 1968, Ser. No. 716,240
Int. Cl. B66b *9/20;* **F15b** *15/18*
U.S. Cl. 187—9 **10 Claims**

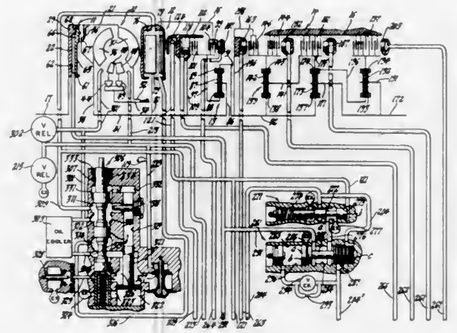


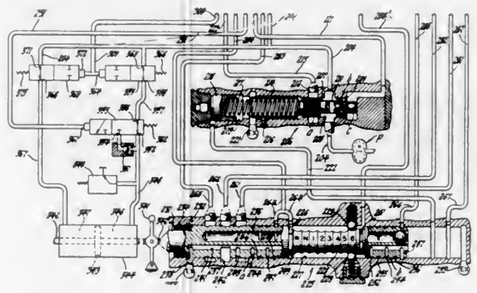
An industrial lift truck having an extendible upright and an operator's station mounted on the upright for elevation with the load engaging fork. The speed control for the truck is responsive to the fluid level in the fluid reservoir associated with the upright so that the truck speed is decreased as the upright is extended.

3,524,523
TRANSMISSION-CLUTCH-BRAKE CONTROL WITH SHIFT INHIBITOR AND DETENT
Walter R. Klimek, Cuyahoga Falls, and Joseph A. Bednar, North Olmsted, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 24, 1968, Ser. No. 731,970
Int. Cl. F16d *67/00*
U.S. Cl. 192—4 **8 Claims**

A control system shift inhibitor and detent for use with a multi-ratio power transmission having a lockup clutch and a hydrodynamic brake is herein disclosed in which a manual ratio change shift valve is connected to an expansible fluid device having two chambers which are filled with a substantially incompressible fluid which may be freely transferred, through fluid passages and pilot operated valves, from one chamber to the other

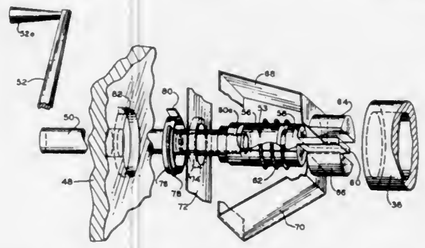
when a ratio change is to be permitted. The pilot operated valves are operatively connected, by signal lines, to the lockup clutch and the hydrodynamic brake such that, when the hydrodynamic brake is operative, the fluid passages are closed thereby creating a "fluid lock" in the expansible fluid device to prevent movement of the man-





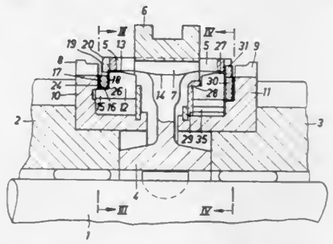
ual valve and, when the lockup clutch is engaged, the fluid passages are closed in one direction to prevent movement of the manual valve in one direction. A detent is also provided which will permit the operator, with the use of sufficient force, to move the manual valve in one direction even though the fluid passages are closed.

3,524,524
HANDCRANK FOR LIQUID LEVEL GAUGE
Evald Dunkelis, Glen Ellyn, Ill., assignor to GPE Controls, Inc., Morton Grove, Ill., a corporation of Illinois
Filed Sept. 16, 1968, Ser. No. 762,307
Int. Cl. F16d *13/04*
U.S. Cl. 192—35 **9 Claims**



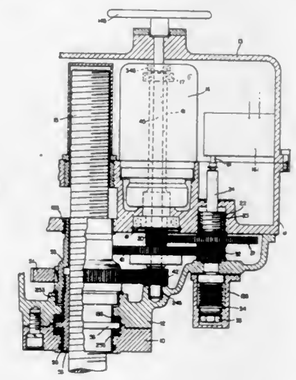
A handcraft mechanism for rotation of a reel, or the like, wherein all elements of the mechanism are normally out of contact with the member to be rotated, but automatically engage the latter upon manual rotation of the crank in one direction. Frictional engagements between various elements of the mechanism, with slippage occurring at certain points in the operation, are utilized to provide the desired functions. The crank arrangement is especially suited for incorporation in a liquid level gauge head for raising and lowering a tank float.

3,524,525
FRICTION RING CONSTRUCTION AND MOUNTING IN A SYNCHRONIZING CLUTCH
Hans Reich, Tamm, Wurttemberg, and Günther Görtz, Siedlung, Germany, assignors to Dr.-Ing. h.c.F. Porsche KG, Stuttgart-Zuffenhausen, Germany
Filed Mar. 21, 1968, Ser. No. 715,099
Claims priority, application Germany, Mar. 21, 1967, 1,630,912
Int. Cl. F16d *23/06*
U.S. Cl. 192—53 **6 Claims**



A synchronizing clutch employing a friction ring that is frictionally engaged by a split ring resiliently compressed by the depending teeth of the shifting sleeve, which shifting sleeve is carried by support arms provided with slots receiving projections on the friction ring; wear of the friction ring is decreased by centering of the friction ring through radially abutting surfaces on the support arms and friction ring. Reliable entrainment of the friction ring is obtained by providing it with teeth corresponding to and for engagement with the teeth of the shifting sleeve. Uniform operation is obtained with grooves provided on the friction surface of the friction ring.

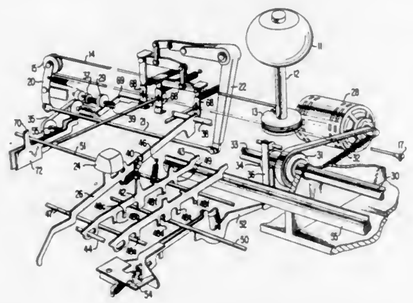
3,524,526
OVERLOAD LIMIT SWITCH FOR A VALVE ACTUATOR
Walter J. Denkowski, King of Prussia, Pa., assignor to King of Prussia Research and Development Corporation, King of Prussia, Pa., a corporation of Pennsylvania
Filed Nov. 6, 1968, Ser. No. 773,852
Int. Cl. F16d *17/00;* **F16k** *31/05;* **H01h** *3/16*
U.S. Cl. 192—141 **10 Claims**



A motor-driven valve operator is disclosed for opening and closing the valve or valve gate. Limit-switch means

are provided responsive to valve-seating forces created at the closing of the valve gate for opening the motor power circuit to shut off the motor. The motor drive includes a motor gear train comprising only spur gears. No worm or worm gear is involved. The limit switch is opened in response to reaction forces set up in the shaft of one of the spur gears in the gear train. The valve operator may also be operated by hand wheel.

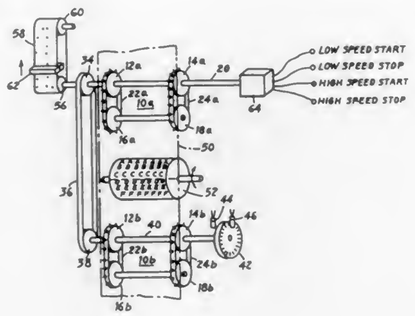
3,524,527
ALTERNATE CHARACTER SELECTION MECHANISM FOR TYPEWRITERS
Ronald V. Davidge, Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Nov. 22, 1967, Ser. No. 685,124
Int. Cl. B41j *25/24*
U.S. Cl. 197—71 **8 Claims**



An alternate character selection mechanism selects an upper case character from a lower case character corresponding to the same keylever in a mechanically positioned single element typewriter. Keylever responsive coding means provides a different mechanical positioning code for each keylever depressed. Keylevers corresponding to characters designated as upper case on a standard typewriter keyboard additionally actuate a common element which is linked to a coding member by an alternate character selection keylever through a pawl attached to the commonly actuated element, thus altering the positioning code transmitted to the print element positioning mechanism for characters designated as upper case. A plurality of designated lower case characters may also generate the same position code as does an upper case character by direct linkage from several keylevers corresponding only to lower case characters.

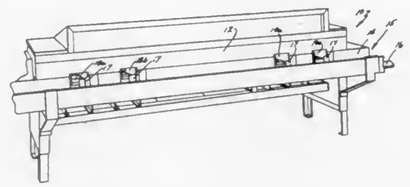
3,524,528
PRINTER PAPER FEED CONTROL SYSTEM
Robert C. Peyton, North Palm Beach, Fla., assignor to RCA Corporation, a corporation of Delaware
Filed June 29, 1967, Ser. No. 650,108
Int. Cl. B41j *15/00;* **G11b** *15/08*
U.S. Cl. 197—133 **12 Claims**

Disclosed herein is a system for controlling the feeding and positioning of paper, forms or the like in a printer. Information for controlling paper feed is recorded in rows on an endless belt, and the belt is moved past a sensing station in synchronism with the movement of paper through a print station. In general, each row on the belt corresponds to a different possible print line on the paper. The sensing station reads a row which is several rows in advance of the row corresponding to the line of the paper at the print station. The intervening several rows of belt information are stored in a memory, and the memory contents are changed and updated by the output of



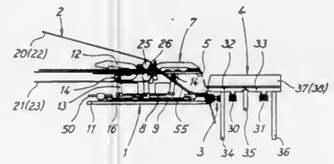
the sensing station. Signals for controlling both the speed of paper feed and the stopping thereof are generated in response to the information stored in the memory.

3,524,529
TRANSVEYOR SYSTEM FOR EGG COLLECTION
Willis R. Voran, Zeeland, Mich., and Harlan W. Martin, New Holland, Pa., assignors, by mesne assignments, to U.S. Industries, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 1, 1968, Ser. No. 702,289
Int. Cl. B65g *47/22*
U.S. Cl. 198—22 **14 Claims**



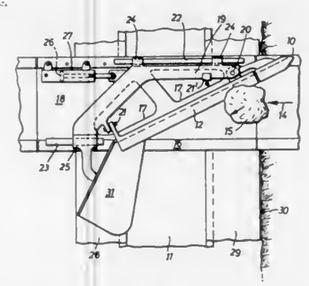
A mechanism for transferring eggs from a first to a second egg-conveying device or mechanism, including an intermediate conveyor opreating between said first and second conveyor means and comprised of a pair of movable conveyor members, each formed by a plurality of spaced, interconnected cylindrical elements arranged to cradle and carry an egg between each two adjacent such elements. Egg guiding members are utilized to divide the flow of eggs on the aforesaid first conveyor means so that a portion of the flow is directed onto each of the conveyor members of the intermediate conveyor, thereby reducing the number of eggs each such member is required to carry and allowing the spaced elements of each such member to segregate the eggs thereupon and carry them singly and individually. The positioning of the spaced elements in the two such intermediate conveyor members is staggered with respect to each other, such that the presence of eggs on both such members occurs in an alternating sequence, in which sequence the eggs are placed on the aforesaid second conveyor means, in conjunction with an egg-ejecting apparatus forming a part of the transveyor mechanism and located at the terminus of the intermediate conveyor.

3,524,530
DEVICE FOR FEEDING BROCHURES
Wilhelm Schuster, Karlsruhe, Germany, assignor to Industrie-Werke Karlsruhe Aktiengesellshaft, Karlsruhe, Germany, a corporation of Germany
Filed June 7, 1968, Ser. No. 735,312
Claims priority, application Germany, June 9, 1967, J 33,872
Int. Cl. B65g *47/00*
U.S. Cl. 198—25 **6 Claims**



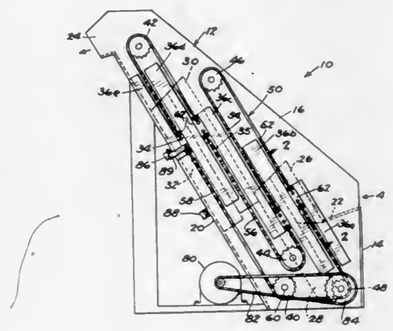
A device for feeding and adding brochures or the like to uniformly spaced and continuously moving articles, comprising a brochure supplier which delivers brochures one at a time to a rotary table having radially directed tongs thereon which transfer the brochures received from the brochure supplier to a brochure conveyor moving alongside an article conveyor. The brochure conveyor is provided with clamping pockets which transfer the brochures to pockets of the article conveyor.

3,524,531
GALLERY-ROADWAY TRANSFER IN PIT COAL LONGWALL WORKING WHERE THE LONGWALL CONVEYOR LIES WITH ITS DRIVE HEAD IN THE BOTTOM ROADWAY
Werner Georg, Altlunen, Westphalia, Germany, assignor to Gewerkschaft Eisenhutte Westfalia, Wethmar, near Lunen, Germany
Filed Dec. 15, 1967, Ser. No. 690,982
Claims priority, application Germany, Mar. 22, 1967, G 49,637
Int. Cl. B65g *15/00*
U.S. Cl. 198—188 **21 Claims**



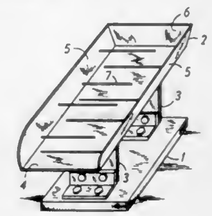
A two conveyor transfer station for use in transferring solid material such as coal from a conveyor traveling in one direction to a conveyor traveling in a direction transverse to the first conveyor. The transfer station includes a deflecting plate obliquely across the first conveyor, suitably spaced from the first conveyor surface in a vertical direction, adapted to deflect large pieces of conveyed material to the second conveyor; and an opening and chute associated therewith behind the deflector adapted to receive fine pieces of conveyed material and transfer such from the first to the second conveyor. Overload safety means associated with the deflector may be provided to shut the conveyors down in the event of an overload on the deflector. This safety means may include a shear pin, pivot and switch means operative upon shearing of said pin and pivoting of said deflector.

3,524,532
ELEVATOR STRUCTURE HAVING CHAIN DRIVEN RECIPROCATING PLATES
James C. Hobbs, Livonia, Mich., assignor to Can-Eng Holdings Ltd., Niagara Falls, Ontario, Canada, a corporation of Canada
Filed Sept. 17, 1968, Ser. No. 760,175
Int. Cl. B65g *25/04*
U.S. Cl. 198—218 **14 Claims**



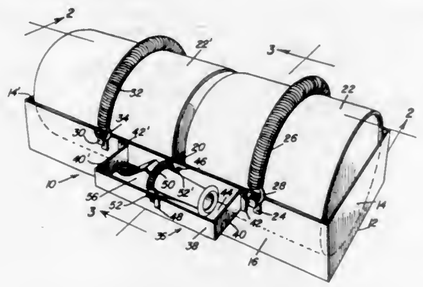
An elevator having a series of juxtaposed plates arrayed between a receiving location and an elevated delivery location is driven by a pair of endless sinuous chains having successive runs secured to opposite sides of successive plates. The runs are adjustable in length to adjust the positions of said plates. The chains are driven alternately in opposite directions by a reversible motor for reciprocating the plates alternately in opposite directions to elevate articles step by step upwardly to said delivery location.

3,524,533
VIBRATORY CONVEYORS
William A. Miller, Parsippany, and Roman J. Pizzano, Caldwell, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Feb. 29, 1968, Ser. No. 709,438
Int. Cl. B65g *27/00*
U.S. Cl. 198—220 **7 Claims**



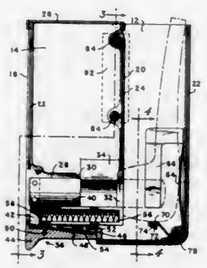
Agglomeration of finely divided particulate material while being conveyed in vibratory conveyors is prevented in vibrating conveyors having troughs equipped with resilient agitators affixed to the trough and extending into and within the bed of the material being conveyed, so that these agitators vibrate independently relative to the conveyor trough within the material being conveyed in response to vibrating movement of the conveyor trough to agitate the material being conveyed.

3,524,534
CARRIER FOR CANS AND THE LIKE
Homer G. Browner, 191 Grays Creek Road, Grants Pass, Oreg. 97526
Filed Oct. 9, 1968, Ser. No. 766,077
Int. Cl. B65d *85/54*
U.S. Cl. 206—16 **1 Claim**



A compartmentalized tray for receiving cans therein. Spring members releasably clamp the cans within the tray. A receptacle is attached to the tray exterior for receiving a can opener. Spring retaining means clamp the opener within the receptacle.

3,524,535
TOBACCO CONTAINER
Mark B. Dundore, 6 Heritage Cove Court, Casselberry, Fla. 32707
Filed Nov. 7, 1968, Ser. No. 774,039
Int. Cl. A24f *15/00*
U.S. Cl. 206—41.1 **6 Claims**

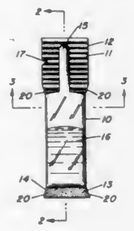


A tobacco container having mounting means thereon and including a compartment for storing and discharging tobacco into a pipe held in proper position in an adjoining pipe receiving compartment, the tobacco being discharged by a selectively operable plunger assembly.

3,524,536
PACKAGED PRODUCTS UTILIZING A RESIN COMPOSITION AS A PACKAGING MATERIAL
Joseph Francis Terenzi, South Norwalk, and Mortimer Stafford Thompson, Woodbury, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Apr. 5, 1965, Ser. No. 445,780
The portion of the term of the patent subsequent to Nov. 21, 1984, has been disclaimed
Int. Cl. B65d *1/10;* **C08f** *19/08, 19/18*
U.S. Cl. 206—45.31 **2 Claims**

The invention relates to a method of storing and packaging products such as edible foods, pharmaceuticals, cosmetics and toiletries and the like which are sensitive to environmental conditions and to packages of such materials and containers therefor. The container is produced from a composition composed of a resinous terpolymer of methyl methacrylate, styrene, and acrylonitrile and a graft copolymer of a polybutadiene substrate having grafted thereon at least one, and preferably all, of the monomers in said resinous terpolymer.

3,524,537
PACKAGE CONTAINING 2-CYANOACRYLIC ESTER ADHESIVES
William Robert Winter, Southbury, Conn., assignor to American Cyanamid Company Stamford, Conn., a corporation of Maine
Filed Sept. 25, 1968, Ser. No. 762,476
Int. Cl. A61b *17/00;* **B65d** *81/00, 85/84*
U.S. Cl. 206—47 **10 Claims**



A transparent container fabricated from poly(monochlorotrifluoroethylene) provides for prolonged stable storage and convenient dispensing of 2-cyanoacrylic ester adhesives.

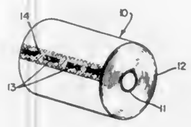
3,525,538
RING PACKAGE
Harold Marlowe, 192 Clearmeadow Drive, East Meadow, N.Y. 11554
Filed Jan. 21, 1969, Ser. No. 792,459
Int. Cl. B65d *83/00*
U.S. Cl. 206—56 **12 Claims**



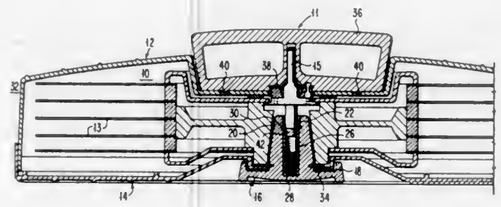
A ring package implementing the manufacture and distribution of endless loop structures such as used for gasketing, drive belts and the like. The package is formed of a flexible material such as a rubber compound which is shaped into a substantially planar sheet, having formed in the sheet a plurality of concentric rings of the desired configuration. Interposed between the rings are formed separating sections with weakened areas whereby the rings may be separated from the sheet, without cutting, by pulling the rings apart from the weakened areas.

3,524,539
MULTIPLE-PLY WEB WINDING
Walter H. Herman, South Hadley, Mass., assignor to Scott Paper Company, Philadelphia, Pa., a corporation of Pennsylvania
Original application Mar. 28, 1966, Ser. No. 538,080, now Patent No. 3,470,052, dated Sept. 30, 1969. Divided and this application Dec. 31, 1968, Ser. No. 801,900
Int. Cl. B65d *85/672*
U.S. Cl. 206—58 **1 Claim**

A wound web roll product in which a length of web having two plies generally contacting but being unattached to each other is wound on a hollow cylindrical core, both the end portion of the web adjacent the core having the inner ply adhered to the core, and the end portion of the web on the exterior of the roll adjacent the next succeeding web layer having the inner ply adhered to the next succeeding layer, the outer ply at both ends being physically attached to the inner ply, as by embossing.

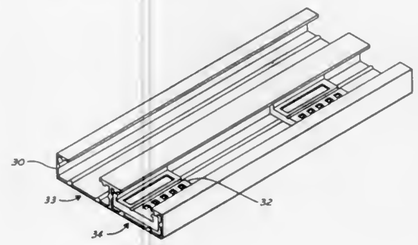


3,524,540
DUST COVER AND KNOB ASSEMBLY
Stanley F. Brown, San Jose, and Donald L. Massee, Gilroy, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Mar. 22, 1968, Ser. No. 715,260
Int. Cl. B65d *85/02, 85/30*
U.S. Cl. 206—62 **8 Claims**



A dust cover for an airtight enclosure incorporates a separable and replaceable knob assembly, which has a spring-supported, threaded nut that is adapted to be engaged with cooperating threads formed in the assembly of an opposing cover.

3,524,541
PACKAGE FOR SMALL AND DELICATE DEVICES
Harold J. Nelson, Santa Ana, Calif., assignor to Collins Radio Company, Dallas, Tex., a corporation of Iowa
Filed July 22, 1968, Ser. No. 746,572
Int. Cl. B65d *81/16, 43/12*
U.S. Cl. 206—65 **12 Claims**

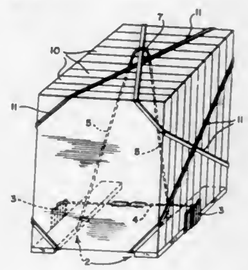


A package for small and delicate devices such as semiconductor chips including a container portion, a cover for the container and a carrier portion for receiving a plurality of container portions for shipping and handling.

3,524,542
HEAT SEALABLE BONDING CORD
Walter K. Chlystun, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 374,154, June 10, 1964. This application Mar. 11, 1969, Ser. No. 806,326
Int. Cl. B65d *71/00;* **B65b** *13/00;* **B65h** *69/08*
U.S. Cl. 206—65 **11 Claims**

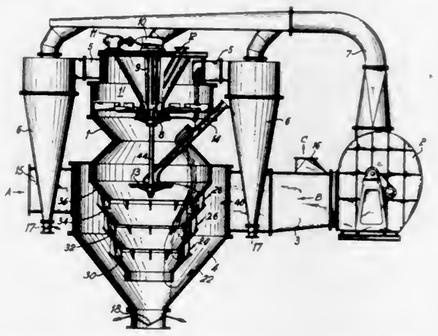
This invention relates to a bonding cord composed of blends of thermoplastic and non-thermoplastic materials and more particularly to a heat sealable bonding cord which seals without loss of elongation resistance.

3,524,543
UNITIZED PACKING DEVICE
Albert J. Bundy and James L. Williams, Kingsport, Tenn., assignors to American Saint Gobain Corporation, Kingsport, Tenn., a corporation of Delaware
Filed Oct. 30, 1968, Ser. No. 771,952
Int. Cl. B66d *71/00*
U.S. Cl. 206—65 **8 Claims**



A packing device for supporting a plurality of boxes in a unitary pack comprising a harness adapted to be disposed between two adjacent boxes with portions extending both above and below the boxes, and support members connected to the portions of the harness disposed below the boxes for supporting the boxes thereon.

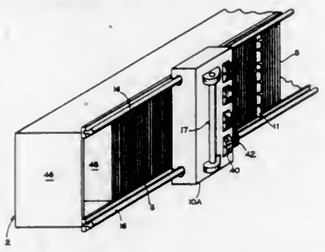
3,524,544
MILLING PLANT FOR SIFTING DAMP MATERIAL
Heinz Jäger, Bochum, Germany, assignor to Westfalia Dinnedahl Groppel AG, Bochum, Germany, a German corporation
Filed Aug. 20, 1968, Ser. No. 753,958
Claims priority, application Germany, Aug. 21, 1967, 1,607,623
Int. Cl. B07b *4/04, 7/83*
U.S. Cl. 209—11 **5 Claims**



Milled products from a crusher and from a fine mill are delivered separately to sifter apparatus. The dry

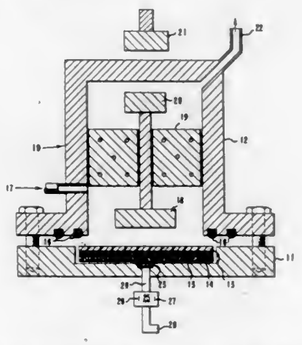
pulverulent product coming from the fine mill is supplied to the upper portion of the sifter apparatus where it is distributed by a first scattering plate, while moist material coming from the crusher passes to a separate rotating distribution plate located in a heated region in the lower portion of the sifter apparatus. In this manner the damp material cannot impair the quality of the dry material from the fine mill.

3,524,545
APPARATUS FOR RANDOM FILING AND RETRIEVAL OF CODES ITEMS
George J. Doundoulakis, 2498 Kayrone Lane, North Bellmore, N.Y. 11710, and Arthur Doulos, 2346 19th St., Brooklyn, N.Y. 11218
Filed Apr. 30, 1968, Ser. No. 725,288
Int. Cl. B07c *3/16*
U.S. Cl. 209—80.5 **9 Claims**



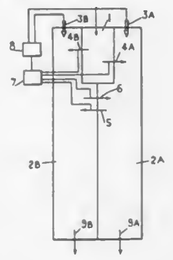
This invention relates to a system for selecting predetermined cards from a plurality of cards wherein the cards have at one edge an electromagnetic material that is attracted by means of a magnetic field device which passes by the cards. The cards include predetermined address slots while the magnetic field device includes vanes which can be positioned as desired to align with the slots of cards to be selected so that when the magnetic field device also providing the vanes passes by the cards, the vanes will hold back the non-selected cards while the selected cards having their slots aligned with the vanes will move by the attracting force of the magnetic field device toward a position for retrieval.

3,524,546
PERMEATION SEPARATION WITH ACID-GRAFTED NYLON MEMBRANES
Harvey H. Hoehn and Donald G. Pye, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 11, 1967, Ser. No. 678,148
Int. Cl. B01d *13/00, 31/00*
U.S. Cl. 210—23 **12 Claims**



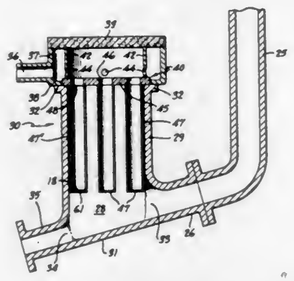
Process for separating the components of fluid mixtures, particularly the desalination of sea water, by the use of membranes formed from copolymers of nylon grafted with titratable acid groups, or preferably, the metal salts thereof, and the membranes themselves.

3,524,547
APPARATUS FOR THE TREATMENT OF SEWAGE AND LIKE INDUSTRIAL WASTE
James B. Nicol, Glasgow, Scotland, assignor to Drysdale & Company Limited, Glasgow, Scotland, a corporation of the United Kingdom of Great Britain and Northern Ireland
Filed Jan. 27, 1969, Ser. No. 793,999
Claims priority, application Great Britain, Jan. 25, 1968, 3,904/68
Int. Cl. V02c *5/04*
U.S. Cl. 210—134 **6 Claims**



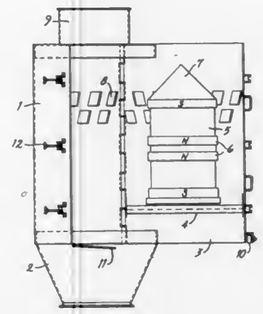
A sewage treatment plant having a receiving compartment and two treatment compartments and means for admitting air beneath the normal liquid level of fluid in the compartment. Transfer means to transfer fluid between the three compartments. A fluid transfer control operates in four stages involving various arrangements of fluid transfer between the three tanks. Air introduction control means operates in two stages involving introduction of air to certain tanks at certain times, which times are related to the said fluid transfer stages.

3,524,548
FILTER MEDIUM FOR MOLTEN METAL
Howard A. McDonald, Spokane, Wash., and Robert C. Snyder, Severna Park, Md., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Sept. 16, 1968, Ser. No. 762,224
Int. Cl. B01d *39/20*
U.S. Cl. 210—153 **19 Claims**



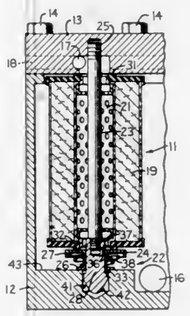
A rigid porous, filter medium for molten aluminum comprising particles of refractory material resistant to molten aluminum and a bonding agent which is a molten-aluminum-resistant vitreous material. To produce sound cast metal bodies, the refractory particles employed to make the filter have an average particle size of from about 0.165 mm. to 2.8 mm., advantageously of from 0.25 mm. to 2.5 mm., maximum diameter and the total fired composition contains from 4% to 20% by weight of the vitreous material.

3,524,549
MAGNETIC SEPARATOR
Ulrich Walter, 17 Asternweg, 4021 Metzkausen, Germany
Filed June 25, 1968, Ser. No. 739,734
Claims priority, application Germany, June 30, 1967, W 44,282
Int. Cl. B01d *35/06*
U.S. Cl. 210—222 **1 Claim**



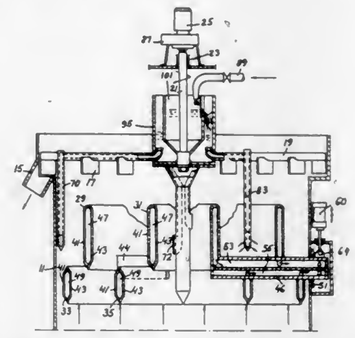
A magnetic separator has a housing that forms a flow passage for flowable goods, and a magnet in the housing attracts magnetizable articles mixed with the goods, for the separation thereof; the magnet can be swung out of the housing, together with a supporting beam and sidewall of the housing, to remove articles adhering to the magnet.

3,524,550
FILTER ASSEMBLY
Robert C. Grant, Creve Coeur, and Willis D. Miller, Peoria Heights, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed May 23, 1969, Ser. No. 827,303
Int. Cl. B01d *27/08*
U.S. Cl. 210—232 **2 Claims**



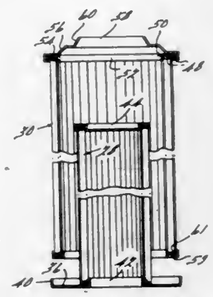
A filter assembly for use in a housing having a removable cover wherein fluid to be filtered is circulated from the interior of the housing to a passage in the cover. The filter assembly includes a filter element and an axial rod which may be preassembled to the cover with spring means maintaining proper sealing about the filter element, the housing including means for compressing the spring in order to establish proper sealing forces on the element when the cover and filter assembly are installed to the housing.

3,524,551
APPARATUS FOR CONCENTRATING AND/OR WASHING CELLULOSIC PULP
Ole Johan Richter, Karlstad, Sweden, assignor to Aktiebolaget Kamyr, Karlstad, Sweden
Filed Feb. 14, 1967, Ser. No. 616,102
Int. Cl. D21c *9/18;* **F26b** *13/24*
U.S. Cl. 210—342 **3 Claims**



The present invention concerns an apparatus for treating cellulosic pulp whereby the pulp may be, for example, thickened and/or washed. An upright cylinder adapted for axial pulp flow has therein disposed at least two sets of screening means, the individual sets being positioned at different levels along the lengthwise direction of the axis of the container. Each set of screening means comprises annular bodies of different diameters and are provided with conduits for removing liquid passing through said bodies. The diameters of the annular bodies of each set of screening means is disposed in a staggered relationship to adjacent sets of annular bodies, whereby a portion of pulp passing relatively far from the face of a first set of screening means will pass relatively near or at the face of a second set of screening means. Also provided are conduits for passing a wash or treating liquid into the pulp at selected levels of screening means.

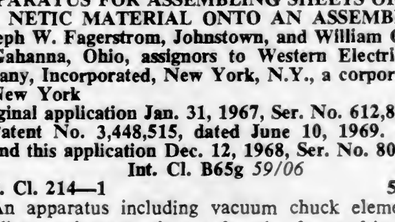
3,524,552
FILTER
Richard Lyle Carmon, Birmingham, Mich., assignor, by mesne assignments, to AMBAC Industries, Inc., a corporation of New York
Continuation-in-part of application Ser. No. 586,904, Sept. 9, 1966. This application Apr. 24, 1968, Ser. No. 723,716
Int. Cl. B01d *29/26*
U.S. Cl. 210—342 **5 Claims**



A filter cartridge assembly of the type having two concentrically spaced annular filter elements. Fluid flows from an inlet radially inwardly through the outer element and radially outwardly through the inner element to the space between the elements. This space is closed at one end of the cartridge by an end member which is fixed to

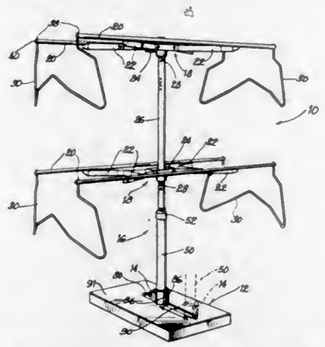
one of the filter elements and removably engages the other element. The filter elements are not directly connected at the opposite end of the cartridge, an arrangement which leaves a large, unobstructed exit for the fluid.

3,524,553
DESK TRAY
Albert Zitmore, Toledo, Ohio, assignor to Sheller-Globe Corporation, Toledo, Ohio, a corporation of Ohio
Filed Dec. 13, 1967, Ser. No. 690,217
Int. Cl. A47f *3/14*
U.S. Cl. 211—128 3 Claims



Desk tray construction in which the trays may be employed individually or stacked one above the other.

3,524,554
REVOLVING GARMENT CARRIER
Richard R. Ruhnke, Skokie, Ill., assignor to Garcy Corporation, a corporation of Illinois
Filed May 9, 1968, Ser. No. 727,771
Int. Cl. A47f *5/02*
U.S. Cl. 211—163 1 Claim

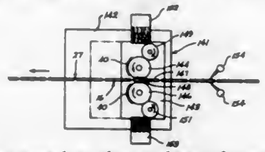


Described and illustrated herein is a revolving garment carrier having improved means for securing end guards to hangrails and an improved column base for securing a column assembly to a revolving garment rack base assembly.

3,524,555
APPARATUS FOR ASSEMBLING SHEETS OF MAGNETIC MATERIAL ONTO AN ASSEMBLY
Joseph W. Fagerstrom, Johnstown, and William C. Kent, Gahanna, Ohio, assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Original application Jan. 31, 1967, Ser. No. 612,896, now Patent No. 3,448,515, dated June 10, 1969. Divided and this application Dec. 12, 1968, Ser. No. 805,062
Int. Cl. B65g *59/06*
U.S. Cl. 214—1 5 Claims

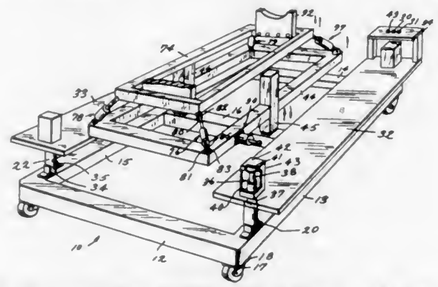
An apparatus including vacuum chuck elements for holding tautly a continuous length of a multiconductor information storage-sensing cable and for holding apart opposite sides of a folded section of a multiconductor access cable while the folded section is moved over and secured to adhesive surfaces of the tautly held information storage-sensing cable.

A pair of magnetic rollers are mounted on a common surface of a movable platform and are spaced apart a distance sufficient to permit a sheet of magnetic material to pass therebetween. The platform is moved and



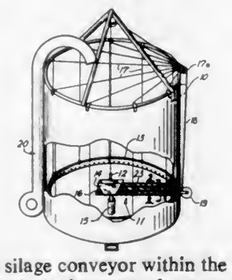
the rollers are rotated so that a sheet of material is withdrawn from a supply by one roller, passed to the second roller and then applied to an adjacent outer surface of the folded section of access cable.

3,524,556
ORDNANCE LIFT
Norman H. Miller, 8715 Woolworth Ave., Omaha, Nebr. 68124
Filed Apr. 19, 1967, Ser. No. 632,074
Int. Cl. B25j *3/00*
U.S. Cl. 214—1 7 Claims



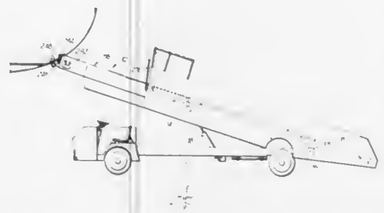
A lift comprising a mobile rectangular base frame provided with vertically adjustable platforms along its lateral edges and a centrally mounted, vertically adjustable frame. The two platforms and the frame may be vertically adjusted, independently of one another, by elevating means controlled from one of the platforms. A second frame, which carries the load, is mounted on the first frame by means of extensible elements which may be actuated together, individually or in pairs, whereby the attitude and elevation of the second frame can be adjusted relative to the first frame.

3,524,557
SILAGE HANDLER WITH AUTOMATIC FILLING CONTROL
Donavon L. Bakker, Fort Atkinson, Wis., assignor to Butler Manufacturing Company, Kansas City, Mo., a corporation of Missouri
Filed May 14, 1968, Ser. No. 729,003
Int. Cl. B65g *65/32*
U.S. Cl. 214—17 2 Claims



A sweep type silage conveyor within the silo is equipped with a silage level sensing control means which operates during filling to raise the conveyor automatically as the level of silage within the silo is raised.

3,524,558
CARGO LOADING MEANS AND METHOD
Michael L. Mastracci, and John H. Langenhop, York, Pa., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Mar. 29, 1968, Ser. No. 717,280
Claims priority, application Great Britain, Mar. 30, 1967, 14,484/67
Int. Cl. B65g *67/00, 41/00*
U.S. Cl. 214—38 14 Claims



Apparatus for transporting articles between the interior of an aircraft and a ground facility, which comprises a vehicle having conveyor means thereon, means on the vehicle communicating with said conveyor means and operable to be extended within an aircraft and transport articles between said aircraft and said conveyor means, and means for operating said means extendible within said aircraft to cause a flow of articles between said aircraft and said conveyor means.

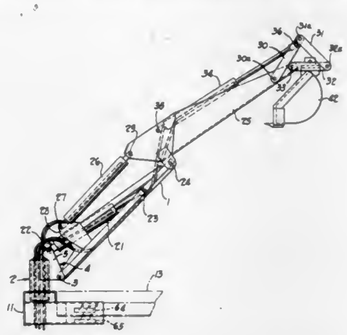
3,524,559
MINING CAR
Charles V. Osborne, % Wise Manufacturing and Equipment Co., Inc., Wise, Va. 24293
Filed Apr. 1, 1968, Ser. No. 717,646
Int. Cl. B60p *1/00*
U.S. Cl. 214—82 2 Claims



A low clearance mine vehicle is disclosed which includes a self-contained unloader. The unloader comprises an interconnected plow blade and false bottom which are reciprocable longitudinally of the vehicle. A telescopic hydraulic cylinder is connected between the vehicle body and the false bottom and plow blade so that an unloading stroke moves the false bottom from one end of the vehicle to the other and the plow blade is reciprocated over the entire length of the vehicle and the false bottom.

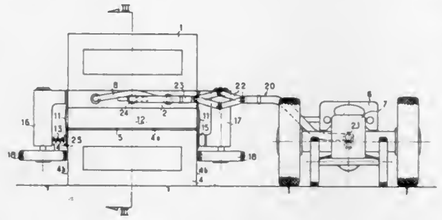
3,524,560
ALL-PURPOSE BOOM CONSTRUCTION
Thomas R. Hall, 6500 SW. Seymour St., Portland, Oreg. 97225
Filed Jan. 10, 1968, Ser. No. 696,758
Int. Cl. B66f *9/00;* E02f *3/30*
U.S. Cl. 214—138 4 Claims

This invention discloses boom construction which is arranged to be mounted on and removed from a truck or the like, particularly a truck of the class known as pick-up trucks, with the primary concept of having the boom able to swing 360 degrees, be of articulated form, and arranged to interchangeably support a plurality of different types of work performing devices thereon, so that with a minimum amount of effort various devices may be emplaced on and removed from the boom to make the boom more versatile so that the range of operations which are susceptible of being carried out will vary from digging to cable handling or equally widely varying operations. The unique arrange-



ment of the hydraulic instrumentalities availed of for operating the various parts of the mechanism, together with a linkage and mounting structure for the work performing devices, are further disclosures which render this construction useful and versatile.

3,524,561
METHOD FOR CONVEYING HEAVY LOADS
Marie Michel Fernand Rene Renaudon, Boulogne, France, assignor to Bertin & Cie, Plaisir, France
Continuation of application Ser. No. 651,261, July 5, 1967. This application May 5, 1969, Ser. No. 822,058
Claims priority, application France, July 7, 1966 68,549
Int. Cl. B23p *19/00*
U.S. Cl. 214—152 4 Claims

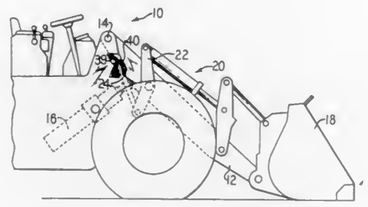


A method and means for conveying heavy load elements such as track or channel or the like structural sections over an already laid section with the insertion of a fluid cushion between the element to be laid and said already laid structural section, while means are provided for guiding the element to be laid along said structural section. The fluid cushion is preferably confined, under the element to be laid or a chassis carrying the latter, within yielding transverse and longitudinal walls carried by the element to be laid and extending downwardly to enclose the cushion over the structural section already positioned.

3,524,562
HYDRAULIC CONTROLS FOR BUCKET LOADERS
Joe E. Fuzzell, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Sept. 19, 1968, Ser. No. 760,886
Int. Cl. B66f *9/00*
U.S. Cl. 214—762 4 Claims

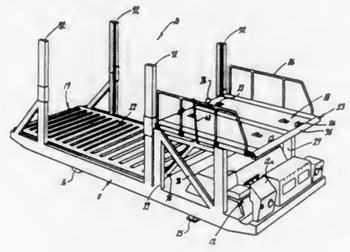
A control circuit for actuating the bucket of a loader wherein the bucket is automatically stopped at certain positions by means which automatically release a detent

which is holding the control valve at a given setting. The disclosure includes means to change the detent release



position from the operators station. A time delay is also provided to prevent premature actuation of the release.

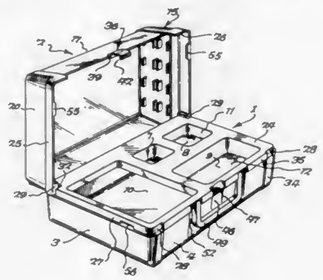
3,524,563
MOBILE LOADING APPARATUS
Duane N. McCartney, Pebble Beach, and Arnold Duerksen, Salinas, Calif., assignors, by mesne assignments, to Cochran Western Corporation, Salinas, Calif., a corporation of California
Filed May 24, 1968, Ser. No. 731,933
Int. Cl. B60p *1/44*
U.S. Cl. 214—512 **14 Claims**



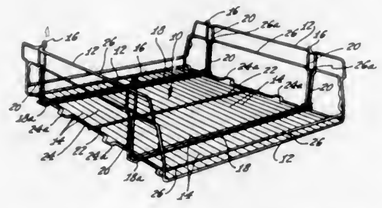
A mobile apparatus for loading and unloading of aircraft including passengers or cargo, and particularly heavy palletized cargo. A forward elevator arranged to adjust to the height and to align with the loading hatch of an aircraft, preferably cooperates with means to warp or tilt at least a part of the elevator's receiving platform to compensate for tilting of the aircraft. A rear elevator raises passengers or cargo to the height of the forward elevator and aligns with the forward elevator. In one form, conveyors move cargo between the rear and forward elevators. The rear elevator may also be disposed in a lowered position to facilitate movement of passengers or cargo to an associated loading dock.

3,524,564
CONTAINER WITH COMPOSITE COVER
Peter T. Schurman, Cassway Road, Woodbridge, Conn. 06525
Filed July 1, 1968, Ser. No. 741,368
Int. Cl. B65d *25/00*
U.S. Cl. 220—16 **13 Claims**

A plastic container having a blow-molded body and a composite cover. The cover has a center channel injection molded of a clear plastic material and a pair of injection molded end caps closing the opposite ends of the channel and completing the cover. Hinge pins formed as part of the end caps engage openings in the body, and a latch carried by the channel has locking engagement with the body.

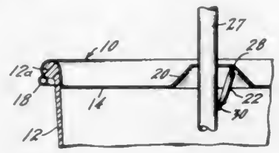


3,524,565
NESTABLE-STACKABLE RECEPTACLE
James D. Wilson, Long Beach, Calif., assignor to Banner Metals, Inc. Compton, Calif., a corporation of Ohio
Continuation-in-part of application Ser. No. 774,401, Nov. 8, 1968. This application July 9, 1969, Ser. No. 840,191
Int. Cl. B65d *21/04, 7/20*
U.S. Cl. 220—19 **7 Claims**



An improved wire-formed tray or receptacle is provided which may be stacked or tiered with other like receptacles when loaded with merchandise for transportation and display purposes, and which may be nested into other like receptacles when empty for storage and for return to the distribution center with a minimum of space requirements. The improved nestable-stackable receptacle of the invention is constructed in a manner so as to withstand relatively heavy loads, such as meat, without any likelihood of the sides collapsing, or of the receptacle jamming with other similar receptacles on which it is stacked, or for the receptacle being subject to any other damage.

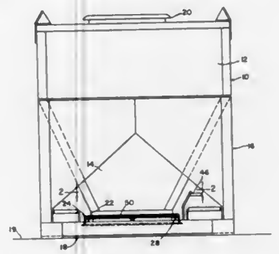
3,524,566
STRAW SLOT FOR CONTAINER CLOSURE
Kenneth Jay Parks, Ringwood, N.J., assignor to American Can Company, a corporation of New Jersey
Filed Aug. 12, 1968, Ser. No. 751,987
Int. Cl. B65d *17/00*
U.S. Cl. 220—27 **4 Claims**



A drinkIng container lid designed to be penetrated through pressure applied by a straw. The area on the lid against which the end of the drinking straw is pressed,

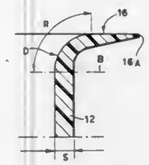
is outlined by a scored line which terminates at both ends in a relatively narrow unscored portion. The latter serves as a hinge for the outlined area or flap when the score is severed. Minute unscored sections interrup the continuity of the scored line, and are distributed along the path defined by the line. The flap is situated on a dome-shaped portion projecting above the lid of the container. The flap is recessed below the top edge of the dome-shaped portion to serve as a guide to the user in applying the end of the straw to the flap held in closed or sealed position by the score.

3,524,567
STORAGE CONTAINER HAVING A SLIDING CLOSURE
Clarence B. Coleman, Oakland, Calif., assignor to Fabricated Metals, Inc., a corporation of California
Filed Sept. 23, 1968, Ser. No. 761,491
Int. Cl. B65d *43/12*
U.S. Cl. 220—41 **9 Claims**



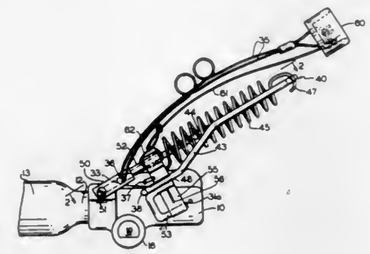
A closure assembly for a discharge opening of a storage container in which a door plate is disposed adjacent the opening and supported by guide rails positioned on an outwardly facing side of the plate. The rails are formed and supported to provide passageways on either side thereof to allow the free flow of discharging material. Protrusions on the outwardly facing side of the door plate engage the guide rails and maintain the door plate in alignment with the rails. Cams are positioned adjacent the outward side of the door plate and can be actuated to bias the door plate into engagement with the container and/or a gasket mounted on the container adjacent the opening for sealing the discharge opening of the container. Means, such as a force multiplying linkage, are provided for operating the door plate and moving it between the open and the closed position.

3,524,568
PACKAGE FOR FOODSTUFFS
Giovanni Nughes, Monza, Italy, assignor to Star Stabilimento Alimentare S.p.A., Via Matteotti, Agrate Brianza (Milan), Italy, an Italian joint-stock company
Filed Mar. 5, 1968, Ser. No. 710,536
Claims priority, application Italy, Apr. 11, 1967, 51,278/67; Oct. 25, 1967, 53,492/67
Int. Cl. B65d *7/42*
U.S. Cl. 220—67 **9 Claims**



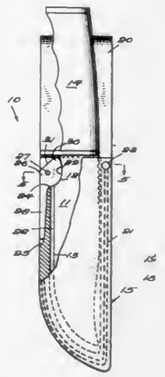
A rigid, "can"-type, foodstuff package comprising polypropylene body and sheet-metal cover sealingly seamed together by seam-spinning process. The body is integrally formed with a flange of special profile providing a seam capable of successfully withstanding the stress from sterilization conditions.

3,524,569
AUTOMATIC OPERATING ATTACHMENT FOR MANUALLY OPERABLE INFLATING DEVICE
Wilbur W. Waters, Bridgeport, N.Y., assignor to Lifegard Manufacturing Corporation, Fayetteville, N.Y., a corporation of New York
Filed Sept. 10, 1968, Ser. No. 758,718
Int. Cl. B67b *7/24*
U.S. Cl. 222—5 **4 Claims**



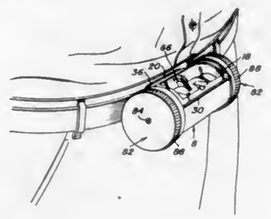
A head for a compressed gas container has a projecting arm swingable to one side for rupturing the container to inflate a flotation member. An attachment having a bent wire frame is secured to the head and a coil spring is tensioned between frame and arm for biasing the arm toward operating position. A swinging plate member pivotally secured to the head is secured against the spring biased arm by a paper ring encircling studs on the plate member and frame, respectively, to secure the arm until the ring is ruptured due to wetting.

3,524,570
RETAINER FOR SHEATH KNIVES
Merle W. Seguine, P.O. Box 989, Juneau, Alaska 99801
Filed Sept. 4, 1968, Ser. No. 757,309
Int. Cl. B26b, *29/02*
U.S. Cl. 224—2 **4 Claims**



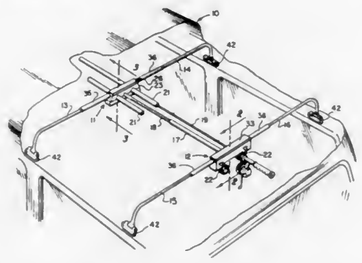
A retainer for a sheath knife which pivots to a locking position to secure the knife in the sheath and can be pivoted to a release position to permit the knife to be removed from the sheath.

3,524,571
COMPACT BELT SUPPORTED TACKLE AND BAIT KIT
Harvey C. Young, 2415 41st St. W. 59102, and Pius Geiger, 41 Nimitz Drive 59101, both of Billings, Mont.
Filed Apr. 18, 1968, Ser. No. 722,419
Int. Cl. A01k *97/04*
U.S. Cl. 224—5 **5 Claims**



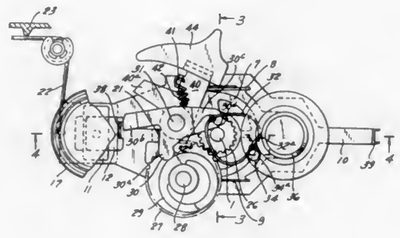
A compact belt supported kit is provided for an angler when he desires to leave camp for a short trip up or down a stream or the shoreline. It enables him to store lures, split shot, swivels and small sinkers. It comprises a lid-equipped outer plastic sleeve which encloses or houses an inner compartmental drum. The drum has milled mounting end caps journalled for rotation on the ends of the sleeve. Built-in partitions divide the drum into selectively usable compartments. A live bait "can" in the drum has a closable cover. The sleeve has a hand hole and shiftable lid to permit access to be had to the drum. Other features will be hereinafter set forth.

3,524,572
FISH POLE CARRIER
Kenneth F. Hall, 9205 W. 73rd Place, Arvada, Colo. 80002
Filed Nov. 24, 1967, Ser. No. 685,381
Int. Cl. B60r *9/04*
U.S. Cl. 224—42.1 **6 Claims**



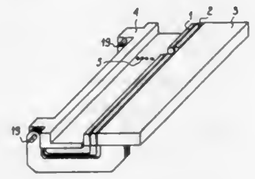
Fish pole carrier inclusive of one or a plurality of spaced cooperative forward and rearward holder members arranged for mounting on stationary surface. Each forward holder member having one or plurality of tubular portions slidably mounted on body portion to receive and support forward end of pole. Each rear holder member alined with forward member and including one or plurality of depending hook-like portions secured at one end on a body. Hook-like portion projecting outwardly and upwardly to provide seating surface for a fish pole. Opposing inturned portions having surfaces in overhanging relation to seating surface to define slot through which pole is inserted onto said seating surface. Rear holder member having cover portion for closing portion of said slot after pole insertion exerting downward forces against pole during transport. Detachable mounting means for securing holder members on vehicle transport top interiorly of vehicle or on storage wall surface.

3,524,573
INTERMITTENT FILM TRANSPORT MEANS FOR MOTION PICTURE PROJECTOR
Max Kotler, Montvale, N.J., and Frank E. Ravese, Brooklyn, N.Y., assignors to DeJur-Amsco Corporation, Long Island City, N.Y., a corporation of New York
Filed Aug. 9, 1968, Ser. No. 751,398
Int. Cl. G03b *1/22*
U.S. Cl. 226—62 **6 Claims**



An intermittent film transport means in a motion picture projector operable at a determined film transport cyclic speed in which mechanism is provided for changing the speed for movement of the film driven by said intermittent film transport means between (a) a film movement corresponding to said determined cyclic speed for normal projection, (b) a film movement which is a fraction of said determined cyclic speed for slow motion projection, and (c) a stoppage of the movement of the film for "still" projection.

3,524,574
PERFORATED TAPE READER
Andrzej Potynski, Grodzisk Mazowiecki, and Ryszard Rawski, Warsaw, Poland, assignors to Politechnika Warszawska, Warsaw, Poland
Filed June 27, 1966, Ser. No. 560,529
Claims priority, application Poland June 26, 1965, P 109,739, P 109,740
Int. Cl. B65h *29/52*
U.S. Cl. 226—198 **4 Claims**

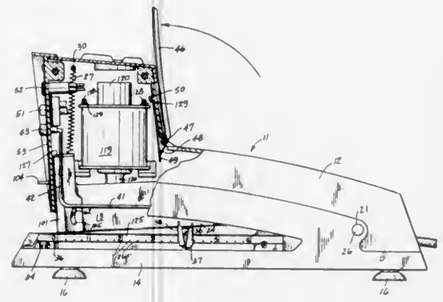


A perforated tape reader equipped with a device for varying the spacing of tape guides. The device consists of non-movable blades and movable blades controlled by cam means to be selectively protruded and retracted to vary the spacing of the tape guides.

3,524,575
ELECTRIC STAPLING MACHINE
Antoon M. Hurkmans and Menachem Futter, Jamaica, N.Y., assignors to Swingline, Inc., Long Island City, N.Y., a corporation of New York
Filed Mar. 30, 1967, Ser. No. 628,229
Int. Cl. B27f *7/06*
U.S. Cl. 227—7 **12 Claims**

An electrically operated stapling machine is shown having an operating element and a base pivotally connected thereto at one end thereof. The opposite end of the base is spaced from the operating element. Upon the spaced end of the base is an anvil which is inclined upwardly at a small angle. The angle of inclination of the anvil is such as to cause the anvil to be substantially parallel to the inclination of the operating element when the operating element strikes the anvil. The base carries a support for a roll of staple blanks secured to one another in laterally aligned relationship and a slidably movable trip lever. The operating element is surrounded by a housing which contains various operating parts of the device. The housing is formed with an openable cover adjacent the support for the roll of staple blanks. The cover is selectively retained in either open or closed position by a retainer spring. Operatively connected to the trip lever is a first switch element. The switch element is rendered inoperative when a jack is connected to a plug located within the housing. The jack is in turn connected to an auxiliary foot switch. The switch element can also be actuated by a hand control which is disposed within the housing and is connected to a button projecting from the forward end of the housing. A second main switch is provided to turn the machine on or off and an indicator light is present in series with the main switch.

A channel is provided for the staple blanks within the housing. At an intermediate point within the channel a spring loaded pivotally movable stop member is provided. This member will permit the staple blanks to travel forwardly but not rearwardly.

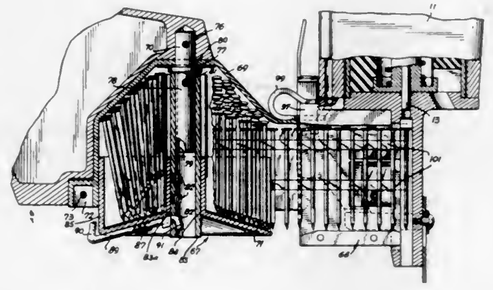


A front sheath is provided for the operating element. This sheath includes a projection which can be manually moved upwardly. The sheath is also provided with a pair of lateral recesses having two oppositely offset portions. An opening is also provided within the sheath of size to accommodate the crown of the formed staple but too small to accommodate the staple blank. This opening is partially defined by a pair of spaced coined depressions within the lower part of the sheath. Within the recesses is a transverse pin. Behind the front sheath is a driver blade, behind the driver blade is a former blade and behind the former blade is a back sheath. The driver blade, former blade and back sheath have mating recesses therewithin. Disposed within these mating recesses is the main control arm. This arm bears a pin thereupon to which three coil springs are secured. Two of these springs are secured to the back sheath and the remaining spring is secured to the housing. A leaf spring is also provided which bears a projection which passes through an additional recess within the former blade. Secured to the transverse pin is a leaf spring which also is operatively connected to the front sheath.

The main control arm is disposed within the outer control arm and is pivotally connected thereto. Within the outer control arm is a rail and a pair of cams are connected to the rail. Each cam is operatively connected to a leg of the staple formed by the former blade.

A solenoid is secured within the housing in operative relationship with a shock absorbing spring. The solenoid is formed with a plunger which abuts the leaf spring.

3,524,576
NAILING MACHINE
I. Walton Bader, New York, N.Y. assignor to Swingline Inc., Long Island City, N.Y., a corporation of New York
Filed Dec. 4, 1967, Ser. No. 695,538
Int. Cl. B25c *1/04*
U.S. Cl. 227—136 **8 Claims**

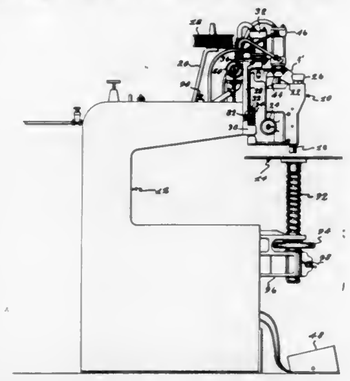


A fluid actuated nailing machine is shown. The machine includes a drive piston, a spring return for the piston, and a control valve optionally permitting air to impinge upon the piston. A conduit is provided normally connected to a source of pressure air which permits pressure air to close the control valve. A trigger valve optionally opens the conduit to atmosphere. The conduit is also connected to a raceway within which is disposed a piston which is forwardly movable by impingment of pressure air. The piston is connected to a pawl which abuts the leading fastener of a strip of laterally interconnected fasteners. A coil spring is connected to the pawl and biases the pawl rearwardly. A support is provided adjacent the pawl to prevent retrograde movement of a strip of nails when the pawl moves retractably. The support includes an outwardly extending holding portion and an offset stop portion both adapted to abut the nail next rearmost to the leading nail. The piston, coil spring, pawl and associated structure are disposed within a support portion of a magazine. The support portion has a pivotally movable openable door thereupon. Spaced from the support portion and operatively connected thereto is the holding container portion of the magazine. This structure is formed with a hollow body, an upwardly extending support, and a cover overlying the body and secured thereto. The body and cover are provided with mating openings through which the strip of fasteners issues.

3,524,577
FASTENER INSERTING MEANS
Roy E. Smith, Atlanta, Ga., assignor to The Auto-Soler Company, Atlanta, Ga., a corporation of Georgia
Filed Apr. 3, 1968, Ser. No. 718,419
Int. Cl. B27c *7/00*
U.S. Cl. 227—153 **8 Claims**

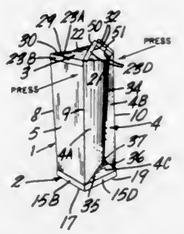
A fluid-actuated fastener inserting means in which a shiftably mounted operating head is caused by fluid pressure to assume and maintain an operative position in clamping relation with work to be secured prior to and during each fluid-actuated fastener insertion by the operating head. As a result, work clamping pressure is

readily adjusted to the nature of the work being handled, and, even more importantly, all essential operating mechanism is arranged in relation to the operating head alone,



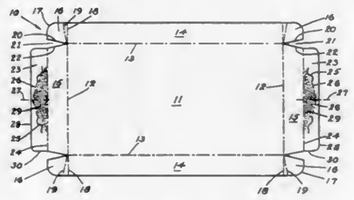
so that exceptional flexibility is allowed in disposing the operating head to the best advantage for the varying needs of particular fastener inserting operations.

3,524,578
CONTAINER WITH SQUEEZE OPEN DISPENSING SPOUT
Marc T. Benezra, North Bergen, N.J., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed July 30, 1968, Ser. No. 748,824
Int. Cl. B65d *5/02, 17/00, 33/00*
U.S. Cl. 229—7 **4 Claims**



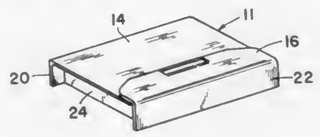
A tubular container having a squeeze open dispensing spout and a pop open top formed by inverted Y-shaped crease or score lines in the top and in the front panel of the container.

3,524,579
CARDBOARD FOLDING BOX CONSTRUCTION
Sidney Conescu, 188B 147th St., Neponsit, N.Y.
Filed June 11, 1969, Ser. No. 832,364
Int. Cl. B65d *5/22*
U.S. Cl. 229—34 **3 Claims**



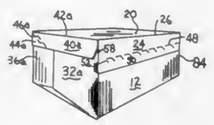
A folding box comprising two duplicate members which provide expansion and contraction of the sides permitting one member to fit within the other member forming the cover and bottom of the box.

3,524,580
SELF-LOCKING PACKAGE WITH RECESSED END PORTIONS
Ernest R. Heyworth, Horseheads, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Dec. 23, 1968, Ser. No. 785,905
Int. Cl. B65d *5/06, 85/00*
U.S. Cl. 229—40 **9 Claims**



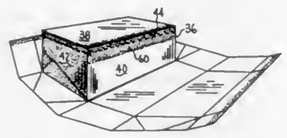
A unitary self-locking container has a pair of integrally formed recessed end portions for protecting the packaged contents from direct impact.

3,524,581
CARTON STRUCTURE
Kenneth T. Buttery, Kalamazoo, Mich., assignor to Brown Company, New York, N.Y., a corporation of Delaware
Filed Aug. 6, 1968, Ser. No. 750,721
Int. Cl. B65d *5/54*
U.S. Cl. 229—51 **4 Claims**



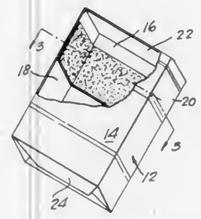
An improved carton which may readily and inexpensively be erected from an integral cut and scored blank is provided with an easy opening cover assembly including a tear strip extending across the cover hood front panel and a cut scored strip disposed upon the carton front wall panel. The tear strip is adhesively secured to the cut scored strip when the carton is in a sealed condition.

3,524,582
OVERWRAPPED CARTON
Kenneth T. Buttery, Kalamazoo, Mich., assignor to Brown Company, New York, N.Y., a corporation of Delaware
Filed Oct. 1, 1968, Ser. No. 764,095
Int. Cl. B65d *5/54*
U.S. Cl. 229—51 **3 Claims**



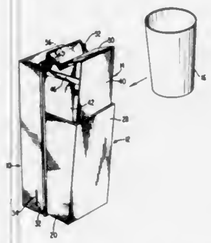
A carton having a cover panel adapted to be opened upon the removal of a tear strip is provided with an overwrap adapted to remain secured to the carton after the carton is opened. The overwrap is adhesively secured to the carton body along panels adjacent the cover panel along adhesive zones adjacent the tear strip so that upon the removal of the tear strip the adhesive bond between the carton and overwrap is not affected.

3,524,583
ANTI-SLIP BAND AND THE LIKE
Arthur C. Gregory, Grenada, Miss., assignor of five percent to Phillip Michele, ten percent to John T. Keeton, and nine percent to G. M. Moore, all of Grenada, Miss., and five percent to J. W. Fennell, Philip, Miss.
Filed Oct. 4, 1968, Ser. No. 765,047
Int. Cl. B65d *65/42, 85/10*
U.S. Cl. 229—87 **5 Claims**



Anti-slip band means for a wrapper or a container for a pack of cigarettes or a pack of cigars in which the inside wrapper disposed in a container is provided with a substantially horizontally extending anti-skid band secured thereto so as to prevent the goods or the cigarettes within the wrapper from slipping or sliding around. Anti-slip band means are further provided on the outside cellophane wrapper of a cigarette pack or a cigar wrapper and the like so as to prevent the pack from slipping or sliding when it is disposed within the pocket of a person.

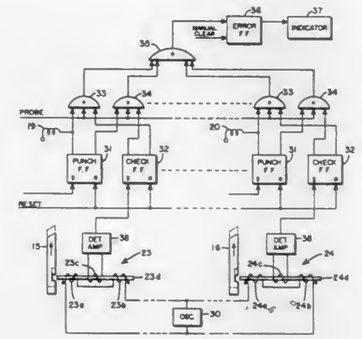
3,524,584
RECEPTACLE
James V. Vevirit, Williamsville, and Francis J. Ihlenfeld, Cheektowaga, N.Y., assignors to McDonald Products Corporation, Buffalo, N.Y.
Filed Mar. 1, 1968, Ser. No. 709,726
Int. Cl. B65f *1/00*
U.S. Cl. 232—43.2 **8 Claims**



A decorative casing of a wall urn permanently attached to its wall mount for outward tipping movement to allow emptying of the contents of a receptacle housed in the casing. The receptacle is supported by a member which is nested in the casing and supported by a hook on the casing mount normally to prevent outward tipping of the casing.

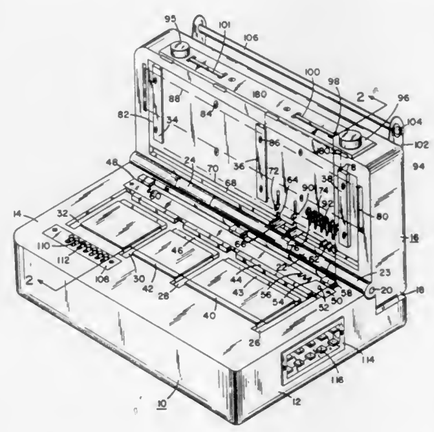
3,524,585
CARD PUNCH PIN POSITION DETECTION SYSTEM
Clifford E. Martin, Kulpsville, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 18, 1968, Ser. No. 776,558
Int. Cl. G06k *1/05, 5/02*
U.S. Cl. 234—33 **4 Claims**

A punch check system is provided in which a tooth formed on a punch pin confronts the core of a differential transformer and operates to shift the transformer from a balanced to an unbalanced condition when the punch pin and therefore the punch pin tooth is moved during a punching operation. An oscillator is coupled to the primary of the differential transformer, and a signal



level detector is coupled to the transformer secondary so that when the transformer is shifted from a balanced to an unbalanced condition an output is produced from the level detector to thereby indicate actuation of the punch pin.

3,524,586
CARD ENCODER
David E. Guthrie, 6351 Cerulan Ave., Garden Grove, Calif. 92641
Filed Nov. 12, 1968, Ser. No. 774,927
Int. Cl. G06k *1/16, 1/20*
U.S. Cl. 234—35 **10 Claims**



A card encoder device having a base member and an upward pivotal member at one side of the base member, which pivotal member has guides for receiving an embossed plate and a plurality of cutters that are positioned by the embossed plate, that in a single pivoting movement of the pivoting member against the base member, encodes the card and imprints the embossed printed information onto the encoded card.

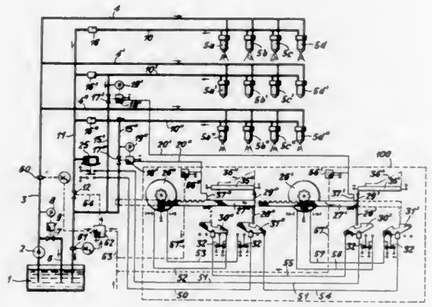
ERRATUM

For Class 235—50 see:
Patent No. 3,524,969

3,524,587
OIL BURNER SYSTEM FOR PARALLEL-FED BURNERS

Antoine Pescatore, Tagelswangen-Zurich, Switzerland, assignor to Sulzer Brothers, Ltd., Winterthur, Switzerland, a corporation of Switzerland

Filed Apr. 3, 1968, Ser. No. 718,421
Claims priority, application Switzerland, Apr. 4, 1967, 4,757/67
Int. Cl. B05b *15/00*
U.S. Cl. 239—76 **10 Claims**

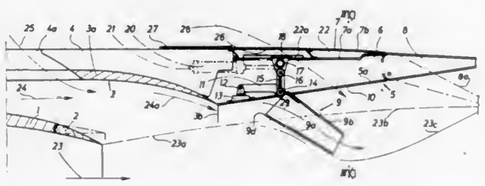


The thermal output of the oil burner system is controlled in a smooth manner by regulating the operation of at least one of the parallel-fed burners or groups of burners. The regulation of the oil flow to the burners uses a bypass line for bypassing the return flow about the non-return valve and pressure maintaining valve in the return lines. The flow through the bypass line is regulated through a control system or through manually operated valves.

3,524,588
SILENCER FOR AIRCRAFT JET ENGINES

Jacques Georges Duval, Cretell, France, assignor to Société Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France

Filed Oct. 14, 1968, Ser. No. 767,393
Claims priority, application France, Oct. 19, 1967, 125,115
Int. Cl. B64d *33/04*
U.S. Cl. 239—265.13 **5 Claims**

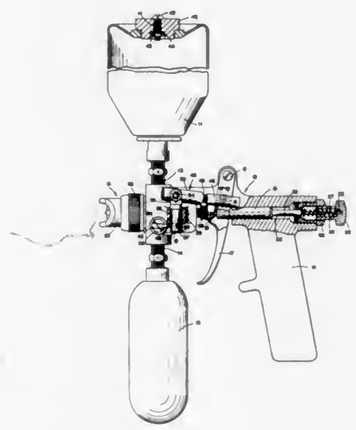


In an aircraft jet engine nozzle in which a jet of hot gases is surrounded by an airflow in a divergent portion of the nozzle, the provision of a plurality of guide elements movable between an inoperative position wherein they are retracted into the wall of the divergent portion and an operative position wherein they are shifted towards the nozzle axis and incline downstreamly towards the said axis, with their upstream edges spaced inwardly from the said wall in order to gather some of the airflow and guide it into the jet to produce a silencer effect, while uncovering openings in the said wall to supply a supplemental flow of air around the jet downstream of the guide elements.

3,524,589
LIQUID-SPRAY DEVICE

Paul P. Pelton, Jr., 658 Woodstock Road, Hillsborough, Calif. 94010

Filed June 14, 1968, Ser. No. 737,084
Int. Cl. B05b *7/04*
U.S. Cl. 239—308 **13 Claims**



A liquid-spray device that includes a gun having an upper connection to a liquid container from which liquid is fed by gravity to a chamber connected to and immediately adjacent a nozzle, while gas, which may be in compressed liquefied condition, is connected to the body of the gun upstream of a control valve, also adjacent the nozzle, actuated by a trigger to discharge the gas into the nozzle for subsequent mixture with the liquid. The gas valve is operated through a linkage connected to a trigger, while the trigger also moves a needle that controls the outlet opening of the liquid nozzle.

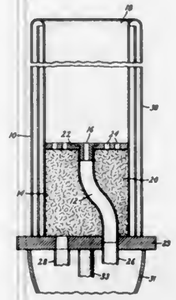
3,524,590
NOZZLE FOR A PYROLYTIC COATING AND DEPOSITION PROCESS

Edwin T. Myskowski, Wayne, Pa., assignor to General Electric Company, a corporation of New York

Filed Apr. 1, 1968, Ser. No. 717,506
Int. Cl. B05b *7/06*
U.S. Cl. 239—424.5 **5 Claims**

In accordance with the present invention, two coaxially flowing fluids are made to interact to produce an extremely stable, coherent single stream which is essentially a vortex in cross section. The inherent coherency and

stability of this stream make it very effective for the controlled delivery of reacting gases into mandrels with small

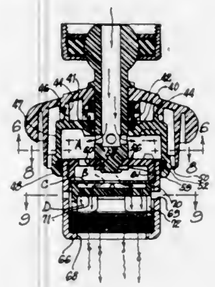


enclosed angles used in processes such as the production of sharp-tipped pyrolytic graphite members.

3,524,591
SPRAY DEVICE FOR SHOWERS, FAUCETS, AND THE LIKE

Abraham M. Samuels, Wilmette, and Eugene B. Shapiro, Highland Park, Ill., assignors to Chicago Specialty Manufacturing Co., Skokie, Ill., a corporation of Illinois

Filed Aug. 2, 1968, Ser. No. 749,864
Int. Cl. E03c *1/084*
U.S. Cl. 239—428.5 **10 Claims**

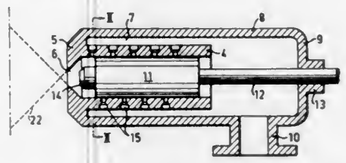


A spray device for showers, faucets, and the like, mounted for swiveling movement and which has an axially slidable means for selectively producing either an aerated stream of water or a needle spray of generally cylindrical shape.

3,524,592
DEVICE FOR INTRODUCING COOLING WATER INTO A CONDUIT FOR SUPERHEATED STEAM

Berth Ulrik Gustafsson, Saffle, Sweden, assignor to Aktiebolaget Kalle-Regulatorer, Saffle, Sweden

Filed Feb. 27, 1968, Ser. No. 708,569
Int. Cl. B05b *1/34*
U.S. Cl. 239—466 **3 Claims**

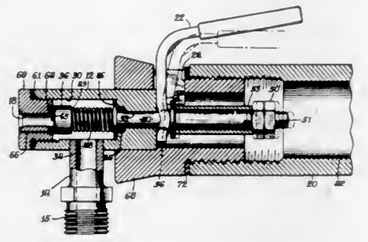


A device for introducing water into a steam conduit comprises a cylinder having an outlet nozzle at one end. The cylinder wall has tangential velocity nozzles for water spaced axially, and a piston within the cylinder is arranged, when moved, to cover or uncover said velocity nozzles so as to control the amount of water supplied.

3,524,593
STEAM GUN

Norman A. Buckley, Wauwatosa, and Peter D. Rasmussen, Milwaukee, Wis., assignors to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware

Filed July 11, 1968, Ser. No. 743,997
Int. Cl. B05b *1/30*
U.S. Cl. 239—583 **7 Claims**

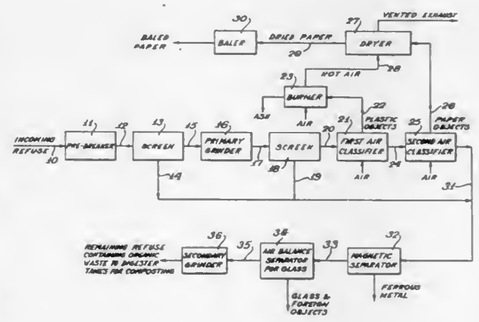


A steam gun having coaxially arranged nozzle and handle elements with a stream inlet line connection transversely disposed therebetween for improved operator safety and gun mobility, and resilient cooperating valve structure for controlled steam discharge from the gun.

3,524,594
REFUSE HANDLING SYSTEM

Ingvar Anderson, Wheaton, and Victor Brown, Elmhurst, Ill., assignors to Metropolitan Waste Conversion Corporation, Wheaton, Ill., a corporation of Delaware

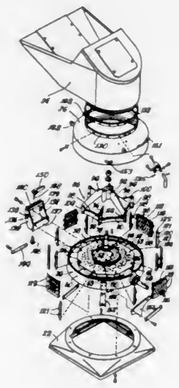
Filed May 31, 1968, Ser. No. 733,622
Int. Cl. B07b *3/00;* **B03c** *1/30*
U.S. Cl. 241—19 **7 Claims**



An improved process for mechanically separating municipal refuse into useful portions without manual sorting, comprising prebreaking of the largest objects in the refuse, screening and by-passing the fines in the refuse, grinding of the refuse to a suitable size, removing plastic objects from the refuse by a first air classifier, removing paper objects from the refuse by a second air classifier, separating ferrous metal and glass objects by a magnetic separator and an air balance separator, the remaining

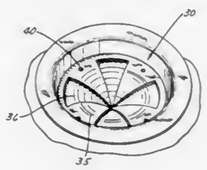
refuse containing the organic waste may be further processed, such as by composting. The removed plastic objects may be burned to produce heat for drying the removed paper objects so that the latter may be packaged and sold.

3,524,595
PROCESSING APPARATUS
Robert L. Glidden and John H. Fulper, Kewanee, Ill., and Richard E. Doerfer, Cedar Falls, Iowa, assignors to Kewanee Machinery & Conveyor Company, Kewanee, Ill., a corporation of Illinois
Original application Oct. 26, 1964, Ser. No. 406,429, now Patent No. 3,381,905, dated May 7, 1968. Divided and this application Apr. 8, 1968, Ser. No. 749,226
Int. Cl. B02c *13/286*
U.S. Cl. 241—69 **9 Claims**



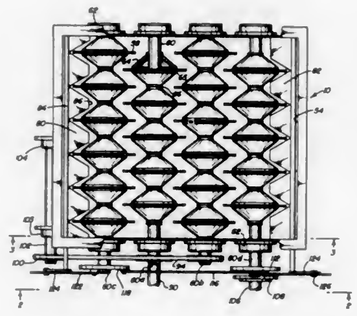
A grain processing apparatus including an impeller means rotatable on a vertical shaft for use in combination with a vertical screen which surrounds the impeller means and further with a horizontal perforated support plate.

3,524,596
WASTE DISPOSER SPLASH SHIELD
Thomas R. Smith, Newton, Iowa, assignor to The Maytag Company, Newton, Iowa, a corporation of Delaware
Filed Oct. 23, 1968, Ser. No. 769,920
Int. Cl. B02c *23/00*
U.S. Cl. 241—100.5 **8 Claims**



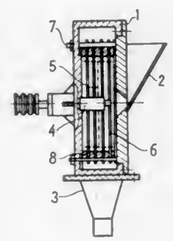
The disclosed waste disposer splash shield includes a plurality of inwardly and downwardly extending segmental members. Alternately positioned segmental members have a top surface substantially aligned with the bottom surface of the interposed segmental members so that adjacently positioned segmental members have substantially line-to-line contact along the radially extending boundaries.

3,524,597
APPARATUS FOR SHREDDING MATERIAL SUCH AS BULK PAPER
Roy B. Burden, Jr., Sherwood, and Ernest J. O'Gieblyn, Portland, Oreg., assignors, by mesne assignments, to Edgar P. Marston, Jr., trustee for Marston Brothers Trust
Original application Jan. 30, 1967, Ser. No. 612,654, now Patent No. 3,453,976, dated July 8, 1969. Divided and this application Sept. 23, 1968, Ser. No. 761,586
Int. Cl. B02c *18/26*
U.S. Cl. 241—142 **9 Claims**



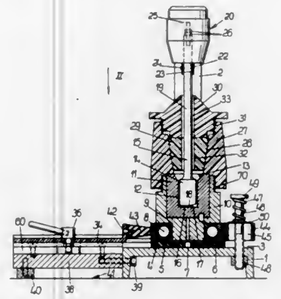
A slasher comprising a housing containing rows of adjustable cutter supports, each carrying cutters on the outer ends thereof. These cutters are circumferentially linked to one another. The cutters of one row are interposed between the cutter supports of the next adjacent row. Oscillatable fingers are interposed between the cutter supports of certain of the rows. Means in the form of frustoconical surfaces are interposed between adjacent cutter supports in the same row, the surfaces tapering inwardly from each of the supports.

3,524,598
CRUSHER
Pawél Perlin and Krzysztof Lipinski, Warsaw, Poland, assignors to Centralne Laboratorium Kopalnych Surowcow Chemicznych, Warsaw, Poland
Filed July 18, 1966, Ser. No. 565,881
Claims priority, application Poland, July 23, 1965, P 110,179
Int. Cl. B02c *13/09, 13/18, 13/26*
U.S. Cl. 241—186 **4 Claims**



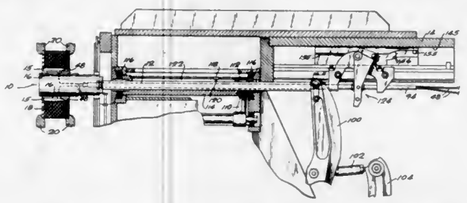
The present invention relates to a materials crusher with which it is possible to effect selective and conservative grinding. The instant crusher yields an end product having a definite grain size repartition and containing the maximum amount of grains belonging to the desired class, the grain structure being altered only slightly.

3,524,599
MORTAR AND PESTLE FOR GRINDING AND MIXING
Siegfried Joachim-Gunter Heilenz, Braugasse 7, Giessen, Germany
Filed Apr. 25, 1967, Ser. No. 633,584
Claims priority, application Germany, Apr. 28, 1966, H 59,237
Int. Cl. B02c *19/08, 2/06*
U.S. Cl. 241—199 **13 Claims**



A grinding and mixing appliance comprising a mechanically driven generally cylindrical pestle mounted to rotate eccentrically in a mortar supported rotably on a table, said pestle having a cut away lower face such that the pestle rotates in a cavity in said mortar to engage the entire surface thereof once during each revolution.

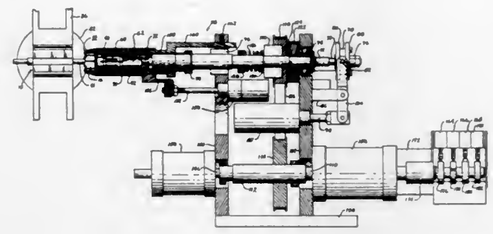
3,524,600
STATOR WINDING MACHINE
Robert W. Peters, Menomonee Falls, Wis., assignor to Lincoln Tool and Manufacturing Company, Milwaukee, Wis.
Filed Oct. 18, 1967, Ser. No. 676,160
Int. Cl. H02k *15/09*
U.S. Cl. 242—1.1 **15 Claims**



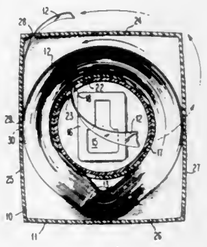
Disclosed herein is a winding head for a stator winding machine having a hollow cylindrical housing with one or more needle cartridge assemblies positioned in slots in the outer periphery of the housing. Each needle cartridge assembly has a wire guide needle pivotally mounted between a pair of lift levers which are alternately moveable radially outwardly from the needle. The lift levers are moved by a back drive assembly including a spindle mounted for axial movement within the shuttle on which the winding head is mounted. The back drive assembly is arranged to move the spindle farther than the shuttle at each end of the shuttle stroke.

3,524,601
ARMATURE WINDING
John M. Biddison and Otto F. Steinke, Dayton, Ohio, assignors to The Globe Tool and Engineering Company, Dayton, Ohio, a corporation of Ohio
Filed July 23, 1968, Ser. No. 746,863
Int. Cl. H02k *15/085*
U.S. Cl. 242—7.03 **10 Claims**

A spindle in an armature winding machine to which an armature is chucked is rotated in one direction by a rotary air actuator which drives the spindle through a one-way clutch and in a reverse direction by the same air actuator acting through a slip clutch. A detent mechanism coacting with the armature stops the armature rotation in the reverse direction. The armature rotation is otherwise stopped by a hydraulic braking circuit.



3,524,602
ENDLESS RIBBON CARTRIDGE
Pierre J. Greene, Apalachin, N.Y., and Joseph D. Sbarra, Hightstown, N.J., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 24, 1968, Ser. No. 770,252
Int. Cl. B65h *17/48*
U.S. Cl. 242—55.19 **6 Claims**

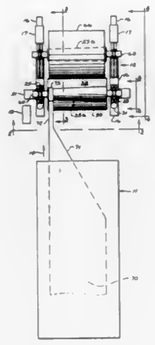


The cartridge comprises an endless ribbon that exits through the hollow core of a spool and after passing a work station is suitably driven back into the cartridge and rewound upon itself. A leaf spring or a spring-biased element bears against the innermost convolution of the ribbon to maintain output tension within predetermined limits; i.e., as ribbon tension increases, the spring or element yields inwardly toward the spool to reduce tension between the convolutions, and as ribbon tension decreases, the spring or element flexes outwardly to increase the tension.

3,524,603
TRANSFER DEVICE FOR PAPER WINDERS
Horatio Hughes, Jr., Charleston, S.C., assignor to Westvaco Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 26, 1968, Ser. No. 755,193
Int. Cl. B65h *17/08*
U.S. Cl. 242—65 **18 Claims**

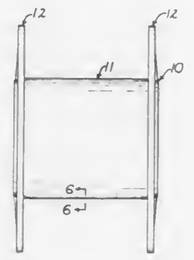
An improvement for winders at the dry end of a paper machine for making heavyweight papers such as linerboard, to be used in the "tail" method of transferrng

continuously oncoming paper onto an empty reel spool, comprising a tapered reel spool and means for equalizing



the peripheral speed of the narrowest portion of the tapered reel spool with the speed of the paper.

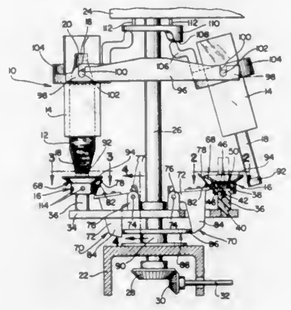
3,524,604
KNOCK-DOWN REEL
James A. Morris, Decatur, Ala., assignor to Metco, Incorporated, a corporation of Alabama
Filed Dec. 11, 1968, Ser. No. 782,837
Int. Cl. B65h *75/18*
U.S. Cl. 242—115 **10 Claims**



A knock-down reel having split sleeve-like drum movable to an extended position and a contracted position. Disc-like heads at each end of drum having inwardly extending flanges which engage inner surface of drum while drum is in contracted position. Cooperating locking elements carried by flanges and ends of drum engage each other securing heads to drum.

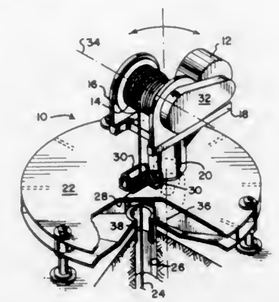
3,524,605
WINDING APPARATUS
Larry C. Cowan, Jamestown, R.I., assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Mar. 18, 1968, Ser. No. 713,650
Int. Cl. B65h *49/02;* **D03j** *5/08*
U.S. Cl. 242—130 **12 Claims**

A bobbin holder for magnetically holding bobbins in an operative position on a winding machine. A dish-shaped seat of the holder has a magnet which magnetically couples a magnetic end ring of the bobbin core to the seat. A shunt is operable for shunting the magnetic field to release the bobbin core so that it may be more easily ejected from the seat by tipping a bobbin receiving tube upon movement of the seat from an active or unwinding position toward a reserve position to receive a fresh



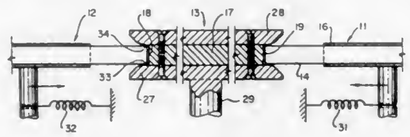
bobbin. Air passages through the seat communicate with a hollow of the core and facilitate pneumatic end retrieval of the yarn.

3,524,606
CABLE REEL MOUNTING
William D. Coski, Mercer Island, Wash., assignor to Lawrence Manufacturing Company, Seattle, Wash., a corporation of Delaware
Filed Mar. 12, 1968, Ser. No. 712,438
Int. Cl. B65h *54/28, 75/00*
U.S. Cl. 242—158 **7 Claims**



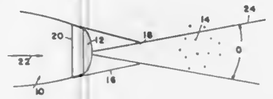
A mounting for a cable reel rotatable on an X axis which allows the reel to swivel on a Y axis automatically to facilitate level winding of cable to and from the reel.

3,524,607
CAPSTAN CONSTRUCTION
Marcel Furst and Mervin L. Falk, Sunnyvale, Calif., assignors to Newell Industries, Inc., Sunnyvale, Calif., a corporation of California
Original application Feb. 9, 1967, Ser. No. 614,967. Divided and this application Aug. 2, 1968, Ser. No. 749,802
Int. Cl. G11b *15/32;* **B65h** *17/20*
U.S. Cl. 242—192 **3 Claims**



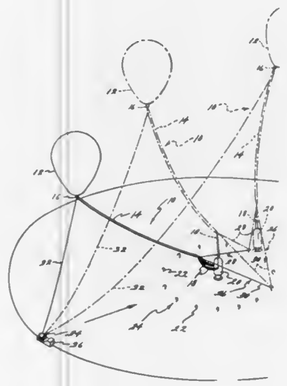
Tape roll drive capstan having a periphery wherein the outer margins are harder than intermediate portions so as to eliminate "cupping" of tape rolls.

3,524,608
RAIN EROSION PROTECTIVE DEVICE
James E. Nicholson, Sudbury, and Richard H. Adams, Bedford, Mass., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Jan. 22, 1968, Ser. No. 699,465
Int. Cl. B64d *45/00*
U.S. Cl. 244—1 **17 Claims**



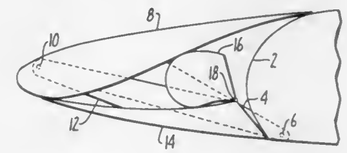
Apparatus for the protection of aerodynamic surfaces from rain erosion whereby a region of high impact pressure air is trapped ahead of the surface being protected which is operative to disintegrate raindrops prior to their impact upon the surface.

3,524,609
METHOD AND APPARATUS FOR LAUNCHING BALLOONS
John W. Sparkman, Boulder, Colo., and William E. Humphrey, Oakland, Calif., assignors to the United States of America as represented by the National Science Foundation, Washington, D.C.
Filed Oct. 1, 1968, Ser. No. 764,075
Int. Cl. B64b *1/58, 1/66*
U.S. Cl. 244—31 **10 Claims**



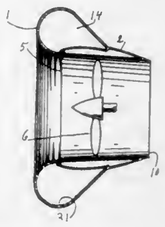
This invention relates to an apparatus for launching balloons that includes an array of anchor points arranged in a substantially circular pattern around a payload at the center, a load line connected between the payload and balloon train, a bridle consisting of two equal-length cables extending from the point of attachment of the load line and balloon train downwardly and outwardly in divergent relation to a pair of the anchor points on the opposite side of the payload, and a movable winch capable of circumnavigating the payload having a mainstay releasably attached to the latter. The method comprises using the bridle to keep strain off the load line until just prior to the actual launch, at which point the load is preferably divided almost equally therebetween, and repositioning the bridle to accommodate changes in wind direction by moving the winch vehicle to alternately transfer the entire load from one bridle cable to the other so that each, in turn, becomes slack and can be reconnected at a different anchor point.

3,524,610
LEADING EDGE FLAP OF VARIABLE CAMBER AND THICKNESS
Alberto Alvarez-Calderon, Avenida Salaverry 3465, Orrantia del Mar, Lima, Peru
Continuation-in-part of applications Ser. No. 187,903, Apr. 16, 1962, and Ser. No. 471,274, July 12, 1965, which is a continuation-in-part of application Ser. No. 337,879, Jan. 15, 1964. This application Feb. 5, 1968, Ser. No. 703,118
Int. Cl. B64c *3/50, 9/26*
U.S. Cl. 244—42 **23 Claims**



This invention pertains to leading edge flap for aircraft wings. It specifies a new type of variable camber flap articulated with respect to the wing by a generally spanwise axis. The flap has a folding nose portion which is stored inside the wing on top of the retracted flap for high speed flight; the molding nose portion is rotated relative to the flap to increase the camber, thickness and chord of the flap for slow speed flight. The new type of flap is exemplified in single and double slotted installations.

3,524,611
CONTROLLABLE AIR DUCT FOR VERTICAL AND SHORT TAKE-OFF AND LANDING TYPE OF AIR VEHICLE
Kurt Frank, 1640 S. Barry, Los Angeles, Calif. 90025
Filed July 22, 1968, Ser. No. 746,478
Int. Cl. B64d *29/00*
U.S. Cl. 244—53 **2 Claims**

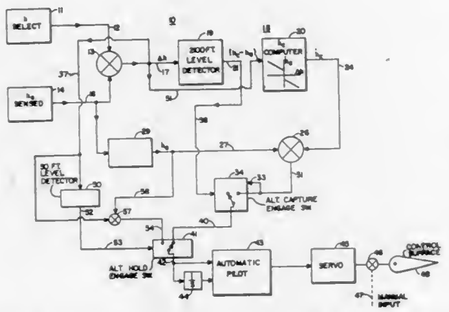


A resilient inflatable toroidal member is mounted around the air intake of a shrouded propellor or fan, or jet engine of a vertical or short take-off air vehicle. The vehicle being of the type in which the shrouded propellors or jet engines are turned to a vertical position to lift the vehicle during take-off and to lower the vehicle during landing, and which are turned to a horizontal position during flight in order to drive the vehicle horizontally. The resilient member is inflated during take-off and landing of the air vehicle so as to increase the lift imparted to the vehicle during take-off and landing, and to serve as a braking means for the vehicle during landing; and the member is deflated during flight so as not to interfere with the high speed forward movement of the vehicle.

3,524,612
CRAFT ALTITUDE CONTROL APPARATUS

Frank W. Ainsworth and Gordon O. Handberg, Minneapolis, Minn., assignors to Honeywell Inc., Minneapolis, Minn. a corporation of Delaware

Filed Sept. 27, 1967, Ser. No. 670,938
Int. Cl. B64c *13/18*
U.S. Cl. 244—77 10 Claims

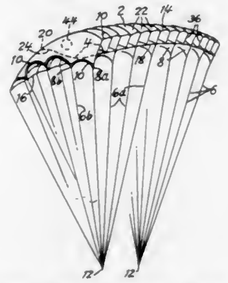


The altitude control for an aircraft includes (a) an altitude capture mode and (b) an altitude hold mode both for climb or descent.

3,524,613
FLEXIBLE GLIDING WING

James D. Reuter, Manchester, Edwin D. Vickery, Tolland, and William J. Everett, Jr., Vernon, Conn., assignors to Pioneer Parachute Company, Inc., Manchester, Conn., a corporation of Delaware

Continuation-in-part of application Ser. No. 615,487, Feb. 13, 1967. This application Apr. 8, 1968, Ser. No. 719,313
Int. Cl. B64d *17/02*
U.S. Cl. 244—142 12 Claims



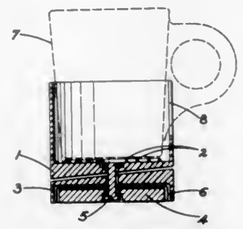
A self-inflating flexible gliding wing is provided with suspension lines of substantially uniform length in a direction transversely of the wing whereby the wing is given a transversely arched contour. The leading edge of the wing embodies upper and lower members which during flight form a ram air scoop that is substantially closed at the rear along a line spaced from the leading edge so as to maintain the leading edge extended during flight. The space between the upper and lower members is provided with longitudinally extending dividers performing adjacent compartments which preferably communicate with each other to aid in inflation of the wing.

3,524,614
MAGNETIC CUP HOLDER

Billy S. Sorth, 445 49th St., Oakland, Calif. 94609

Filed Aug. 5, 1968, Ser. No. 750,373
Int. Cl. A47g *29/00*
U.S. Cl. 248—131 4 Claims

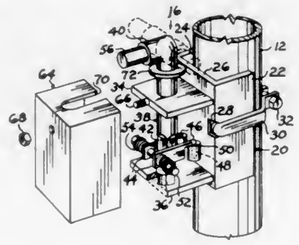
A cup holder having a first body portion with means on the upper surface to hold a cup and its lower surface disposed at an angle to the upper surface. The first body portion is rotatably engaged with a bottom support member having an upper surface disposed at a similar angle. A magnet is provided in the base of the support member for attaching the holder to a metal surface.



3,524,615
REFUSE CONTAINER SUPPORT

Albert W. Beasley, 2136 W. Lindley, Oklahoma City, Okla. 73107

Filed May 2, 1968, Ser. No. 726,070
Int. Cl. B65f *3/04*
U.S. Cl. 248—145 3 Claims

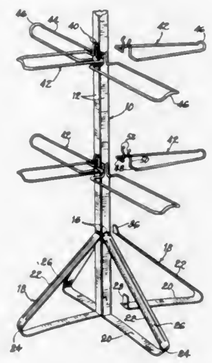


A horizontally disposed refuse can supporting loop is connected by its tongue with a right angular support having a vertically disposed leg journalled by a bracket clamped to an upright support. Spring urged pivoting clamp arms bear against a square surface on the leg permitting axial rotation of the leg to hold it in a 90° position in opposite directions.

3,524,616
BASE FOR AN UPRIGHT FOR FORMING A STAND

Howard J. Marschak, 855 W. North Ave., Evanston, Ill. 60622

Filed May 29, 1968, Ser. No. 733,136
Int. Cl. F16m *11/20*
U.S. Cl. 248—188.7 4 Claims



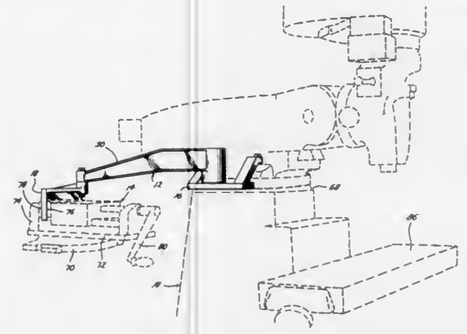
A base for an upright for forming a display stand or the like, which base is formed of a plurality of legs which

interlock with the upright by the positioning of the legs in relation to the upright without the use of any extraneous fastening elements.

3,524,617
APPARATUS FOR USE IN CONNECTION WITH VISE

Fred Braun, Grapevine, and Allan F. Bresowar, Irving, Tex., assignors to Textool Products, Inc., Irving, Tex., a corporation of Texas

Filed Nov. 16, 1967, Ser. No. 683,680
Int. Cl. B23g *3/00*
U.S. Cl. 248—309 3 Claims

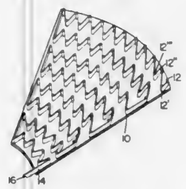


A vise is swung to and from the work position by attaching the vise to apparatus which includes a base secured to a support, a plate which is engaged by the jaws of the vise, and an elongate arm which joins plate and base and is pivotally connected to each.

3,524,618
FRANGIBLE MOLDS

Joel Collman, Roy, and Lowell R. Alvord, Ogden, Utah, and Howard Tucker, Malad, Idaho, assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed July 17, 1967, Ser. No. 653,690
Int. Cl. B28b *7/34*
U.S. Cl. 249—61 3 Claims



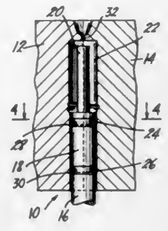
A frangible mold having a tape interwoven around frangible studs encased in a frangible matrix. The mold is fragmented by pulling the tape.

3,524,619
CORE PINS FOR INJECTION-BLOW MOLDING

Ephraim Natkins, Jackson Heights, N.Y., assignor to APL Corporation, Brooklyn, N.Y., a corporation of New York

Filed June 28, 1968, Ser. No. 741,010
Int. Cl. B28b *7/16*
U.S. Cl. 249—142 2 Claims

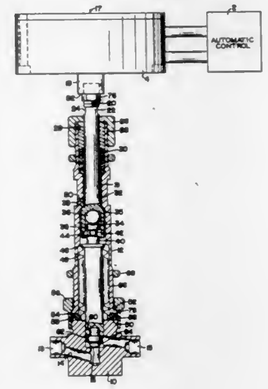
Molding apparatus in which two separable mold sections close about a core pin and define with the core pin a mold cavity provided with a pair of O-rings longitudinally spaced apart on the core pin in spaced-apart relation to the mold cavity. The O-rings reduce shock to and abrasion of the core pin during the seating of the core pin within the mold sections, facilitate limited lateral movement of the core pin without making contact with the mold sections, and reduce the venting rate and hence the flashing of plastic from the mold cavity.



3,524,620
AUTOMATICALLY CONTROLLED BELLOWS VALVE

Bernard J. Gallagher and Earl D. Shufflebarger, Mentor, and John R. Boylan, Cleveland Heights, Ohio, assignors to Nupro Company, Cleveland, Ohio, a corporation of Ohio

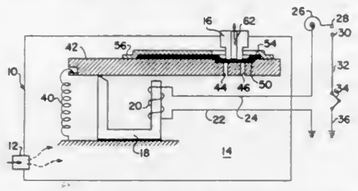
Filed May 27, 1968, Ser. No. 732,120
Int. Cl. F16k *31/363*
U.S. Cl. 251—63.4 11 Claims



This invention involves the combination of a bellows valve and control means for regulating the valve between open and closed positions. The basic structure includes a valve body having an inlet, an outlet and a valve seat disposed in the passageway therebetween. A bonnet is attached to the valve body coaxial with a valve stem opening. A valve stem projects through the opening, the stem being two coaxially aligned sections. The two sections are attached by a pin-in-groove or other type of connection which allows relative rotational movement of the two stem sections. This permits the second or lower stem section to remain fixed against rotation relative to the bonnet. A bellows is disposed within the bonnet around the stem and is attached in fluid tight relationship to the lower stem section and to the valve body to serve as a fluid seal against fluids passing through the valve body. The lower end of the lower stem section defines a structure for sealing against the valve seat. The upper

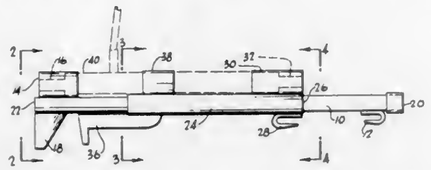
stem section projects above the bonnet and is guided and held coaxial therewith by packing disposed in the upper end of the bonnet. Projecting beyond the upper end of the bonnet the upper stem section threadedly engages a rod which is rigidly attached to a piston in a piston-cylinder combination. The upper stem section is rotatable relative to the rod and the second stem section, whereby rotation in one direction will lengthen the rod-first stem section-second stem section combination and rotation in the other direction will shorten that combination.

3,524,621
PRESSURE SNAP CONTROL VALVE
Lambert F. Craemer, Orange, and James N. Brooks, Hermosa Beach, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Jan. 31, 1968, Ser. No. 701,924
Int. Cl. F16k *31/44*
U.S. Cl. 251—75 **9 Claims**



A flow control device having a resilient valve element mounted on an actuating lever with restraint means providing two different effective diameters in a direction perpendicular to its plane so that the valve element remains closed during initial movement due to pressure differential effect and opens with a snap action during final lever movement in the opening direction.

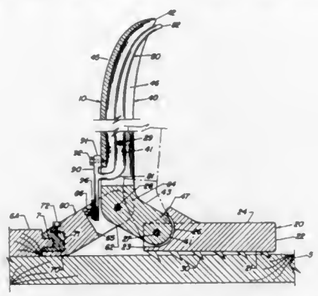
3,524,622
FORCE DEVELOPING APPARATUS
Archie Harry Pruett, San Jose, Calif. (P.O. Box 3534, Coa's Bay, Oreg. 97420)
Filed June 26, 1968, Ser. No. 740,285
Int. Cl. B66f *3/24*
U.S. Cl. 254—1 **4 Claims**



Apparatus adapted to be actuated by an expansion ram, hydraulically operated, to simultaneously develop pushing, pulling and spreading forces available for use as required.

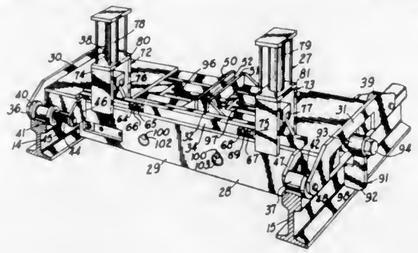
3,524,623
JACK FOR LAYING FLOORING
Alfred L. Campbell, Omaha, Nebr. (R.F.D. 1, Box 46, Hampshire, Ill. 60140)
Filed May 2, 1968, Ser. No. 726,057
Int. Cl. B66f *3/00*
U.S. Cl. 254—15 **7 Claims**

This invention relates to a pressure-exerting jack for forcing panel elements into close sideward contact with other panel elements as is desirable in laying flooring, ceiling, blocks, or other material where a close joint is required and there are spatial gaps to be eliminated as nearly as possible before the abutting panel-like elements are secured to joists or other appropriate base of a building structure. In particular, this invention relates to a jack tool that enables a lone operator to lay strip-like flooring of matable sideward contour into substantially



gap-free tight sideward abutment and to also enable the lone operator to nail or otherwise secure the strip-like flooring onto a structural base without the assistance of another operator.

3,524,624
TRACK GAUGING METHOD AND APPARATUS
George T. Blackwell, Jr., P.O. Box 278, Oneonta, Ala. 35121, and Duard E. Winters, 7 Parkside Blvd., La Vale, Md. 21502
Filed Jan. 23, 1968, Ser. No. 699,822
Int. Cl. E01b *29/22*
U.S. Cl. 254—43 **9 Claims**

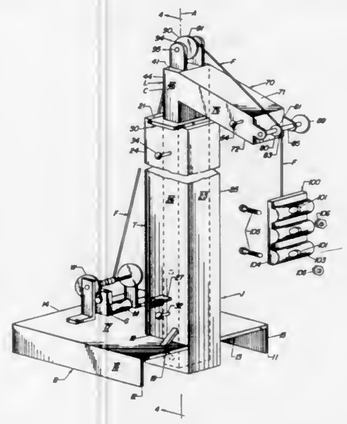


A track gauging method and apparatus for positioning the rails of a railroad track a standard distance apart. The method comprises positioning a gauging member transversely between the rails of the track, moving the gauging member to a position above the space between adjacent crossties of the track, inserting the gauging member to a position between the bases of the rails, and urging the rails toward each other, so that their bases engage the gauging member. The apparatus include a gauging member having end surfaces positioned at the prescribed distance for rail base separation, with the ends of the gauging member including downwardly extending projections for insertion into the railroad bed as may be necessary, and clamping members normally positioned outwardly of the rails of the track, which are movable inwardly toward each other and into engagement with the rails to urge the rails toward each other.

3,524,625
JACK FOR ERECTING THIN-SHELLED STORAGE BUILDINGS
Burnell F. Ecklund, R.F.D. 1, Mead, Nebr. 68041, and Corliss Dean Botts, 135 S. Downing, Fremont, Nebr. 68025
Filed July 31, 1968, Ser. No. 749,139
Int. Cl. B66c *23/60*
U.S. Cl. 254—143 **3 Claims**

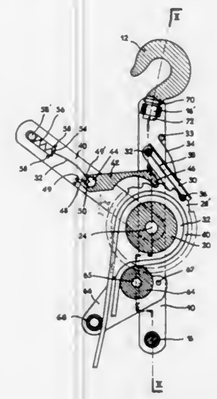
This invention relates to a novel vertically movable jack for erecting thin-shelled storage enclosures such as grain

storage bins and the like which are commonly constructed of curved sheets fastened together to form a cylinder, a plurality of said cylinders being attached together consecutively in vertical alignment commencing at the roof to provide the thin-shelled storage building. A plurality of the novel vertically movable jacks are removably yet



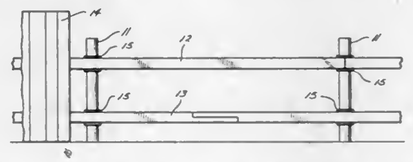
stably fastened together with elongate pole-like braces within the internal confines of the storage building to be erected, and the roof and consecutively attached upper cylinders of the storage building which are elevated incrementally by the said jacks surround and protect said jacks from the atmospheric elements while the thin-shelled storage building is being erected.

3,524,626
HOIST
Jean Pomagalski, La Tronche, and Marcel Durand, Grenoble, France, assignors to Jean Pomagalski S.A.
Filed Dec. 11, 1967, Ser. No. 689,369
Claims priority, application France, Dec. 28, 1966, 5,034
Int. Cl. B66d *1/00*
U.S. Cl. 254—167 **2 Claims**



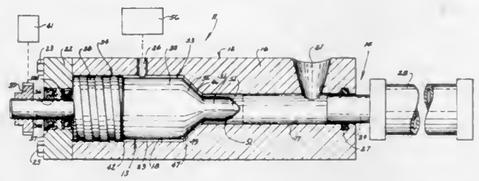
A hoist comprising a frame in which is so fitted that it may rotate a pulley with a groove for the hauling of a cable passing through the groove, an operating lever with which the pulley is intermittently rotated by means of an operating pawl articulated on the said lever and coacting with the notches of a ratchet wheel fixed to the said pulley, the notches also coacting with a holding pawl which prevents the rotation backwards of the said pulley, elastic means being provided to maintain in one buckled position the operating pawl disengaged from the ratchet wheel and in the other buckled position in the engaged position.

3,524,627
DEVICE FOR ATTACHING A RAIL TO A FENCE POST
Walter Lee Boyanton, Robert J. McAllister, and Joe H. Rhodes, Houston, Tex., assignors to Gibraltar Fence Co., Inc., Houston, Tex., a corporation of Texas
Filed May 24, 1968, Ser. No. 731,910
Int. Cl. E04h *17/00*
U.S. Cl. 256—65 **2 Claims**



A device for attaching a rail to a fence post. It includes a bracket which is adaptable for attaching a rail thereto and has connecting means for attaching the bracket to the post. It also includes pivot means whereby the bracket may be rotated relative to the post whereby the bracket can be used to attach generally horizontal rails and to accommodate for grade elevations, and in addition, can accommodate vertical rails which may be used to support gates or the like.

3,524,628
CONICAL ROTOR WITH ELONGATED NOSE PORTION
James W. Hendry, Helena, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware
Filed May 1, 1968, Ser. No. 725,800
Int. Cl. B01f *7/12*
U.S. Cl. 259—10 **9 Claims**

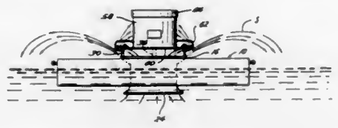


A plasticizing apparatus comprising a feed barrel having an opening extending therethrough. Said opening comprises feeding and preheating portions of relatively small, and usually the same, diameters, a plasticizing portion of progressively increasing diameter and an equalizing or soaking portion of enlarged, usually constant, diameter. A pressure feed member is provided in the feeding portion of said opening. A rotor is provided rotatably within the remainder of said opening, same comprising a relatively small portion within said preheating portion of the opening, a conical portion within, and facing the wall defining, the plasticizing portion of the opening and a relatively large, usually cylindrical, portion within the enlarged portion of the opening to provide a heat equalizing or soaking zone. The pressure feed member feeds and compresses particulate plastic material into the preheating zone for preheating and then into the conical plasticizing zone for plasticizing, the plasticized material then being propelled through the soaking zone and discharged adjacent the other end thereof.

3,524,629
APPARATUS FOR AND METHOD OF AERATING LIQUIDS

Don A. Culwell, 7811 Hiawatha, Houston, Tex. 77036

Filed July 29, 1968, Ser. No. 748,383
Int. Cl. B01f 5/12
U.S. Cl. 259—95 7 Claims



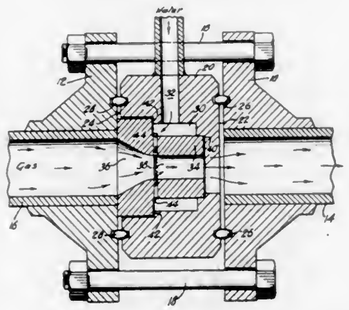
A liquid aerating method and apparatus of the floating type constructed to draw liquid from beneath the surface of a body of liquid and discharge the same in a spray above the surface. The method includes establishing an upflow of liquid in an annular flowway, from beneath the surface of a body of liquid directing the liquid upwardly and outwardly radially from the flowway above the surface of the liquid and diverting a portion of the outflowing liquid toward a central location relative to the annular flowway for use as a coolant for a power source from which the apparatus is operated.

The apparatus of the invention includes a floating aerating unit, having means forming an annular, upwardly divergent flowway whose lower end forms an inlet beneath the surface of a body of liquid and whose upper end opens outwardly above such surface; power means for causing an upflow and outflow of liquid through the flowway to form a spray-like stream moving upwardly and radially outwardly from the unit, and including motor means located on the unit in a central position relative to the annular flowway, and means positioned to divert a portion of the outflowing stream from the flowway toward said motor means to cool the same.

3,524,630
SCRUBBING NOZZLE FOR REMOVING UNCONVERTED CARBON PARTICLES FROM GAS

Charles P. Marion, Mamaroneck, N.Y., assignor to Texaco Development Corporation, New York, N.Y., a corporation of Delaware

Filed July 1, 1968, Ser. No. 741,494
Int. Cl. B01d 47/10
U.S. Cl. 261—76 4 Claims

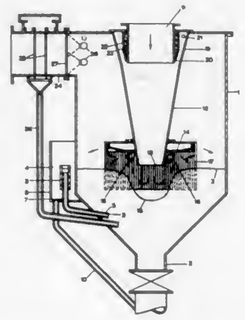


A nozzle type gas scrubber for washing impurities from a flow of gas in the form of a spool insertable between the flanges of a pipe coupling and adapted to accelerate the gas stream thru a constricted nozzle where it is washed by injection of streams of wash liquid in the throat of the constriction.

3,524,631
MEANS FOR CARRYING OUT GAS SCRUBBING OPERATIONS

Ernest Mare, Johannesburg, Transvaal, Republic of South Africa, assignor of ten percent to John Pirie Brander Stuart, Johannesburg, Transvaal, Republic of South Africa

Filed Nov. 6, 1967, Ser. No. 680,887
Claims priority, application Republic of South Africa, Nov. 22, 1966, 66/7,061
Int. Cl. B01d 47/02
U.S. Cl. 261—112 11 Claims

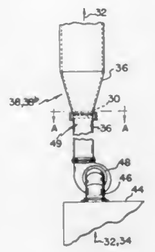


Method and apparatus for carrying out gas scrubbing, heat exchange, evaporation and condensation operations and operating on the principle of discharging gas onto a liquid surface. The gas is discharged from an outlet spaced downwardly below a horizontally extending shield under conditions which will ensure a resultant upward flow of liquid entrained in gas which will shatter against the undersurface of the shield.

3,524,632
FLAME GRID AND COMPONENT PARTS THEREOF

Theodore E. Davies, Hudson, Ohio, assignor to The North American Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Filed June 12, 1968, Ser. No. 736,517
Int. Cl. F23l 9/04
U.S. Cl. 263—19 67 Claims

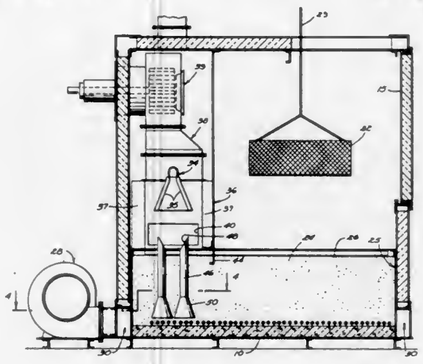


Direct-fired, flame-grid-type burners using substantially raw fuel to heat a gaseous stream, such as air or gas (either not carrying or carrying combustibles, including fumes, to be incinerated), for use in a make-up air or space heater, oven, dryer, evaporator, draw furnace, combustible incinerator, etc. with temperature rises from approximately 3° to 1500° F.; and each burner having long turn down range and plate-like portions with flow opening or edge portions for diverting some stream portions into a combustion zone on a flame holder and subsequently mixing the combustion products therefrom with all stream portions for uniform heating or incineration.

3,524,633
HEAT TRANSFER APPARATUS UTILIZING PARTICLES OF GRANULAR MATERIAL

Benjamin P. Shiller, 7870 Eiseman Road, Manchester, Mich. 48158

Filed July 24, 1968, Ser. No. 747,245
Int. Cl. F27b 15/00
U.S. Cl. 263—21 16 Claims

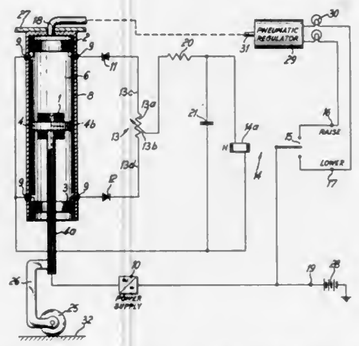


Apparatus having a chamber in which a bed of granular material such as sand is contained and is heated by a heating element mounted above the upper level of the bed. Heat transfer is enhanced by conveying particles of granular material from the bed through a high temperature zone adjacent the heating element and returning these particles to the bed, which is preferably fluidized and the fluidizing gas used as a conveying medium. The disclosure includes forms of this apparatus for transferring heat to a workpiece, for the combustion of fume laden gas, and for the combustion of wastes.

3,524,634
PNEUMATIC SHOCK ABSORBER ARRANGEMENT

Peter Schmidt, Dabringhausen, Germany, assignor to Hoesch Aktiengesellschaft, Dortmund, Germany

Original application Sept. 6, 1966, Ser. No. 577,253. Divided and this application Oct. 14, 1968, Ser. No. 767,150
Claims priority, application Germany, Sept. 9, 1965, H 57,120
Int. Cl. B60g 17/06
U.S. Cl. 267—65 10 Claims

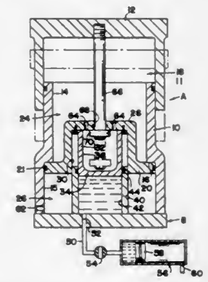


A pneumatic shock absorber arrangement for use in motor vehicles. A cylinder and piston assembly has provision for admitting and exhausting gas under pressure to and from the cylinder. Electromagnetic coils are mounted at each of the ends of the cylinder associated with the limits of the piston travel. The wheel of the motor vehicle which is to be stabilized with respect to a reference datum, is mounted to the piston. A third electromagnetic coil is secured to the piston and movable therewith. An electrical power supply energizes this third coil mounted on the movable piston. Depending upon the motion and displacement of the piston, voltage signals are induced at the two fixed coils at both ends of the cylinder. The induced voltage signals of the two coils at the ends of the cylinder are applied to a comparator which compares the signals and actuates the valves of a pneumatic regulator. Depending upon the state of the valves, the pneumatic regulator will either admit air under pressure into the cylinder or exhaust air therefrom. By operating the pneumatic regulator in conjunction with the electrical comparator, the amount of compressed gas within the cylinder is regulated so that the piston to which the wheel of the motor vehicle is attached, is maintained stable with respect to a fixed reference datum.

3,524,635
SELF-CONTAINED DIE CUSHION WITH AIR SAVER

Daniel T. Rymsza, West Chester, Pa., assignor, by mesne assignments, to Gulf & Western Industrial Products Company, Grand Rapids, Mich., a corporation of Delaware

Filed Nov. 13, 1967, Ser. No. 682,145
Int. Cl. F16f 9/06
U.S. Cl. 267—119 9 Claims

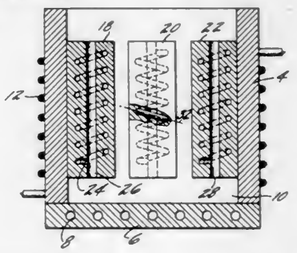


A self-contained die cushion for use on a power press wherein the cushion chamber is divided into two chamber portions with a compressible fluid in one portion and an incompressible fluid in the other portion. Control means are provided to control the introduction and evacuation of the incompressible fluid to and from the chamber portion thereby to raise or lower the cushion with the compressible fluid being retained in the die cushion at all times.

3,524,636
CAST SINGLE CRYSTAL SPRING ELEMENT

Stephen M. Copley, Madison, David N. Duhl, Newington, and Bernard H. Kear, Madison, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

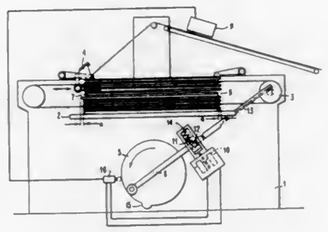
Filed Mar. 20, 1968, Ser. No. 714,721
Int. Cl. F16f 1/02
U.S. Cl. 267—166 15 Claims



A new article of manufacture comprising a cast spring element capable of operating at high temperatures, the

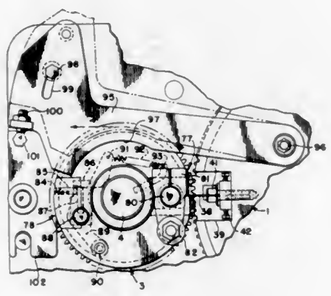
spring element having a predetermined crystallographic orientation with respect to the principal stress or load axis of the spring.

3,524,637
CUTTLING OR FOLDING MACHINE
Joachim Stein, Rheydt, Germany, assignor to A. Monfords, Monchengladbach, Germany, a corporation of Germany
Filed Aug. 5, 1968, Ser. No. 750,374
Claims priority, application Germany, Aug. 3, 1967, M 75,023
Int. Cl. B65h *29/46*
U.S. Cl. 270—31 6 Claims



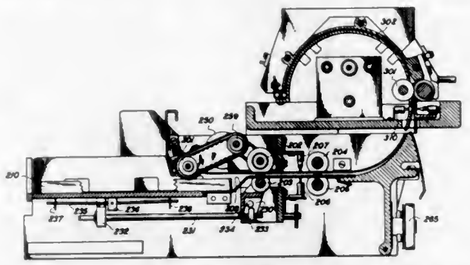
Device for thrusting out indicator folds from a stack of folds of predetermined length in a folding machine, particularly for textile webs, wherein the drive mechanism for effecting relative displacement between the folding carriage and the folding table of the machine is provided with control means for increasing the length of the normal stroke producing the folds of predetermined length in one direction by a given amount and for shortening the length of the normal stroke in a direction opposite to the one direction by the same amount.

3,524,638
WEB CUTTER AND FOLDER
Robert B. Thatcher, Fort Worth, Tex., assignor to The Chandler & Price Company, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 23, 1967, Ser. No. 662,811
Int. Cl. B65h *45/16*
U.S. Cl. 270—72 8 Claims



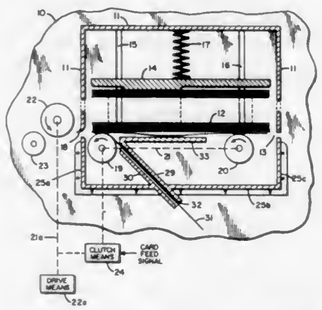
A web cutter and folder having a main drum with cutter and jaw cylinders running thereagainst, the jaw cylinder having both a folding jaw and optionally usable picker pins for producing, for example, either a quarter fold or tabloid fold.

3,524,639
AUTOMATIC FEEDING DEVICE
Richard E. Smith, Webster, Paul S. Heiler, Fairport, and Franklin L. Headd, Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Mar. 8, 1968, Ser. No. 711,547
Int. Cl. B65h *3/06*
U.S. Cl. 271—10 8 Claims



Sheet feeding apparatus for separating a sheet from a stack and positioning it at a point for delivery to a facsimile transceiver on request wherein a pivotably mounted kicker roller advances the top most sheet in the stack into a separating means, withdraws from the stack for a delay period to insure separation of superposed sheets and momentarily engages the forwarded sheet a second time to assist the separating means to advance the separated sheet to a point beyond the separating mechanism.

3,524,640
CARD FEED WITH MANUAL INTERVENTION PROVISIONS
Thomas Dvorak, Norristown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 2, 1968, Ser. No. 749,753
Int. Cl. B65h *1/00*
U.S. Cl. 271—61 4 Claims



A manual intervention for a card handling device is provided which includes a card guide channel arranged relative to the main feeder mechanism of the handling device so as to permit a card to be operator inserted into the main card feed mechanism in preference to cards being fed from the main supply stack.

3,524,641
SKI EXERCISING APPARATUS
Robert J. Ossenkop, Linden, N.J., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Oct. 2, 1967, Ser. No. 672,311
Int. Cl. A63b *69/18*
U.S. Cl. 272—57 8 Claims

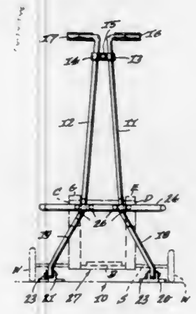
The ski exercising apparatus comprises a pair of arcuate parallel spaced guide rails and a cart which shuttles left

to right along the rails. End supports and a center support are provided for the rails and rubber straps extend from



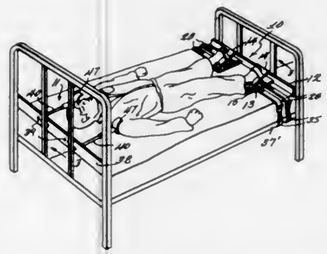
the cart to each end support, and in addition, a rubber safety strap extends from the cart to the center support.

3,524,642
WALKING AND TRAINING DEVICE
Ralph Aguilar, 825 Hernandez, Del Mar, Calif. 92014
Filed May 29, 1968, Ser. No. 733,098
Int. Cl. A63b *25/00*
U.S. Cl. 272—70.1 1 Claim



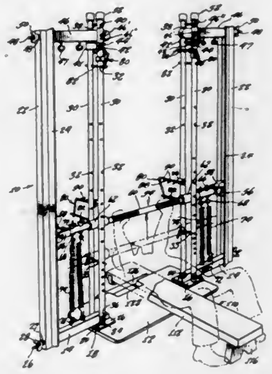
A walking and training device comprising first and second tubular members each terminating on one end with a foot for contacting a surface on which the training device rests and at the other end with a handle, a lower platform coupled to each of said first and second tubular members, said lower platform adapted for supporting a person and a coupling bracket coupling said first and second tubular members towards the ends with said handles.

3,524,643
APPARATUS FOR FOOT AND ANKLE EXERCISE
Willard D. Hazelitt, Sr., Rte. 3, Box 131A, Leavenworth, Kans. 66048
Filed Aug. 26, 1968, Ser. No. 755,049
Int. Cl. A63b *23/04*
U.S. Cl. 272—83 3 Claims



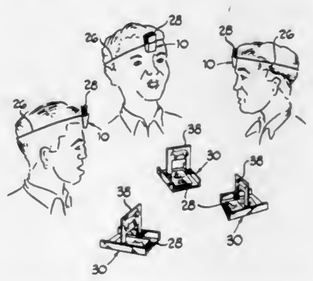
A spring biased foot exercising device with associated shoulder rests. The exercising device is detachably connected to a bed and in the normal operating position is transverse the bed so that the user's feet will engage the foot pedals while the user's shoulders will engage the shoulder rests.

3,524,644
PUSH-PULL SPRING BIASED BAR-BELL TYPE EXERCISING DEVICE
John F. Kane, 1793 Riverside Drive, New York, N.Y. 10034
Filed July 25, 1968, Ser. No. 747,551
Int. Cl. A63b *21/00*
U.S. Cl. 272—83 9 Claims



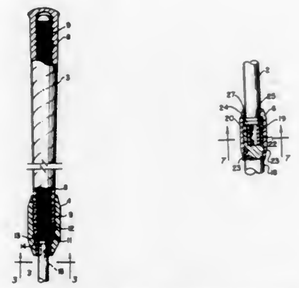
An exercising apparatus for bar-bell type exercises, for development and strengthening the major portions of the body including arms and legs, and is readily adaptable for use in various standing, squatting, sitting and lying-down types of exercises. A horizontal movable bar is adapted to rest upon bars disposed between spaced pairs of vertically-extending perforated poles, secured to a platform. The ends of the horizontal bar carries wheels ridable in channel-shaped uprights. Radial arms are carried by the top and bottom ends of the poles and are provided with depending and upright hooks adapted to be aligned with hooks on the horizontal bar. Tension springs are secured between the bar hooks and the arm hooks against which the bar moves. An elongated portable exercise bench is provided for use when required for certain exercises.

3,524,645
CARD GAME APPARATUS
Jeffrey D. Breslow, Evanston, Ill., assignor to Marvin Glass & Associates, Chicago, Ill., a partnership
Filed Aug. 31, 1967, Ser. No. 664,740
Int. Cl. A63f *1/00, 1/10*
U.S. Cl. 273—1 2 Claims



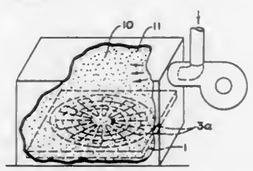
A game apparatus including a number of card holders, each holder being adapted to be strapped to the forehead of a player for displaying cards. A number of card trays are included, and a differently illustrated display board is removably positioned on each tray. There is further provided a deck of cards, arranged in differently illustrated sets. The cards in each set bear an illustration corresponding to that on one of the display boards.

3,524,646
GOLF CLUB ASSEMBLY
Harold P. Wheeler, 2502 Tulane Ave., Alamogordo, N. Mex. 88310
Filed June 8, 1967, Ser. No. 644,615
Int. Cl. A63b *53/02, 53/16*
U.S. Cl. 273—81.2 **1 Claim**



A golf club assembly particularly adapted for putters wherein the grip is selectively movable along an upper portion of the shaft and fastened at preselected positions to vary its effective length. Lower portion of the shaft and club head carry interfitting male and female portions secured after assembly to prevent slippage and providing interchange of selected sizes, weights and shapes of putter blades.

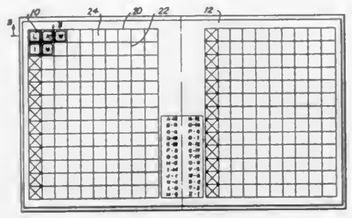
3,524,647
METHOD OF MAKING AN EXPANDED POLYETHYLENE DART BOARD
Charles E. Studen, R.D. 1, Pekin Road, Newbury, Ohio 44065
Original application Apr. 6, 1964, Ser. No. 357,456, now Patent No. 3,409,301, dated Nov. 5, 1968. Divided and this application Aug. 2, 1968, Ser. No. 752,448
Int. Cl. F41j *3/00*
U.S. Cl. 273—102 **8 Claims**



A method of making a dart board of expanded polyethylene with a cellular memory. A screen is laid on an expanded polyethylene blank, the screen having porous and nonporous areas. Applying an adhesive to the blank through the screen, removing the screen, uniformly depositing shredded material on the blank and shaking the blank, whereby loose material is removed and part of the shredded material is secured to the blank by the adhesive. The blank is then trimmed to a desired configuration and the trimmed blank is placed adhesive side down. A wire lattice conforming in shape to the outlines of the clumps of adhered shredded material is then fastened to the blank. A different target pattern may be formed on the opposite side of the board by similar method stops.

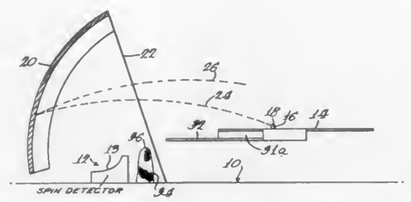
3,524,648
WORD FORMING PUZZLE APPARATUS
John O. Nilan, Weston, Mass., assignor to Springlok Editions, Inc., New York, N.Y., a corporation of New York
Filed Apr. 11, 1967, Ser. No. 630,028
Int. Cl. A63f *3/00, 9/06*
U.S. Cl. 273—153 **8 Claims**

Game apparatus comprising a predetermined number of playing pieces, each playing piece being provided with a letter of the alphabet, and adapted for association to define both a preselected key phrase and a plurality of player selected words, each letter of the preselected key phrase being utilized as a key letter of one of the player selected words, whereby the number of player selected



words corresponds to the number of letters in the preselected key phrase. A game board is provided having locations for the playing pieces arranged in columns and rows, the number of locations being related to the number of pieces in a ratio substantially less than 2:1.

3,524,649
GOLF GAME APPPARATUS WHEREIN BALLS WITH OVERSPIN CANNOT REBOUND TO STRIKE GOLFER
Robert M. Conklin, Muskegon, Robert I. Anderson, Spring Lake, and Donald E. Bayne, Muskegon, Mich., assignors to Brunswick Corporation, a corporation of Delaware
Filed Oct. 27, 1966, Ser. No. 589,962
Int. Cl. A63b *67/02*
U.S. Cl. 273—176 **12 Claims**

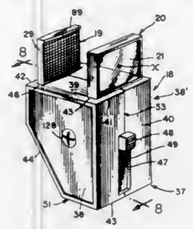


An indoor golf game including a generally upright target, a penetrable screen in front of the target for receiving a projected scene, spin detecting apparatus and a tee construction that effectively precludes a ball from being hit from the tee with so much overspin that balls can rebound from the target to the tee to strike and injure a golfer. In the exemplary embodiment, a lie simulating mat having a yieldable portion ahead of a predetermined tee point precludes a ball from being pinched between the mat and the club head in such a manner that overspin is placed on the ball. Further, a notch extends from the tee point towards the target with generally diverging, vertical side walls to intercept certain balls rebounded from the target. There is additionally provided a net in between the target and the tee point for intercepting rebounding balls.

3,524,650
MOTION DETECTING AND INDICATING DEVICE
John R. Brandell, Chicago, Ill. (1527 Sequoia Trail, Glenview, Ill. 60025)
Filed Jan. 2, 1968, Ser. No. 694,938
Int. Cl. A63b *69/36*
U.S. Cl. 273—183 **14 Claims**

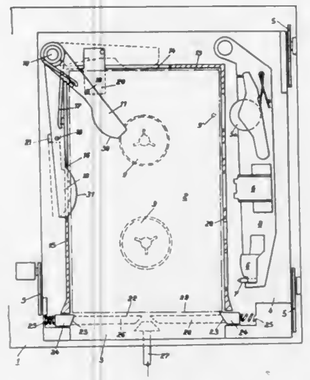
An optical device for use by golfers to detect and indicate relative movement of a golfer's head with respect to a golf ball, in position to be stroked, during the

performance, by the golfer, of a ball striking club swing, the device being disposable on the ground, adjacent the ball to be stroked, and comprising an objective pattern



and a magnifying lens spaced therefrom in position to focus, on the golfer's eye, a magnified highly visible image of a portion of the pattern.

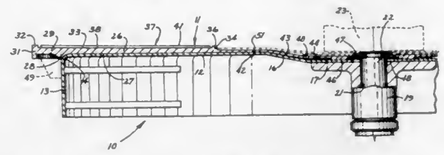
3,524,651
TAPE MAGAZINE LOADING HOLDER AND LOCKING ARRANGEMENT
Manfred Ketzer, Vienna, Austria, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 31, 1967, Ser. No. 679,350
Claims priority, application Austria, Nov. 3, 1966, A 10,189/66
Int. Cl. B65h *49/06, 75/30;* **G11b** *23/04*
U.S. Cl. 274—4 **9 Claims**



A magazine loading holder and locking device for use with a tape transducing apparatus. A sheath-like magazine holder is provided with spring-urged levers to correctly position the magazine in the holder with respect to the tape driving and scanning elements and to provide a magazine ejection force. A locking member is arranged adjacent the holder for retaining the magazine therein against the force of the spring-urged levers.

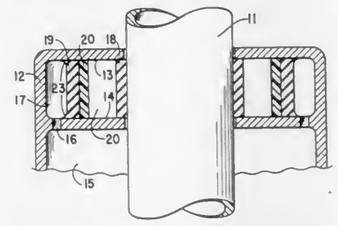
3,524,652
LARGE TURNTABLE CONSTRUCTION
Robert L. Van Antwerp, St. Joseph, Mich., assignor to Maestro Corporation, Stevensville, Mich., a corporation of Michigan
Filed Sept. 13, 1968, Ser. No. 759,612
Int. Cl. G11b *3/60*
U.S. Cl. 274—39 **2 Claims**

A large turntable construction including a conventional turntable member and a plastic cover member secured to the turntable member and extending radially outwardly therebeyond to provide a larger diameter record-supporting upper surface. The cover is fixedly secured to the turntable member, as by an adhesive, and the portion thereof which extends beyond the periphery of the turntable member is of sufficient rigidity to provide adequate support for large diameter records. The cover is constructed of a material having sufficient resiliency to act as a record



cushion so as to not damage the record at its point of support.

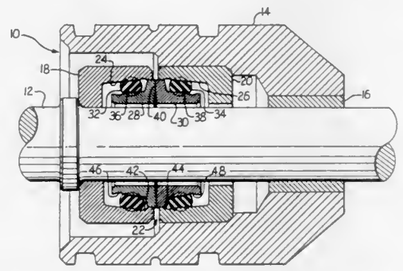
3,524,653
SELF-ENERGIZING SEAL
Renic P. Vincent, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Aug. 27, 1968, Ser. No. 755,546
Int. Cl. F16j *15/16;* **F16r** *41/00*
U.S. Cl. 277—27 **11 Claims**



A self-energizing seal is made by providing a flexible sealing member, preferably of an elastomer, the inner part of which fits the body to which the seal is made and the outer part receives pressure in a radial direction equal to that of the liquid to be sealed, the region between inner and outer parts being made of cylindrical orthotropic material stiffer in the radial direction than in the circumferential direction. A suitable housing is provided to enclose the sealing member. Means are provided for effecting the radial presssure, for example by allowing the fluid to be sealed to act hydraulically in a chamber between the housing and the outer part of the seal.

This arrangement provides pressure multiplication so that the pressure exerted by the inner part of the sealing member against the sealing surface exceeds that of the fluid to be sealed.

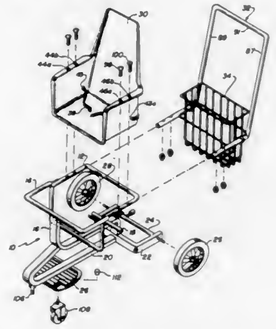
3,524,654
FACE SEAL ASSEMBLY
Roland E. Hasselbacher, Brimfield, and Edwin J. Eckert, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Feb. 26, 1968, Ser. No. 708,094
Int. Cl. F16j *15/34*
U.S. Cl. 277—92 **4 Claims**



Roll-out grooves are provided in the confronting load surfaces of a retainer and seal ring of a face seal assembly

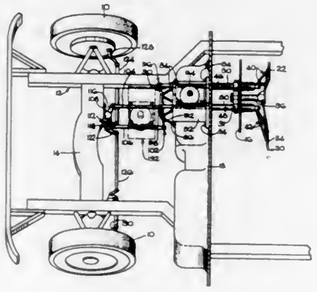
to be in axial alignment prior to assembly of the seal and receive an O-ring. As the retainer and seal ring are axially assembled the O-ring rolls out of the grooves and between the confronting load surfaces to achieve suitable radial squeeze upon the O-ring and an optimum working face load for the seal assembly with minimum axial displacement of the O-ring and seal components.

3,524,655
INFANT STROLLER
William G. Ballenger, Highland Park, Ill., assignor to Central Specialties Co., Chicago, Ill., a corporation of Illinois
Filed Sept. 18, 1968, Ser. No. 760,424
Int. Cl. B62b *7/00*
U.S. Cl. 280—47.38 **6 Claims**



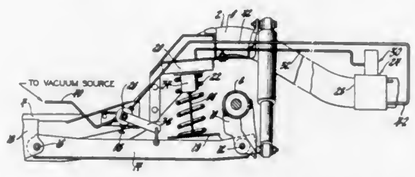
An infant stroller in which a unitary seat structure is nested in a seat support and secured along flanges extending from the sides of the seat structure. The seat support has transverse support members for the bottom of the seating area of the seat structure. A skirt portion along the front edges of the seat structure abuts elongated members of the seat support to attain a securely seated assembly. A supporting frame on the stroller includes rigid tubular members formed into shapes which coact with the seat supports and other members to provide a rigid structure. The infant stroller is adapted for use by shoppers and is provided with a mounted basket. A brake structure, mounted on the supporting frame, is locked with the wheel shaft to provide a holding brake action.

3,524,656
STEERING CONTROLS FOR MOTOR VEHICLES
Patrick T. Harford, P.O. Box 1460, Port Elizabeth, Cape Province, Republic of South Africa
Filed Oct. 23, 1968, Ser. No. 769,863
Int. Cl. B62d *1/02*
U.S. Cl. 280—87 **15 Claims**



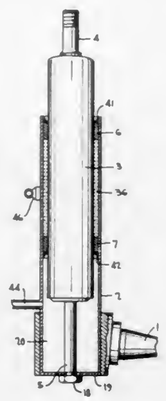
A steering control for a motor vehicle having a reversing movement coupling between the manually movable control means such as a handlebar and steering means connectable to the steerable road wheels of the vehicle to cause the control means to move forwardly away from the driver if the steering means is forced rearwardly of the vehicle as a result of a collision.

3,524,657
VEHICLE SUSPENSION SYSTEM INCLUDING COMPOSITE SPRING ASSEMBLY
Ming-Chih Yew, Utica, and Bernard J. Finn, Troy, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 27, 1968, Ser. No. 763,220
Int. Cl. B60g *9/00, 11/00*
U.S. Cl. 280—124 **8 Claims**



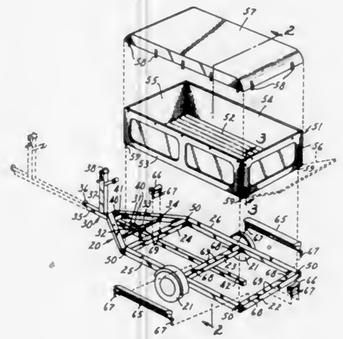
A composite spring assembly for a vehicle involving a constant rate spring arranged in parallel operating relation with an incompressible fluid displacement device actuated by a vacuum motor disposed exclusively on the sprung mass of the vehicle.

3,524,658
SHOCK ABSORBERS
Christian Bourcier de Carbon, 64 Boulevard Maurice-Barres, Neuilly-sur-Seine, France
Filed Sept. 12, 1968, Ser. No. 759,441
Claims priority, application Germany, Sept. 14, 1967, 1,630,168
Int. Cl. B60g *11/26*
U.S. Cl. 280—124 **3 Claims**



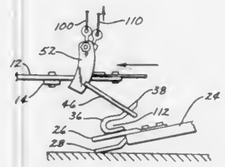
An elastic damping suspension of the type including a guiding tube surrounding a shock absorber, and wherein lubrication is effected by the provision of a lubricating paste or viscous liquid carried by said tube, between upper and lower guide rings. Packing rings seal the joints between the shock absorber cylinder and the guiding tube and the one nearer the outer end of the tube acts as a scraper for the exclusion of dirt. The inner end of the tube may comprise a chamber for compressed gas, and in that case, the lower packing ring acts as a separator between the gas chamber and the lubricant space.

3,524,659
MULTI-PURPOSE TRANSPORTATION APPARATUS
Katherine M. Filter, 3910 Aldrich Ave. S., Minneapolis, Minn. 55403
Filed Apr. 15, 1968, Ser. No. 721,292
Int. Cl. B62d *53/00;* **B60p** *3/42*
U.S. Cl. 280—414 **1 Claim**



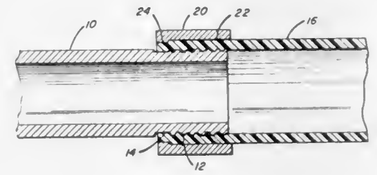
Interchangeable transportation apparatus for carrying substantially any type of load, including a wheeled frame having holes therein, and a trailer box having downwardly projecting dowels attached thereto and adapted to mate in the holes of the frame and lock therein to hold the box fixedly in position. Additionally the box is interchangeable with, or may include, a cradle for carrying boats and a flat bed having tent means mountable thereon. Also, the wheeled frame may be exchanged with a frame having sled runners thereon and the box is mountable on the top of an automobile with suction cups.

3,524,660
VEHICLE HITCH
Melvin E. Kew, R.R. 1, Box 111, and John P. Kew, R.R. 1, Box 132, both of Sheffield, Iowa 50475
Filed Jan. 4, 1968, Ser. No. 695,722
Int. Cl. B60d *1/04*
U.S. Cl. 280—478 **10 Claims**



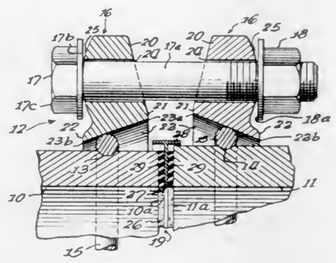
A vehicle hitch for quickly connecting or disconnecting a driven vehicle such as a wagon or the like to a driving vehicle such as a tractor or the like without the operator leaving the tractor. The hitch includes a substantially U-shaped support which is pivotally secured about a horizontal axis to the tractor drawbar assembly or its equivalent. A pair of locking pins are operatively connected to the U-shaped support which maintains the support in a fully locked horizontal position and a half-locked inclined position respectively. When both of the locking pins are released, the support is freely pivotal with respect to the tractor hitch assembly and extends substantially vertically downwardly therefrom. A vertically disposed hook is secured to the tongue of the wagon and is adapted to be received by the U-shaped support at times to effect the connection of the tractor and the driven vehicle.

3,524,661
CONNECTION FOR STEEL AND PLASTIC PIPE
Jack Farnam, Tulsa, Okla., assignor, by mesne assignments, to W & R Industries, Inc., Tulsa, Okla., a corporation of Oklahoma
Filed Jan. 8, 1969, Ser. No. 789,715
Int. Cl. F16l *33/18*
U.S. Cl. 285—239 **15 Claims**



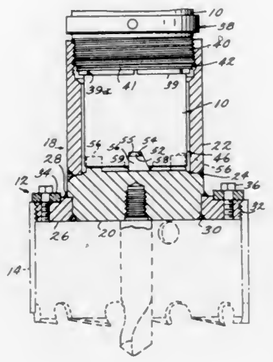
Plastic pipe of the type capable of being cold extruded is connected to a threaded and grooved metal pipe end by a sleeve which extrudes the plastic pipe into the threads and groove. Internal connections are also possible.

3,524,662
COUPLING FOR HARD CAST IRON PIPE
Edgar B. Tolman, Winnetka, Louis L. Hudson, Jr., Chicago, and Arthur Rasmussen, Elk Grove Village, Ill., assignors to United Conveyor Corporation, a corporation of Illinois
Filed Mar. 21, 1969, Ser. No. 809,097
Int. Cl. F16l *19/02*
U.S. Cl. 285—368 **6 Claims**



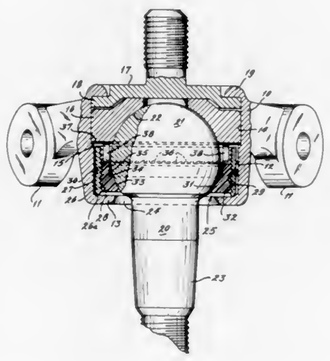
A coupling for joining two lengths of extremely hard pipe made of cast iron, tile, porcelain or glass; there being shallow, arcuate circumferential grooves close to adjacent ends of the pipe lengths. A pair of split rings which are round in cross section are seated in the grooves and a bolting collar embraces each ring, said collars having frusto-conical ring contacting inner surfaces which are larger in circumference than the rings at a face of the collar near the adjacent pipe ends and smaller than the rings but larger than the pipe at a face of the collar remote from said pipe ends. A compressible gasket is positioned between the adjacent ends of the pipe lengths, and bolts loosely impale aligned holes in the collars and cooperate with nuts to draw the collars toward one another so that clamping force exerted by the bolts and nuts is transmitted through the rings and the walls of the grooves to firmly couple the pipe lengths together with the gasket compressed between said pipe ends and the rings locked in the grooves.

3,524,663
RELEASABLE DRIVE COUPLING
Frank H. Mueller, John J. Smith, and Lynn D. Edwards, Decatur, Ill., assignors to Mueller Company, Decatur, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 649,338, June 27, 1967. This application May 16, 1969, Ser. No. 825,383
Int. Cl. B60b *27/06*
U.S. Cl. 287—53 **4 Claims**



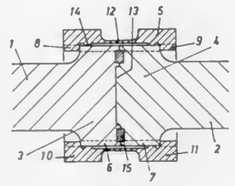
A drive coupling between a rotatable work-engaging tool and a power-driven shaft includes axially facing teeth carried at the free end of the shaft, a sleeve carrying the tool at one end having its other end telescoped over the toothed end of the shaft, complementary teeth carried within the sleeve, rotatable slidable collar on the shaft threadedly engaged with the sleeve to draw the complementary teeth into interlocking engagement and a ring clamped on the shaft to retain the collar thereon.

3,524,664
BALL JOINT AND OVERLOAD RELEASE
William A. Scheublein, Jr., Ballwin, and Louis P. Fister, St. Louis, Mo., assignors to Moog Industries, Inc., St. Louis, Mo., a corporation of Missouri
Filed July 15, 1968, Ser. No. 744,899
Int. Cl. B25g *3/38*
U.S. Cl. 287—87 **7 Claims**



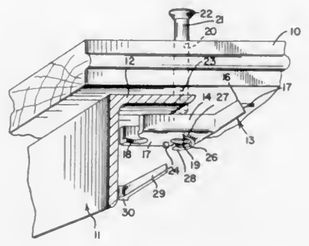
An adjustable type ball joint for connecting two relatively movable parts and embodying an arrangement of wear take-up elements which automatically compensate for wear and manufacturing tolerance, and operate to prevent internal loads in excess of a predetermined value so as not to stress the ball joint beyond a safe load point.

3,524,665
SHAFT COUPLING
Alfred Hohn, Nussbaumen, and Max Zimmermann, Untersiggenthal, Switzerland, assignors to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Jan. 2, 1968, Ser. No. 695,125
Claims priority, application Switzerland, Apr. 18, 1967, 5,499/67
Int. Cl. F16d *1/00*
U.S. Cl. 287—113 **3 Claims**



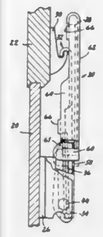
A coupling for interconnecting the flanges provided on the ends of two axially aligned solid shafts for transmission of high torques principally by frictional contact established between the adjoining faces of the flanged shaft ends comprises a flanged coupling sleeve which when hot is inserted over the flanges and then allowed to cool. Shrinking stresses are set up in the sleeve during cooling and these stresses result in the application of axially directed forces from the sleeve flange to the flanges on the shaft ends which press them together.

3,524,666
FLOOR CLIP
Harold M. Schilf, Birmingham, and William R. Beach, Hueytown, Ala., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Aug. 5, 1968, Ser. No. 750,313
Int. Cl. E04b *5/00;* **F16b** *21/12*
U.S. Cl. 287—189.35 **6 Claims**



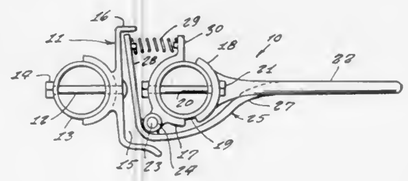
A floor clip for securing the wooden floor of a railway car to a stringer of the car underframe, the clip being attached by means of a headed pin having a traversely extending opening, the pin being disposed through an opening in the clip wherein the floor and stringer are secured together by the clip which is held in tightened position by means of a tapered wedge automatically clinched by a clinching arrangement on the clip when a wedge element is driven through the opening in the pin during assembly.

3,524,667
CATCH FOR A PACKING CASE OR THE LIKE
Gunnar E. Swanson, Middletown, Conn., assignor to The Nielsen Hardware Corporation, Hartford, Conn., a corporation of Connecticut
Original application Oct. 22, 1965, Ser. No. 501,425, now Patent No. 3,428,348, dated Feb. 18, 1969. Divided and this application May 20, 1968, Ser. No. 730,378
Int. Cl. F05c *19/14*
U.S. Cl. 292—113 **3 Claims**



A catch with a base attachable to one part of a packing case has a drawbar engageable with a strike attached to another part of the case. Movement of the drawbar is effected by an operating lever which in the closed position of the catch overlies the drawbar. A manually releasable locking means acting between the operating lever and the drawbar or between the operating lever and the base releasably holds the operating lever in its closed position.

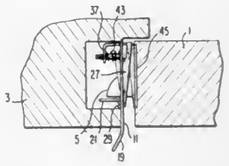
3,524,668
GATE LATCH
Felix O. Westmoreland, Jr., Truscott, Tex. 79260
Filed July 22, 1968, Ser. No. 746,613
Int. Cl. E05c *3/14*
U.S. Cl. 292—228 **3 Claims**



A latch for a fence gate, the latch including a catch secured to a gate post, the catch including a U-shaped bracket forming a channel receiving a trigger pivotably carried on the gate.

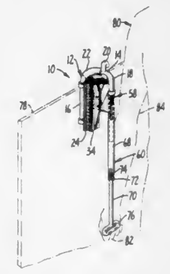
3,524,669
BOLT GUARD
Donald E. Reid, 647 Broadview Ave., Toronto 6, Ontario, Canada
Filed May 17, 1968, Ser. No. 730,012
Int. Cl. E05b *17/00*
U.S. Cl. 292—346 **11 Claims**

To prevent unauthorized entry by the insertion of a flat member between a door and its jamb thereby to force open a spring-loaded sliding bolt, guard members are mounted on the outer side of the bolt, both on the door and on the jamb. These guard members define a labyrinthine seal on the three accessible sides of the bolt. The guard members are in the shape of three-sided frames, one of which is pivotally mounted on the strike plate. Means readily accessible when the door is open



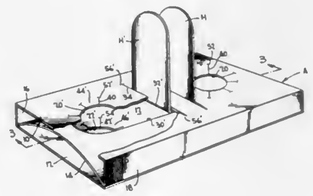
are provided for adjusting the position of the latter guard member.

3,524,670
SHEET MATERIAL CARRIER
Ratomir Ilich, 241 E. Casey Road, Campbell, Calif. 95008
Filed Apr. 24, 1968, Ser. No. 723,664
Int. Cl. B65g *7/00*
U.S. Cl. 294—16 **4 Claims**



A carrier for clamping and carrying sheet material comprising a generally U-shaped frame member having gripping shoes attached to the leg portions thereof in opposed facing relationship and a translation mechanism to selectively effect movement of one of said shoes towards the other whereby a sheet of material may be gripped therebetween. A handle is mounted on the frame member for movement relative thereto to automatically operate the translation mechanism responsive to the application of lifting forces to the handle.

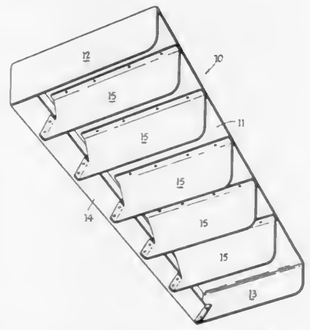
3,524,671
CONTAINER CARRIER CONSTRUCTION
David Akeireb, Rue de la Croix d'Or 19, Geneva, Switzerland
Filed Jan. 3, 1968, Ser. No. 695,513
Int. Cl. B66c *1/10*
U.S. Cl. 294—87.2 **12 Claims**



Unitary blank of cardboard, chip-board or the like cut and folded to define a container carrier having plural, generally parallel container support panels provided with

apertures for receiving therethrough the neck portions of containers to be carried thereby, slits extending generally radially outwardly of the apertures for defining tabs for engaging laterally outwardly extending portions of the containers such as a circumferential bead or the rim of a cap, slits for enabling passage therethrough of handle portions formed from the blank, and transverse short slits at the end of the tab defining and handle passage slits for reducing tendency of the slits to radiate tears outwardly thereof.

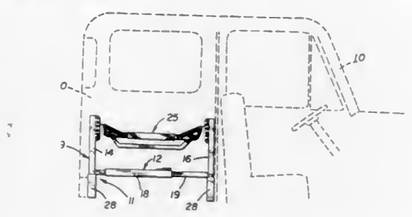
3,524,672
AERODYNAMIC STABILIZER FOR VEHICLES
James Earl Rawlings, 18 Wood Lodge, Woodfield Lane, Ashstead, Surrey, England
Filed Mar. 7, 1968, Ser. No. 711,320
Int. Cl. B62d *37/02*
U.S. Cl. 296—1 **5 Claims**



The present invention relates to an aerodynamic stabilizer for vehicles and is particularly applicable to rear-engined automobiles.

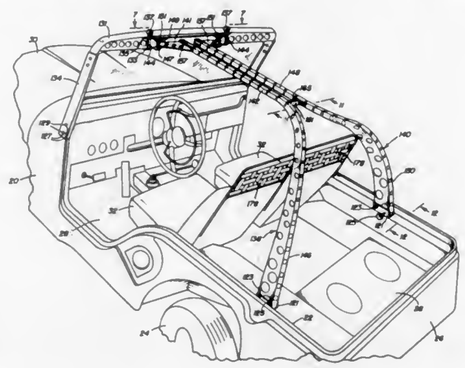
The stabilizer consists of an upper web which is to be secured to the underside of an automobile and an angled cross strut mounted beneath the web. As the car is driven forwards, air passes between the web and the strut and due to the tapered shape of the channel between the web and the strut, the speed of the air is increased thus causing a pressure drop in the area behind the strut which creates a downward pull on the stabilizer and hence on the automobile thus holding it more firmly on the road.

3,524,673
BED FOR TRUCK CABS
Richard J. Cramer, Loveland, and Robert O. Beeson, Brighton, Colo., assignors, by direct and mesne assignments, to Western Sales and Supply Co., Denver, Colo., a corporation of Colorado
Filed Apr. 8, 1968, Ser. No. 719,637
Int. Cl. B60p *3/32*
U.S. Cl. 296—23 **4 Claims**



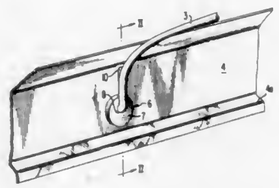
A bed assembly for use in the sleeper cabs of over-the-road trucks to provide improved comfort and security for driver users. The bed assembly has telescoping and foldable components to facilitate secure installation in a sleeper cab or selective removal therefrom. When removed and folded, the bed assembly may be transported in a driver's personal car until a next period of reuse in the same or a different sleeper cab. An extensible frame support may be locked in selected positions for engagement with truck cab elements to prevent shifting of the frame. A bed element is joined to the frame support by springs disposed in patterned arrangement to resist longitudinal and transverse as well as vertical movements of the bed.

3,524,674
SEMI-RIGID SUPPORT FOR UPPER STRUCTURE
Joe L. Medeiros, 6694 San Miguel, Lemon Grove, Calif. 92045
Continuation-in-part of application Ser. No. 556,680, June 10, 1966. This application Oct. 18, 1967, Ser. No. 687,408
Int. Cl. B62d *25/06*
U.S. Cl. 296—102 **15 Claims**



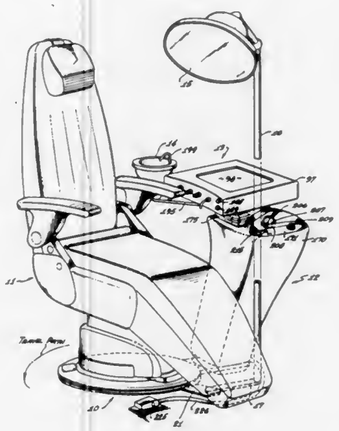
A vehicle in which the chassis frame carries a passenger seat and a frame for protecting the passengers, which frame includes side frame sections; these side frames are connected with one another by resilient means (rubber) for providing relative vertical movement therebetween.

3,524,675
SECURING ARRANGEMENT OF THE ROD FOR THE INNER COVER FABRIC OF THE ROOF OF VEHICLES, ESPECIALLY PASSENGER MOTOR VEHICLES
Walter Wolf, Sindelfingen, Wurttemberg, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Mar. 19, 1968, Ser. No. 714,318
Claims priority, application Germany, Mar. 21, 1967, D 52,584
Int. Cl. B62d *25/06*
U.S. Cl. 296—137 **8 Claims**



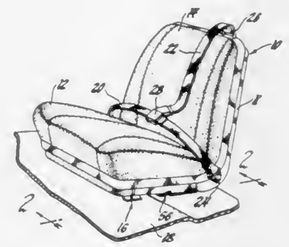
An arrangement for securing the clamping rods used for the interior covering of the roof of vehicles, especially passenger motor vehicles, in which the ends of the rods are retained by means of plugs of elastically yielding material which are inserted into apertures of the fixed roof frame and are each provided with an insert aperture receiving a rod end.

3,524,676
DENTAL APPARATUS
Francis E. Cocherell, 3455 N. Rancho Rio Bonita Road, Covina, Calif. 91722, and Richard B. Cocherell, 363 N. Spinks Canyon Road, Duarte, Calif. 91010
Filed Aug. 4, 1967, Ser. No. 658,457
Int. Cl. A47c *7/62*
U.S. Cl. 297—188 **22 Claims**



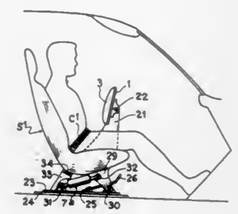
This dental apparatus comprises a dental unit integrated with a patient's chair. The upper end of the unit incorporates an instrument center or head for mounting any desired selection of dental devices and instruments used in patient treatment and the unit also includes a cuspidor that can be selectively mounted at either side of the instrument head. The base of the apparatus includes a wheeled ring, turnable about a vertical axis, to revolve the unit bodily around the chair to an adjusted position at either side of the chair. The dental unit is shiftable radially with respect to this base ring in order to change the unit's radius of rotation and so provide another mode of adjustment of the unit with respect to the head of the patient in the chair. Additional modes of adjustment of the dental unit and its instrument head all serve to focus the instrument head and the dental instruments and devices carried thereby into correct position with respect to the patient's head to minimize loss of time and motion by the dentist in treating the patient. To this end, the dental unit is independently turnable about a vertical axis, can be swung inwardly and outwardly of the chair on a horizontal pivot axis, includes power means for vertically adjusting the height of the instrument center, and the instrument center is itself independently turnable about a vertical axis. The dental chair has an adjustable back whereby the head of the patient can be adjusted to any position on an arc contained in a vertical plane. By this means, the dentist places the patient's head at the correct angle and elevation for the particular operation or procedure to be performed. Thereafter, through one or several of the modes of adjustment of the dental unit, the dental instrument center or head of the unit is correctly positioned both as regards height and angular position with respect to the patient's head so that the dentist, his assistant and all the facilities of the instrument head are properly oriented with respect to the patient's head. Latching mechanisms are employed to hold the unit in several of its adjusted positions. All service lines for both the dental devices and for the power means for raising and lowering the instrument head are enclosed within the dental unit and are carried thereby as the unit is swung around the chair. At the lower end of the dental unit, these service lines extend radially inwardly toward a position within the base ring and a service well is provided under the base of the dental apparatus, whereby all service lines can be connected to remote sources of power or waste or exhaust.

3,524,677
VEHICLE SEAT LATCH
James C. Louton, Jr., Bloomfield Hills, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 26, 1968, Ser. No. 755,090
Int. Cl. B60n *1/08*
U.S. Cl. 297—216 **5 Claims**



A seat structure incorporating seat belts and carried by a track unit for fore and aft adjustment that includes a latch device which limits seat movement in upwardly and forwardly directions when the seat is subjected to excessive loading.

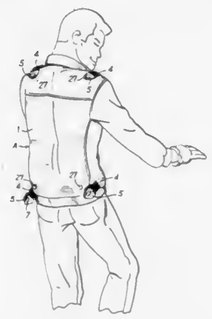
3,524,678
SAFETY DEVICE FOR A PASSENGER ON A VEHICLE
Hubert Y. de Lavenne, Meudon-Bellevue, France, assignor to Automobiles Peugeot, Paris, France, and Regie Nationale des Usines Renault, Billancourt, France, both French body corporates
Filed Jan. 9, 1969, Ser. No. 789,989
Claims priority, application France, Mar. 20, 1968, 144,498
Int. Cl. B60r *21/06, 21/10*
U.S. Cl. 297—216 **7 Claims**



Safety device for a passenger on a vehicle. The device comprises a panel which is pivotable relative to the body of the vehicle by the thrust exerted by the passenger when thrown forwardly by a brutal impact on the front of the vehicle. Energy absorbing and dissipating means restoring

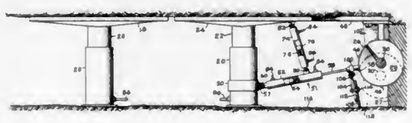
no energy connects the panel to the body so as to brake the pivotal movement of the panel and stop the panel in a position in which there is no risk of the passenger striking his head against a hard part of the body.

3,524,679
INDIVIDUAL RESTRAINING DEVICE FOR A VEHICLE USER
Hubert Y. de Lavenne, Meudon-Bellevue, France, assignor to Automobiles Peugeot, Paris, France, and Regie Nationale des Usines Renault, Billancourt, France, both French body corporates
Filed Apr. 15, 1968, Ser. No. 721,218
Int. Cl. A62b *35/00*
U.S. Cl. 297—384 **5 Claims**



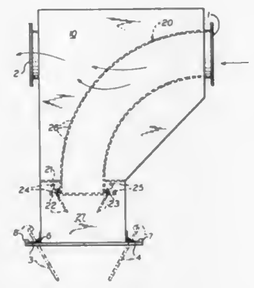
An individual safety device for a user who is seated on a seat of a vehicle, said device comprising in combination a clothing element or article consisting of at least a plastron provided in its four corners with four short straps each of which terminates at its free end in a fixing end element and, permanently disposed on the backrest of the seat of the vehicle, four devices which are complementary to said end elements for detachably fixing the latter to the seat.

3,524,680
MINING MACHINE HAVING SPIRAL CUTTERS WITH SCAVENGER BOARD
Letcher T. White, 117 Wayne St., Manchester, Ky. 40962
Filed Oct. 22, 1968, Ser. No. 769,574
Int. Cl. E21c *25/06, 25/68*
U.S. Cl. 299—31 **13 Claims**



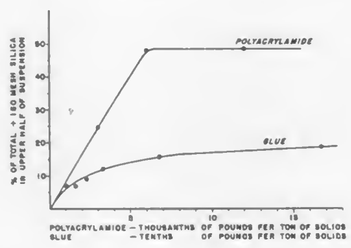
A plurality of axially aligned augers, connected and driven from opposite ends thereof, are provided at spaced points along the helical edges of the augers with hardened cutting points to cut veins of coal. Pressure is applied to the augers laterally thereof at spaced points to gradually move the augers into a vein of coal to effect the cutting thereof. A rigid scavenger board is carried at the side of the augers opposite the vein of coal. During operation, the board, the mine floor and the vein of coal form a trough in which the augers act as a helical conveyor.

3,524,681
LAUNDRY AND FABRIC COLLECTOR AND METHOD HAVING A CONSTANT VACUUM
William Boon, 215 Passaic Ave., Passaic, N.J. 07055
Filed May 10, 1968, Ser. No. 728,144
Int. Cl. B65g *53/40*
U.S. Cl. 302—59 **11 Claims**



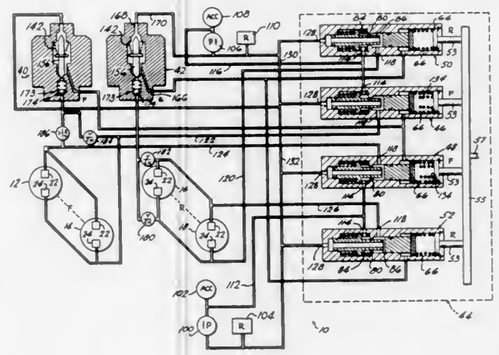
The invention comprises a unique laundry and fabric collector assembly and method whereby laundry being conveyed is removed from the system utilizing in combination an inner arrangement of discharge doors and an outer arrangement of discharge doors wherein the respective arrangements are actuated by the weight of the laundry and one set of doors is closed while the other set is opened whereby a constant vacuum or pressure in the system is maintained.

3,524,682
COAL SUSPENSION PUMPING USING POLYELECTROLYTES
Robert Ben Booth, Stamford, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 698,429, Nov. 25, 1957. This application Mar. 7, 1962, Ser. No. 179,287
Int. Cl. B65g *53/04*
U.S. Cl. 302—66 **2 Claims**



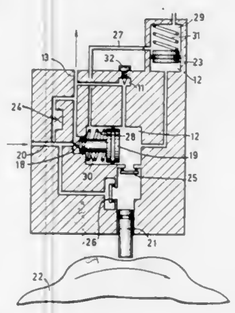
1. The method of improving the pumpability of coal suspensions in water which comprises adding to a finely-divided coal-water system, used for the transportation of coal from 0.005 to 5 pounds per ton of suspended solids of a water soluble polyelectrolyte which is a linear carbon chain polymer consisting essentially of recurring carbamylethylene linkages, carboxyethylene linkages and not more than a minor amount of nitriloethylene linkages, and salts thereof, having a weight average molecular weight in excess of 100,000, and pumping the suspension through a pipe line, said polymer increasing the viscosity of the aqueous phase, insuring laminar flow at higher velocities, thereby reducing pumping power requirements, and simultaneously stabilizing the suspension, so that during interruptions in pumping, the coal remains fluidized, and in pumpable condition.

3,524,683
FLUID ACTUATED VEHICLE BRAKE SYSTEM INCORPORATING SKID CONTROL
William Stelzer, Milford, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Sept. 27, 1968, Ser. No. 763,088
Int. Cl. B60t *8/12, 8/26*
U.S. Cl. 303—21 **7 Claims**



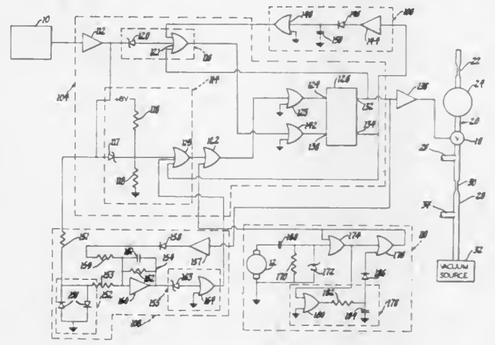
A fluid actuated brake system for wheeled vehicles incorporating skid control providing for relief of the braking fluid pressure in response to a signal indicating a skid condition. A modular system is disclosed that is applicable to vehicles having substantially any number of wheels and in which compensation for vehicle weight transfer to the front wheels during braking is included.

3,524,684
ANTILOCK BRAKE SYSTEM
Derek Robert Skoyles, East Grinstead, England, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 18, 1968, Ser. No. 776,483
Claims priority, application Great Britain, Nov. 24, 1967, 53,600/67
Int. Cl. B60t *8/06*
U.S. Cl. 303—21 **8 Claims**



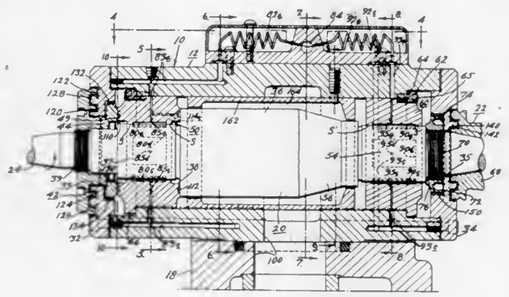
An antilock hydraulic brake control system for a wheeled vehicle. The brake fluid is circulated in a fluid pressure line and applied to the brake cylinder. The rotation of the wheels serve to operate a pump for recirculating the fluid. When the wheel locks the pump does not operate, the fluid pressure builds up in a reservoir and activates the pressure responsive valve which closes the fluid line. When the wheels resume rotating the pump again circulates the fluid and the valve opens the pressure line.

3,524,685
ANTILOCK BRAKE CONTROL SYSTEM
John L. Harned, Grosse Pointe Woods, and Edwin E. Stewart, Warren, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 9, 1968, Ser. No. 751,391
Int. Cl. B60t *8/08*
U.S. Cl. 303—21 **7 Claims**



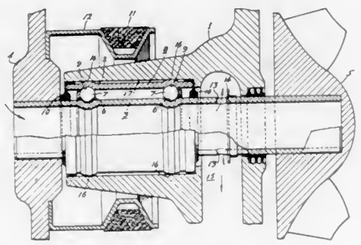
An electronic control incorporating solid state integrated circuits is responsive to wheel acceleration and velocity to produce signals for effecting alternating brake release and application to avoid wheel lock-up. Circuits are provided to compensate for spurious acceleration signals and for preventing wheel lock-up.

3,524,686
HYDROSTATIC SPINDLE
Otto Weissing, Towson, Md., assignor to SKF Industries, Inc., King of Prussia, Pa., a corporation of Delaware
Filed July 9, 1968, Ser. No. 743,351
Int. Cl. A16c *17/16*
U.S. Cl. 308—9 **7 Claims**



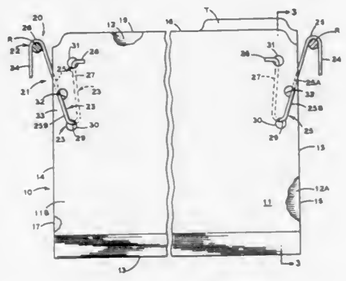
In a hydrostatic spindle, an elongated generally enclosed housing, a spindle assembly rotatably mounted in the housing, said spindle assembly including a center section and generally cylindrical bearing portions or opposite sides of the center section, a pair of bearing bushings mounted in the housing within which the bearing sections are rotatably journalled, means defining a plurality of circumferentially spaced pockets in each bushing confronting the cylindrical bearing section of the spindle assembly and means for introducing a fluid under pressure into said pockets to rotatably support said spindle assembly.

3,524,687
BEARING COMPRISING TWO OR MORE ROWS OF ROLLING BODIES
Stig Lennart Hallerback, Blodboksgatan 12, Vastra Frolunda, Sweden
Filed July 29, 1968, Ser. No. 748,397
Int. Cl. F16c *3/06*
U.S. Cl. 308—189 **4 Claims**



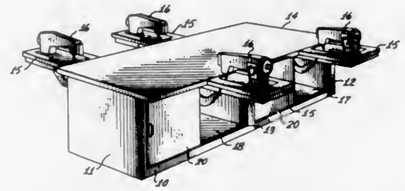
A bearing assembly comprising inner and outer tubular members. The outer tubular member circumscribing the inner member and spaced therefrom to define an annular space therebetween. The outer member having at least a pair of spaced apart outer raceways confronting the raceways of the inner member. The bearing assembly also includes a plurality of rolling elements in the annular space defined by the confronting raceways of the inner and outer tubular members. The outer member has a pair of axially spaced circumferentially extending ridges defining an enclosed chamber with a housing when mounted therein providing an air space barrier insulating the bearing against heat transfer from parts of the housing. Means is provided defining an opening in the wall of said inner tubular member on the side thereof opposite the raceways from the end of the tubular member open to the atmosphere whereby cooling air may enter the open end of the inner tubular member and be discharged through said opening thereby to cool the inner surface of the bearing.

3,524,688
FILE SUSPENSION MEANS
Jesse W. Dean, 3878 Cannon Place, Bronx, N.Y. 10463
Filed Mar. 14, 1968, Ser. No. 713,239
Int. Cl. A47f *63/00;* **B42f** *17/00;* **B47f** *15/00*
U.S. Cl. 312—184 **5 Claims**



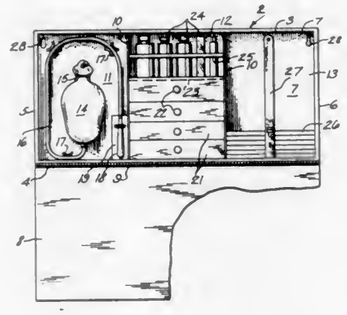
Suspension means for filing sheet members such as file folders, stencils, documents and the like for slidable engagement with track means in the form of rails or the like mounted in file drawers, cabinet drawers or other compartments.

3,524,689
MULTIPLE SEWING MACHINE TABLE
Harry Wener, Phoenix, Ariz., assignor to International Educational Sewing Manual, Inc., Phoenix, Ariz.
Filed Aug. 22, 1968, Ser. No. 754,666
Int. Cl. A27b *21/00*
U.S. Cl. 312—208 **2 Claims**



A sewing machine table arranged to support a series of sewing machines in easily accessible position while leaving the table top completely unobstructed for laying out work and providing drophead supports for the individual machines so that they may be lowered to concealed position under the table top when not in use.

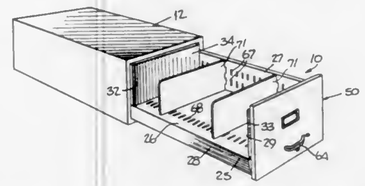
3,524,690
HYGIENE KIT AND CASE
Ruth Marilene Gurney, Anchorage, Alaska (P.O. Box 116, Cold Bay, Alaska 99571)
Filed July 1, 1968, Ser. No. 741,799
Int. Cl. A47b *67/02;* **A47f** *5/08*
U.S. Cl. 312—245 **2 Claims**



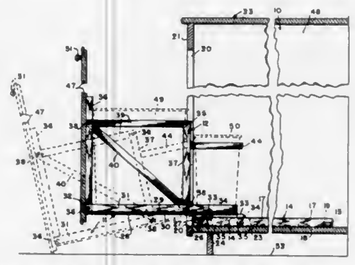
The present invention, while relating broadly to wall cabinets and carrying cases in general, has more particular reference to a dual purpose kit embodying both of these features. In other words, without alteration or disarrangement of its contents, the invention when in use as a wall cabinet may readily be dismounted and, with its door closed, slide into a case for use in traveling.

3,524,691
FILE DRAWER
George E. Moore, Jamestown, N.Y., assignor to Watson Manufacturing Company, Inc., Jamestown, N.Y., a corporation of New York
Filed Mar. 18, 1968, Ser. No. 713,926
Int. Cl. A47b *88/04*
U.S. Cl. 312—286 **3 Claims**

The file drawer is slidably mounted in a cabinet on a roller suspension. The drawer comprises a main file supporting member and a drawer head. The file supporting member has a bottom wall, a longitudinal side wall and two opposite laterally extending end members. The top and the longitudinal side opposite the side wall of the drawer are open for insertion and removal of files. The drawer head may be mounted on either end member so that the file supporting member may be positioned in the cabinet with the single longitudinal side wall on one side or the other.



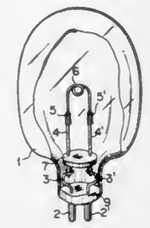
3,524,692
WASTE BASKET HOLDER
Alton C. Preston, 2506 Montana St., Carlsbad, N. Mex. 88220
Filed Apr. 30, 1968, Ser. No. 725,309
Int. Cl. A47b *88/02, 88/18*
U.S. Cl. 312—322 **9 Claims**



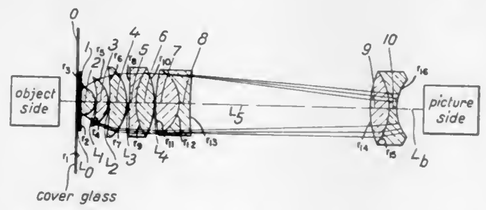
A waste basket holder including a tray supported by tracks for movement relative to a cabinet compartment between a retracted position within the cabinet and an extended position outwardly of the cabinet. A rack attached to the tray cooperates therewith in supporting a waste basket and a second receptacle for holding extra bags. The rack is secured to a closure panel of the cabinet which closes an opening of the cabinet through which the tray and rack move between extended and retracted positions and provides a means for manipulating the tray and rack. A slight rocking movement of the tray and rack during movement from a fully closed to an open position causes rollers of the tray to ride against upper rails of the tracks and to engage stops to obstruct movement of the rack and tray before a fully opened position is reached. A slight rocking movement of the tray and rack in an opposite direction permits the rollers to pass under the stops and move on to engage ramps at forward ends of the tracks to enable the rack and tray to swing downwardly when in a fully opened or extended position.

3,524,693
METHOD FOR ASSEMBLING A CARBIDE FILAMENT INCANDESCENT LAMP
Tomitaro Kubo, Fujisawa-shi, Takao Shintani, Tokyo, Hiroyuki Murata, Yokohama-shi, Suezo Sugaike, Tokyo, and Sinji Yonemoto, Kanagawa-ken, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Aug. 14, 1968, Ser. No. 752,622
Claims priority, application Japan, Aug. 17, 1967, 42/52,887; Dec. 27, 1967, 43/83,192
Int. Cl. H01j *9/38*
U.S. Cl. 316—21 **15 Claims**

A method for assembling an incandescent lamp having a filament composed of a sintered mass of high melting metal carbide powders, wherein a pair of sleeves are threadedly engaged with a pair of connecting wires, the filament is bonded with the sleeves, and the connecting wires are caulked with a pair of inner leads, whereby the filament is electrically connected with the inner leads.

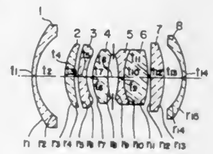


3,524,694
FLAT-FIELD MICRO-OBJECTIVE WITH INCREASED MAGNIFICATION
Walter Klein, Wissmar, Germany, assignor to Ernst Leitz GmbH, Wetzlar, Germany
Filed Oct. 4, 1966, Ser. No. 584,230
Claims priority, application Germany, Nov. 26, 1965, L 52,236
Int. Cl. G02b *21/02, 9/62, 9/64*
U.S. Cl. 350—177 **1 Claim**



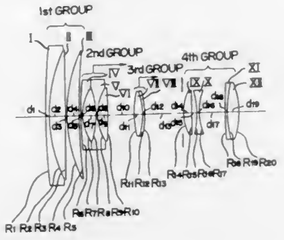
A flat-field micro-objective for a microscope, having two optical sections, the first section of positive refraction chromatically compensated and provided with an air gap of defined dimension between two cemented members of said first section, the second section having the negative refraction dimensioned in proportion to the effective aperture of the cemented members of the first section, the spacing between the first and second sections being at least five times the focal length of the objective.

3,524,695
EIGHT ELEMENT OBJECTIVE WITH ANGULAR FIELD OF 72°
Shuji Koyanagi, Tokyo, Japan, assignor to Canon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Continuation-in-part of abandoned application Ser. No. 382,524, July 14, 1964. This application Oct. 10, 1968, Ser. No. 770,137
Claims priority, application Japan, July 16, 1963, 38/36,168
Int. Cl. G02b *9/64, 11/34*
U.S. Cl. 350—176 **4 Claims**



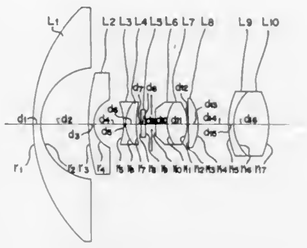
Wide angle lens having an angle of no less than 72 degrees with high resolving power and sharp contrast, in which optimum corrections are attained for aberrations, and which is useful in microfilm reproduction.

3,524,696
WIDE ANGLE TYPE ZOOMING LENS
Takashi Higuchi, Yokohama-shi, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan
Filed June 19, 1968, Ser. No. 738,152
Claims priority, application Japan, June 21, 1967, 42/39,274
Int. Cl. G02b *9/00, 15/14, 1/00*
U.S. Cl. 350—184 **1 Claim**



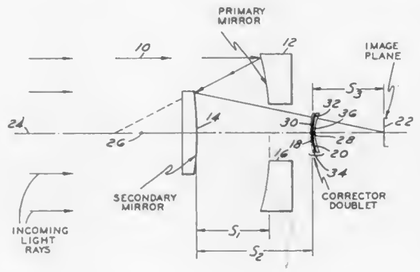
This invention relates to a wide angle type zooming lens comprising three lens groups i.e. a converging lens group, a diverging lens group and a converging lens group, and a converging relay lens system connected to said zooming system, the second lens group and the third lens group being movable. The first lens group is composed of a positive lens prepared by cementing divergent and convergent lenses and a convergent single lens. The second lens group is composed of a divergent single lens and a negative lens prepared by cementing divergent and convergent lenses, while the third lens group is composed of a positive lens prepared by cementing convergent and divergent lenses.

3,524,697
ACHROMATIC SUPER WIDE-ANGLE LENS
Masaki Isshiki and Keiji Matsuki, Tokyo, Japan, assignors to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan
Filed Apr. 23, 1968, Ser. No. 723,364
Claims priority, application Japan, Apr. 27, 1967, 42/26,623
Int. Cl. G02b *5/22, 9/60*
U.S. Cl. 350—196 **4 Claims**



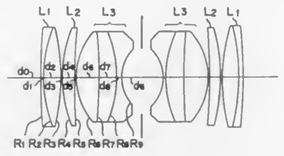
An achromatic super wide-angle lens is provided comprising at least two meniscus lenses extremely curved towards the front, a stop, a doublet or triplet arranged between said meniscus lenses and the stop, an another doublet and other lenses arranged behind the stop, and a filter and the inventive lens satisfies the specific conditions so that the angle of view of 220° to 270° can be obtained and the chromatic aberration and other aberrations are well corrected and the lens has a lightness of about F/5.6.

3,524,698
ANASTIGMATIC WIDE-FIELD CASSEGRAIN SYSTEM
Harry P. Brueggemann, South Pasadena, Calif., assignor to Tridea Electronics, South Pasadena, Calif., a corporation of Missouri
Filed Dec. 8, 1967, Ser. No. 689,071
Int. Cl. G02b *17/08*
U.S. Cl. 350—200 **18 Claims**



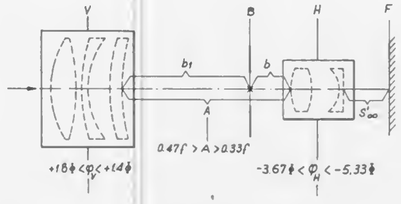
This invention relates to a Cassegrain mirror system and more particularly to a wide-field angle Cassegrain system having a substantially improved power of resolution. In this invention two conic mirrors having equal or nearly equal radii of curvature are positioned on a common axis so that they share a common geometrical reference point to correct for the third order aberrations of astigmatism, field curvature and spherical aberration. A corrector doublet is positioned on the common axis at a geometrical reference point of the second mirror to correct or compensate for the coma of the mirror without introducing any other third order aberrations into the combined system of mirrors and lenses.

3,524,699
SYMMETRICAL RELAY LENS OF EQUI-MAGNIFICATION
Ikuo Mori, Kawasaki-shi, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan
Filed Apr. 24, 1968, Ser. No. 723,801
Claims priority, application Japan, May 13, 1967, 42/30,031
Int. Cl. G02b *9/00, 9/08, 9/62*
U.S. Cl. 350—210 **4 Claims**



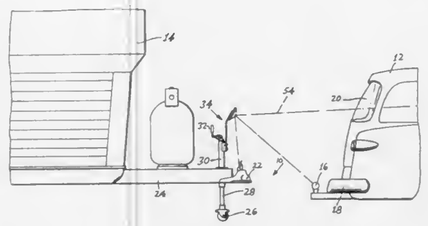
A relay lens system wherein negative lens elements are symmetrically provided on both sides of the stop, each negative element being a cemented triplet comprising a double convex negative and two positive lens elements. The central positive lens elements has a larger dispersive power than the negative lens element whereby the aberration of color is satisfactorily corrected.

3,524,700
TELEPHOTO LENS
Joachim Eggert, Ernst Tronnier, and Fritz Uberhagen, Braunschweig, Germany, assignor to Voigtlander A.G.
Continuation-in-part of application Ser. No. 443,861, Mar. 30, 1965. This application May 15, 1969, Ser. No. 824,802
Claims priority, application Germany, June 20, 1964, V 26,214
Int. Cl. G02b *9/10, 9/62*
U.S. Cl. 350—215 **5 Claims**



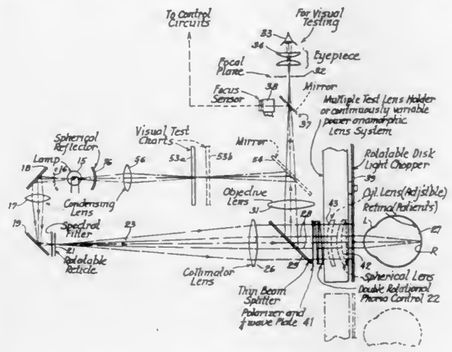
A telephoto objective for cameras. The objective has a telephoto effect of between 7 and 14 and includes a front positive component and a rear negative component separated from each other by a predetermined air space along the principal axis. The size of this air space along the principal axis is smaller than 0.47 times but greater than 0.33 times the focal length of the entire objective. The quotient resulting from dividing of the size of this air space along the principal axis by the back focal length is between 3.33 and 4.33. The product obtained by multiplying the size of this predetermined air space along the principal axis divided by the focal length of the entire objective and the back focal length divided by the local length of the entire objective is between 0.052 and 0.037. With these features it is possible to achieve a telephoto objective of relatively short total length which will have an extremely good imaging capability.

3,524,701
TRAILER HITCH VIEWING MIRROR ASSEMBLY FOR MOUNTING ON A TRAILER JACK POST
Robert J. Strohmeier, 5541 Bridgetown Road, Cincinnati, Ohio 45211
Filed Jan. 13, 1969, Ser. No. 790,613
Int. Cl. G02b *5/06*
U.S. Cl. 350—307 **6 Claims**



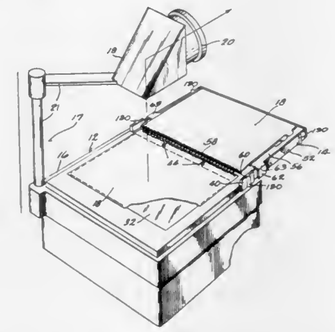
A trailer hitch viewing mirror assembly for mounting on a trailer jack post to provide the driver of a driven vehicle with a means of visibly and accurately aligning and positioning that portion of a trailer hitch apparatus on the rear of the driven vehicle with that portion of the trailer hitch apparatus on the front of a trailer vehicle in the absence of any other person or device.

3,524,702
APPARATUS FOR OBJECTIVELY AND AUTOMATICALLY REFRACTING THE EYE
John G. Bellows, 211 Park Ave., Glencoe, Ill. 60022, and Howard C. Borough, Glen Ellyn, Ill.; said Borough assignor to said Bellows
Filed Sept. 6, 1968, Ser. No. 767,573
Int. Cl. A61b *3/10*
U.S. Cl. 351—6 **4 Claims**



An apparatus for objectively testing an optical system which includes a lens and a photo sensitive surface. The apparatus comprises a source of radiant energy for producing a beam, a reticle adapted to be illuminated by the beam and a projection lens, all disposed in the optical path of the test optical system. The beam is adapted to pass through the reticle, the projection lens and the test optical system and to project the reticle image on the photo sensitive surface. The apparatus further includes an objective lens, a focal plane and a beam splitter, all in an optical path intersecting the first mentioned optical path. The beam reflected from photo sensitive surface is reflected from the beam splitter and passes through the objective lens to form an image on the focal plane. Means for refractively correcting the test optical system are included.

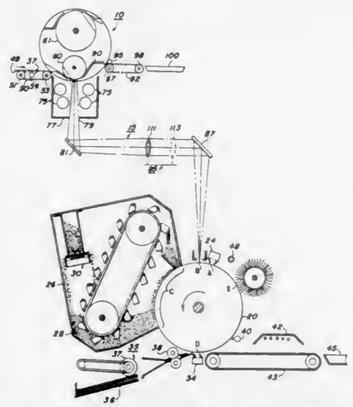
3,524,703
TRANSPARENCY STORAGE AND DISPLAY DEVICE FOR AN OVERHEAD PROJECTOR
John S. Wright, 6115 N. Lake Drive Court, Milwaukee, Wis. 53217
Filed July 29, 1968, Ser. No. 748,255
Int. Cl. G03b *21/26*
U.S. Cl. 353—35 **13 Claims**



In an accessory transparency storage and display device a pack of transparencies are hingedly connected to the free margin of a first cover which, in turn, is hingedly connected to a second cover preferably having the form

of a case which encloses the transparencies when they are disposed between the said covers. Since they are connected to the free margin of the first cover, they may be swung hingedly to lie on either side of such cover, or to project therefrom to lie on an auxiliary stage which is attached to the second cover opposite the side to which the first cover is hinged, such stage being foldable into or out of the second cover. A feature of the invention consists in the fact that a pin or pins connected with the auxiliary stage for the accurate registration of transparencies placed thereon are so disposed as to be in immediate proximity to the hinged connection of such transparencies with the first mentioned cover. In consequence, it is not necessary to manipulate the transparencies individually to remove them from the stage. Merely lifting the first cover will disengage from the dowels the transparencies hinged to said cover.

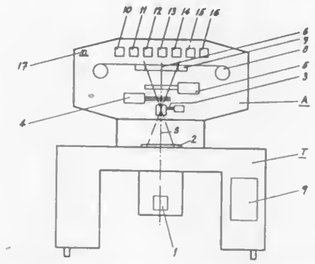
3,524,704
MULTILENGTH DOCUMENT RECORDING APPARATUS
Lyman H. Turner, Pittsford, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 17, 1966, Ser. No. 587,110
Int. Cl. G03g *15/04*
U.S. Cl. 355—3 **6 Claims**



An improvement for a xerographic reproducing apparatus in which a document turret assembly and an associated lens turret assembly are positioned on the optical path to obtain fixed length images on the xerographic drum irrespective of document length. The document turret assembly consists of a plurality of rotary platens which are radially displaced about a turret axis and which have different diameters to accommodate different length documents wrapped therearound. Drive means are provided for positioning of the document turret assembly and lens turret assembly simultaneously and for rotating the platens in timed relation with the xerographic drum.

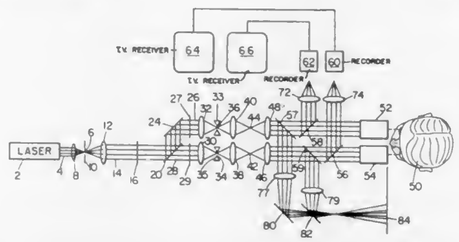
3,524,705
PROJECTING APPARATUS FOR COPIERS
Peter Steffen, Dietikon, Zurich, Hermann Keller, Oberengstringen, and Reinhard Zeindler, Zurich, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company
Filed Nov. 27, 1967, Ser. No. 685,916
Claims priority, application Switzerland, Dec. 2, 1966, 17,268/66
Int. Cl. G03b *27/32*
U.S. Cl. 355—55 **10 Claims**

A photographic enlarger for producing enlargements of two different sizes each of which can be printed consecutively on a reel of printing material comprising a rectangular mask for holding the negative, two lenses of of different focal lengths and a rectangular positive mask. When the major axis of the negative mask lies transverse to the direction of feed of printing material the dimension



of the positive mask is also reduced in the direction of feed of printing material and the lens of longer focal length placed in the opical axis. When the major axis of the negative mask lies parallel to the direction of feed of printing material the opposite occurs.

3,524,706
METHOD AND APPARATUS FOR OPTICALLY PROCESSING SEISMIC DATA USING SPATIAL FILTERING TECHNIQUES
John B. Farr, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed June 10, 1966, Ser. No. 556,740
Int. Cl. G06k *9/08*
U.S. Cl. 356—71 **5 Claims**



3. An apparatus for the enhancement and analysis of spatially displayed input data comprising the following elements:

(a) a source of substantially coherent light,

(b) a lens array focusing said light on a pin-hole aperture,

(c) lens means to receive and collimate said light which passes through said pin hole aperture to form a collimated beam,

(d) means for dividing said collimated beam into two essentially equivalent beams,

(e) means to spatially modulate each of said equivalent light beams in accordance with said spatially displayed input data,

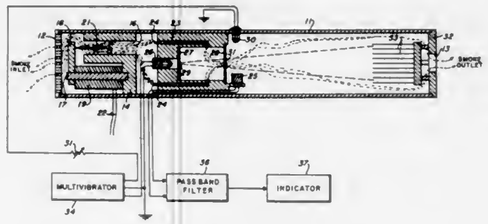
(f) lens means in the light path of each of said modulated equivalent beams to form separate Fourier transforms of each of said beams,

(g) optical means in at least one of said light paths to attenuate at least a portion of at least one of said Fourier transforms,

(h) lens means in each of said light paths to reconstruct a separate image of each of said transforms, and

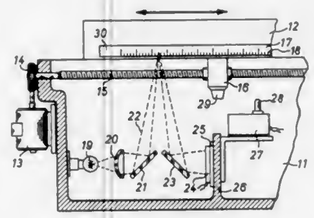
(i) optical means for simultaneously viewing both of said reconstructed images.

3,524,707
PULSATING LIGHT SOURCE SMOKE DETECTOR
Julian E. Hansen, Sr., 6142 Loukelton Circle, 92120, and Julian E. Hansen, Jr., 5872 Streamview Drive 92105, both of San Diego, Calif.
Continuation-in-part of application Ser. No. 503,421, Oct. 23, 1965. This application Aug. 14, 1967, Ser. No. 660,387
Int. Cl. G01n *21/00, 21/12, 21/26*
U.S. Cl. 356—103 **3 Claims**



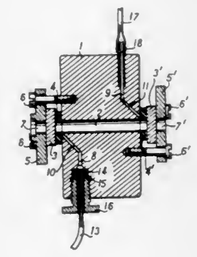
An improved smoke detector enclosed in a cylindrical housing having an air smoke inlet at one end thereof in proximity to an internal air pump which causes any ambient smoke present to pass into a path of collimated light reflections of which are detected by a photo cell and an auxiliary lamp for cancelling out any ambient light reflections. The auxiliary lamp and collimated light source being pulsed out of phase from a pulse generator.

3,524,708
MEASURING DEVICE
Laszlo Rabian, Zurich, and Georg Grendelmeier, Dietikon, Switzerland, assignors to Oerlikon-Buehrle Holding Ltd., Zurich, Switzerland
Filed Sept. 2, 1966, Ser. No. 576,990
Claims priority, application Switzerland, Sept. 2, 1965, 12,293/65
Int. Cl. G01b *11/00, 11/04*
U.S. Cl. 356—170 **4 Claims**



An optical measuring device having carrier means with a support movable to an end position. A movable holder of optical signal marks with at least a part arranged to form a scale is on the support and driving means are provided for simultaneous displacement of the support and holder. An electro-optical sensing device for the signal marks generates upon movement of the carrier means out of the end position a train of electrical pulses which at least partly are in timed relation to the signal marks forming the scale and an electrical counter is provided for the electrical pulses. Electrical transmission means connect the sensing device to the counter with a blocking condition to block the transmission of the pulses to the counter. The transmission means has further an operative condition to transmit the pulses to said counter. Electrical control means has two electrical inputs. A first input is connected to the sensing device and the control means has a rest state and an operating state. The control means in rest state holds the transmission means in blocking condition and in operating state holds the transmission means in operative condition. Electrical switching means connects to the second input and is operable by the support both upon displacement of the support out of the end position and upon a displacement of the support into the end position to generate a first and a second electrical control pulse at the control means. The control means is shiftable from the rest state to the operating state by subsequent transmission of the first electrical control pulse and a shift pulse generated by the sensing device. The control means is shiftable to the rest state by a transmission of the second electrical control pulse.

3,524,709
MEASURING CELL FOR THROUGH-FLOW PHOTOMETERS
Jiří Hrdina, Prague, Czechoslovakia, assignor to Ceskoslovenska akademie ved, Prague, Czechoslovakia
Filed May 24, 1966, Ser. No. 552,624
Claims priority application Czechoslovakia, May 27, 1965, 3,458/65
Int. Cl. G01n *21/06, 1/10;* **G01j** *3/46*
U.S. Cl. 356—246 **4 Claims**

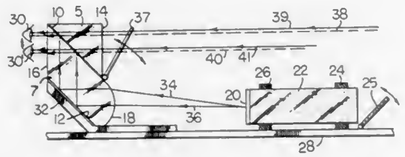


A flow-through measuring cell having a body member with a fluid receiving elongated channel receiving light beams in its longitudinal direction and transparent windowlike members at the entrance and the outlet end of said channel closing the same. An elastic ringshaped washerlike member is arranged between the cell body member and at least the transparent windowlike entrance member, the ring opening substantially extending the elongated channel, and pressing means act on the windowlike members to adjust the compression of the washerlike member. An inlet and an outlet tubing leads fluid to be measured at each end in and out of the channel, its communicating opening with the channel being adjustable through the elastic embracing washerlike member by varying its compression.

3,524,710
SELF-LUMINOUS REFLEX SIGHT
Glenn E. Rickert, Community State Bank Bldg., Huntington, Ind. 46750
Continuation-in-part of application Ser. No. 447,483, Apr. 12, 1965. This application Jan. 19, 1967, Ser. No. 610,302
Int. Cl. G02b *23/10, 27/34*
U.S. Cl. 356—251 **5 Claims**

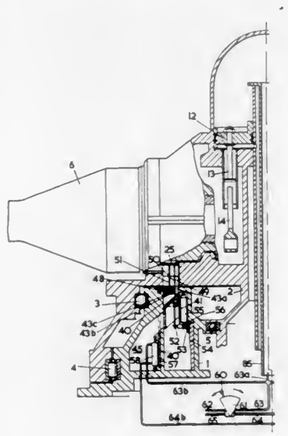
A reflex sight having a highly efficient beam splitter is disclosed which beam splitter is effective to combine a

target view and a collimated image of a sight indicia for alignment purposes. The improved beam splitter may be of a high efficiency dichroic interference type coating, may have any other reflective coating and arranged to



have a ratio of reflection to transmission which is different in one area as compared to another area, or may be of the dichroic type and having areas of different reflectivity.

3,524,711
HELICOPTER ROTORS
Ian Clifford Cheeseman, Camberley, James Eric George, Farnborough, and Charles Reginald Lawrence, Camberley, England, assignors to Minister of Technology in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England
Filed May 13, 1968, Ser. No. 728,476
Claims priority, application Great Britain, May 12, 1967, 22,070/67
Int. Cl. B64c *27/18*
U.S. Cl. 416—20 **14 Claims**

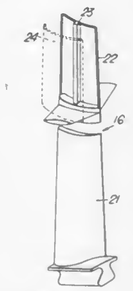


A helicopter rotor has variable incidence blades of elliptical cross-section on which lift may be induced by the discharge of air from spanwise extending slots. Air discharge is varied cyclically in accordance with rotation of the rotor whereby the pattern of blade lift across the rotor disc can be modified without cyclic changes in blade incidence. Two alternative mechanisms for varying the blade incidence are described, each of which simultaneously acts to vary airflow to the blade slots. Air is obtained from a compressor connected to the rotor drive so that it can function during autorotation of the rotor.

Two embodiments are described, differing in mechanism used to vary the blade incidence and which simultaneously acts to vary the total airflow passing to the blade slots.

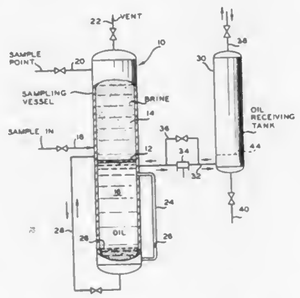
Air is obtained from a compressor connected to the rotor drive so that it can function during autorotation of the rotor in order to provide cyclic control when engine power is not available.

3,524,712
COMPRESSOR BLADE FOR A GAS TURBINE ENGINE
James A. Petrie, Littleover, John M. S. Keen, Derby, Gordon C. May, Allestree Park, Albert J. Moreton, Derby, and Frank Littleford, Little Eaton, England assignors to Rolls-Royce Limited, Derby, England, a British company
Filed May 8, 1967, Ser. No. 636,979
Claims priority, application Great Britain, May 17, 1966, 21,758/66
Int. Cl. F01d *5/10*
U.S. Cl. 416—233 **2 Claims**



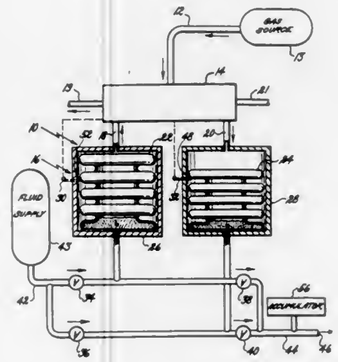
A clappered compressor blade for a gas turbine engine comprising a plurality of forged pieces bonded together by electron beam welding or other metallurgical technique to form at least the working section of the blade. The joint surfaces between the major pieces extend transversely across the blade so that they can easily be machined to match accurately before the bonding process.

3,524,713
GAS SAMPLING APPARATUS AND METHOD
Paul L. Osmon, Borger, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 11, 1967, Ser. No. 659,917
Int. Cl. F04b *11/00, 19/22;* **G01n** *33/00*
U.S. Cl. 417—54 **7 Claims**



Gas sampling apparatus is provided comprising an upright vessel partitioned into an upper sample receiving compartment filled with brine and having a sample inlet and a brine outlet in its bottom section and a sample outlet in its upper section, and a lower brine receiving compartment having a brine inlet in its bottom section and an oil outlet in its top section, there being a conduit connecting the brine inlet and brine outlet for passing brine between the two compartments. The lower brine receiving compartment contains brine to a lower level, oil filling the upper section of this compartment. The oil outlet in the lower compartment is connected by conduit means with a closed oil receiver tank, there being a positive displacement pump in this conduit for passing oil from the lower compartment of the sampling vessel to the receiver tank. A valved bypass line around the pump is provided. The sample is taken from a gas line carrying a multicomponent gas connected with the sample inlet by conduit, by pumping a portion of the oil from the lower compartment into the receiver tank, thereby passing brine from the upper sampling compartment to the lower compartment below the oil-brine interface and taking a gas sample into the upper compartment. To pass the collected gas sample to an analyzer or to a portable gas bottle, fluid pressure is applied to the oil in the oil receiver tank to force oil through the bypass line and connecting conduit back into the lower compartment, thus forcing brine back to the upper compartment and preparing the apparatus for taking another sample.

3,524,714
PNEUMATIC BELLOWS PUMP
Robert K. Grove and Carl J. Rudey, Los Altos Hills, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed Oct. 30, 1968, Ser. No. 771,957
Int. Cl. F04b *17/00, 43/00*
U.S. Cl. 417—345 **5 Claims**

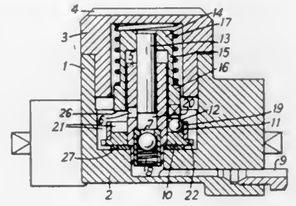


A bellows pumping system having a pair of bellows, the bellows being alternately pressurized and vented in such a manner as to maintain a continuous flow of fluid through an outlet.

3,524,715
FLUID PUMP
Max Edward Grantham, Plymouth, England, assignor to Tecalemit (Engineering) Limited, Plymouth, Devon, England
Filed Aug. 7, 1968, Ser. No. 750,927
Claims priority, application Great Britain, Aug. 18, 1967, 38,242/67
Int. Cl. F04b *19/22, 9/04*
U.S. Cl. 417—471 **12 Claims**

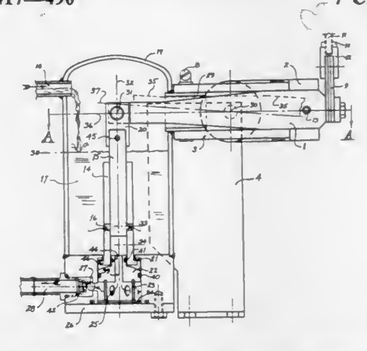
A fluid pump comprises a piston (**13**) reciprocable in a cylinder (**5**) against a biasing force (helical spring **17**). The pump includes a cam system which may be formed by a ball (**12**) rotated by a cam body (**10**) against a helical cam face (**26**).

The cam system embraces the cylinder and provides a compact construction. The ball support (**11**) may be bevelled to provide a low torque pure rolling action.



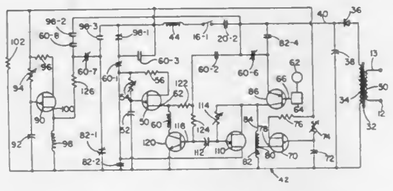
The pump is of utility in lubrication systems (FIG. 3).

3,524,716
ABSORPTION REFRIGERATION SYSTEM
Everett P. Palmatier, Box 688, Delray Beach, Fla. 33444
Filed Oct. 23, 1967, Ser. No. 677,414
Int. Cl. F04b *9/02;* **F16j** *15/50*
U.S. Cl. 417—490 **7 Claims**



A pump having a rocker arm, hermetically sealed from outside the pump housing, for transmitting power to the pistons within a pump housing.

3,524,717
COMBUSTION SUPERVISION SYSTEM
Phillip J. Cade, Winchester, Mass., assignor to Electronics Corporation of America, Cambridge, Mass., a corporation of Massachusetts
Filed June 17, 1968, Ser. No. 737,491
Int. Cl. F23n *5/00*
U.S. Cl. 431—29 **18 Claims**



A combustion control system includes four similar adjustable electronic timers, each including a unijunction transistor, a capacitor, and a variable resistor, and each controlling a relay coil. A first timer times a purge interval, and at the end of the purge interval initiates operation of two other timers, a first of these two timers timing an ignition interval and the second of these two timers delaying application of the main fuel supply to the combustion chamber. The fourth timer times an interval at the end of the ignition interval and then releases the relay controlled by the first timer.

3,524,718
PROCESSES FOR THE CONTINUOUS DYEING AND PRINTING OF CELLULOSE ESTER FIBER MATERIAL

József Nádor, Arlesheim, Switzerland, Hans-August Forsthoff, Lorrach, Baden, and Hans Rafael, Weil am Rhein, Baden, Germany, and Hans Wegmuller, Riehen, and Willi Leutenegger, Bottmingen, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Filed July 7, 1966, Ser. No. 563,398
Int. Cl. D06p *3/40, 5/04*
U.S. Cl. 8—170 35 Claims

A process is provided for the continuous dyeing and printing of cellulose ester fiber material. According to the process there is applied to a cellulose ester fiber material a non-aqueous dyestuff solution comprising a mixture consisting essentially of

(a) 50–99.5 percent by weight of unhalogenated or halogenated hydrocarbon having a boiling point between 70 and 150° C., and
(b) 50–0.5 percent by weight of water-miscible organic solvent having a boiling point below 210° C.,
(c) at least 0.1 percent by weight, calculated on the total weight of the dye liquor, of a non-ionogenic crocking-fastness improver and
(d) a dyestuff soluble in said mixture, of which dyestuff at least 0.5 gram is soluble in every kilogram of cellulose ester fibers,

in a sufficient amount to impart to said material a desired color depth. Subsequently the resulting dyeing is fixed on the said fiber. Also provided are dye liquors used in the process as well as the fiber materials dyed or printed in accordance with the process.

3,524,719
SYNERGISTIC MIXTURES OF CERTAIN ORGANIC AMINES FOR RETARDING CORROSION IN AQUEOUS SYSTEMS

Paul A. Wolf and Francis J. Bobalek, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 13, 1968, Ser. No. 728,745
Int. Cl. C23f *11/12, 11/16, 14/02*
U.S. Cl. 21—2.7 6 Claims

It has been found that compounds of the formula

$$CH_3-\left(CH_2\right)_n-X-\left(CH_2\right)_m-NH_2 \quad (I)$$

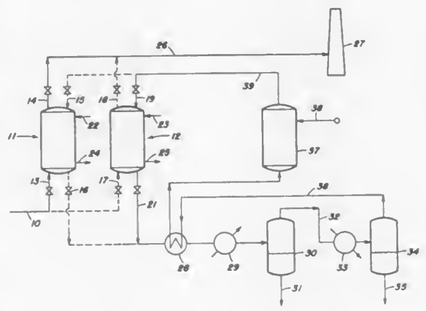
wherein n=7 to 13, X=—S— or —O— and m=2 or 3, or mixtures thereof, show unexpectedly good results as chemical corrosion inhibitors when combined with N,N''-(hexachlorobiphenylene)bis(ethylenediamine) or 1,1'-(hexachlorobiphenylene)bis(diethylenetriamine).

3,524,720
PROCESS FOR REMOVING SULFUR DIOXIDE FROM GASES

William V. Bauer, New York, N.Y., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware

Filed Apr. 24, 1967, Ser. No. 632,548
Int. Cl. B01d *53/04, 53/34*
U.S. Cl. 23—2 11 Claims

A process for removing sulfur dioxide from a gaseous stream wherein the gaseous stream is passed through a bed of sodium carbonate, resulting in reaction between the sulfur dioxide and carbonate to produce sodium sulfite. The bed is periodically regenerated by passing a stream of carbon monoxide therethrough, resulting in the production of solid sodium carbonate and a gaseous stream, containing sulfur and carbon dioxide. The sulfur



values are recovered, and the carbon dioxide reacted with free carbon to produce carbon monoxide for the regeneration cycle.

3,524,721
CATALYST COMPOSITION

Ruth E. Stephens, Detroit, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

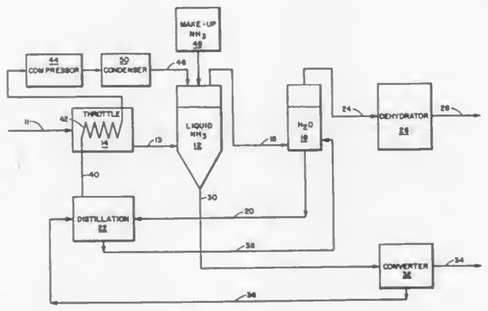
No Drawing. Filed Dec. 22, 1967, Ser. No. 692,666
Int. Cl. B01d *47/00;* B01j *11/40*
U.S. Cl. 23—2 9 Claims

Nitrogen oxides are decomposed by contacting a catalyst consisting essentially of nickel oxide promoted with metals having an atomic number from 56 through 62 in an oxide form. Preferred promoters are neodymium oxide or neodymium oxide plus barium oxide. The catalysts are useful in reducing nitric oxide content in exhaust gas of internal combustion engines.

3,524,722
REMOVAL OF CARBON DIOXIDE FROM NATURAL GAS

Richard L. Every and Ralph Leroy Grimsley, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed June 8, 1966, Ser. No. 556,014
Int. Cl. B01d *47/00;* C07c *127/00*
U.S. Cl. 23—3 2 Claims



A method of removing carbon dioxide from sour natural gas by bubbling the same natural gas through a body of liquid ammonia to convert the gaseous carbon dioxide to solid ammonium carbamate. The purified natural gas is then separated from the reaction mixture.

3,524,723
SOLVENT EXTRACTION PROCESS FOR SEPARATING EUROPIUM FROM OTHER RARE EARTHS

Wayne A. Millsap, Arvada, and Hal D. Peterson, Boulder, Colo., assignors to Molybdenum Corporation of America, New York, N.Y., a corporation of Delaware

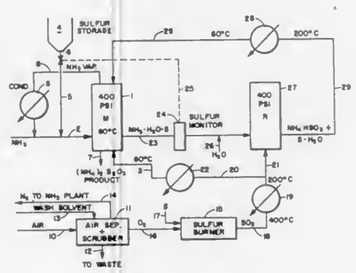
Filed Jan. 10, 1966, Ser. No. 519,793
Int. Cl. C22b *59/00*
U.S. Cl. 23—22 2 Claims

This invention provides a process for selectively separating europium values from an aqueous feed solution containing europium and other rare earth values. The process comprises feeding the aqueous solution to a solvent extraction circuit, contacting the aqueous feed solution with an organic alkyl phosphate solvent which is immiscible with water and which preferentially extracts substantially all of the europium values and a minor amount of the other rare earth values, separating an aqueous phase substantially devoid of the europium values from a solvent phase enriched in the europium values, contacting the separated solvent phase enriched in the europium values with an aqueous acid stripping solution and stripping substantially all of the europium and other rare earth values from the solvent into the stripping solution and separating a solvent phase substantially devoid of the europium values from an aqueous phase enriched in the europium values and recovering the aqueous stripping solution substantially enriched in the europium values.

3,524,724
METHOD FOR MAKING AMMONIUM THIOSULFATE AND AMMONIUM SULFATE

Richard L. Every and Paul F. Cox, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Oct. 12, 1966, Ser. No. 586,189
Int. Cl. C01b *1/24, 17/14*
U.S. Cl. 23—115 5 Claims

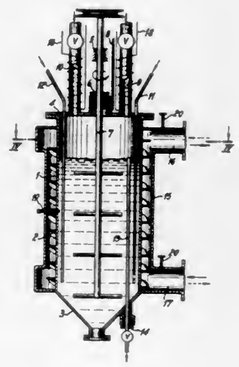


Method of preparing ammonium thiosulfate and ammonium sulfate comprising in a first stage reacting sulfur dioxide with an aqueous solution to form a solution ammonium bisulfite and in a second stage reacting the solution of ammonium bisulfite with additional ammonia, sulfur dioxide and sulfur. The effluent from the second stage is monitored to determine the sulfur content thereof and the amount of sulfur fed to the second reaction zone is regulated responsive to said monitoring.

3,524,725
PROCESS FOR THE MANUFACTURE OF PHOSPHORUS SULFIDES

Joseph Cremer and Friedrich Thomas, Hermulheim, near Cologne, and Heinz Harnisch, Lovenich, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany

Continuation of application Ser. No. 245,585, Dec. 18, 1962. This application Dec. 21, 1967, Ser. No. 692,609
Int. Cl. C01b *25/14*
U.S. Cl. 23—206 1 Claim

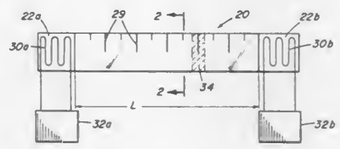


Phosphorus is reacted with sulfur at elevated temperatures in a reaction zone surrounded by a heat exchanging medium. By means of heating and cooling, respectively, the temperature in the reaction zone is maintained below the boiling and above the solidification point of the reaction mixture by causing a gas stream having the temperature necessary for heating and cooling, respectively, to flow around the reaction zone. The gas flow is conducted so as to permit reversing the reaction zone substantially instantaneously from heating to cooling and vice versa, with the gas stream for cooling being air suction drawn past the reaction zone, and the gas stream for heating consisting of combustion and off-gases, free from oxygen and originating from a mixture of a combustible and air.

3,524,726
SMECTOGRAPHIC DISPLAY

Heinz A. de Koster, Stamford, Conn., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware

Filed Apr. 4, 1968, Ser. No. 718,823
Int. Cl. G02b *5/00;* G02f *5/00*
U.S. Cl. 23—253 16 Claims



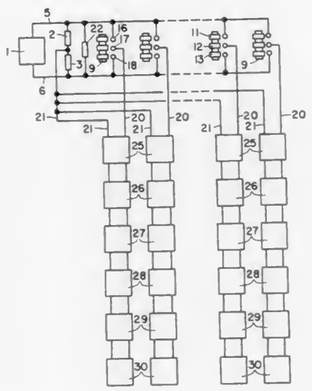
Display device comprising a heat conductive substrate having a coating of crystalline liquid material which exhibits a colored smectic state when heated to a predetermined smectic temperature range. A temperature

gradient in part encompassing the smectic temperature range is imposed on the crystalline liquid coating to produce therein a discrete, colored smectic band forming a display indicator. The temperature gradient may be produced by heating elements or thermoelectric elements spaced on the substrate; these are proportionally raised or lowered in temperature to cause the indicator to move. The display device may be linear or curvilinear in shape, and means are disclosed for producing a multi-revolution indicator on a circular device.

3,524,727
METHOD AND DEVICE FOR DETERMINING SEROLOGICAL DATA BY AN AGGLOMERATION TEST

Hans Günter Nöller, Heidelberg, Germany, assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed July 11, 1966, Ser. No. 564,094
Claims priority, application Germany, June 16, 1965, 1,598,846
Int. Cl. G01n *33/16;* **G01r** *27/22*
U.S. Cl. 23—230 **15 Claims**



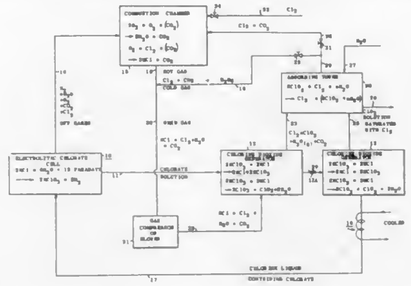
A method and device for determining serological data of a substrate by means of an agglomeration test wherein an agglutinin is added to the substrate to form a reaction mixture. The reaction mixture is disposed within an electrically non-conductive tubular vessel having a plurality of electrodes conductively connected with the interior thereof in a predetermined fixed relationship with one another for electrical contact with the reaction mixture. The separation of the substrate by agglutination is determined by measuring electrical resistance in the inhomogeneous components of the substrate of the reaction mixture. Means for indicating whether said separation has taken place is also provided.

3,524,728
CLOSED CYCLE SYSTEM FOR THE GENERATION OF CHLORINE DIOXIDE

Gothe Oscar Westerlund, Vancouver, British Columbia, Canada, assignor to Chemech Engineering Ltd., Vancouver, British Columbia, Canada

Filed Oct. 2, 1967, Ser. No. 675,272
Claims priority, application Canada, Oct. 5, 1966, 972,150
Int. Cl. B01k *1/00;* **C01b** *11/00, 11/26*
U.S. Cl. 23—262 **18 Claims**

A continuous recyclic process and apparatus for the production of chlorine dioxide from an aqueous chlorate solution of gaseous hydrochloride. The hydrogen chloride is formed in situ by combustion of hydrogen gas

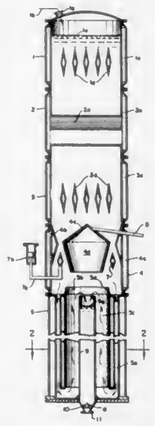


and chlorine gas. The chlorine dioxide is used for bleaching pulp.

3,524,729
APPARATUS FOR CONTINUOUSLY POLYMERIZING LACTAMS

Kurt Markel, Wilhelm-Pieck-Stadt Guben, Erwin Blumer, Saalfeld, Saale, Gunter Kunzmann, Rudolstadt, and Jurgen Steinberg and Dieter Stiller, Rudolstadt-Schwarza, Germany, assignors to VEB Chemiefaserwerk Schwarza "Wilhelm Pieck," Rudolstadt, Germany

Filed Nov. 3, 1966, Ser. No. 591,833
Int. Cl. B01j *1/00;* **F28d** *7/12*
U.S. Cl. 23—285 **8 Claims**



Apparatus for continuously polymerizing lactams into polyamides comprising sequential heat exchanging means for providing isothermal reaction temperatures and means for providing uniform flow of the reaction mixture.

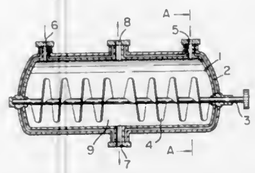
3,524,730
APPARATUS FOR CARRYING OUT A POLYCONDENSATION REACTION CONTINUOUSLY

Rei Yokouchi Yoshio Takehisa, and Ko Yuge, Mishima-shi, and Naoyuki Mitani, Ohtsu-shi, Japan, assignors to Toray Industries, Inc., Tokyo, Japan, a corporation of Japan

Continuation-in-part of application Ser. No. 419,912, Dec. 21, 1964. This application Nov. 21, 1967, Ser. No. 684,746
Claims priority, application Japan, Dec. 26, 1963, 38/69,789
Int. Cl. B01j *3/02*
U.S. Cl. 23—285 **6 Claims**

Apparatus for continuous production of polycondensation products of high viscosity, which comprises a horizontal reaction tank provided with an inlet near each end

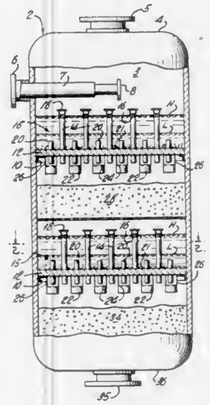
and an outlet near the middle of the tank and a suction port for the removal of by-products, at least one shaft carrying means for conveying reaction components from the inlets to the outlet while agitating the reaction components, said shaft being mounted in the tank so as to provide substantial clearance between the inner surface of the tank and said means over at least a portion of the tank where said suction port is located.



3,524,731
MIXED-PHASE FLOW DISTRIBUTOR FOR PACKED BEDS

Edward Effron, Springfield, and Jack M. Hochman, Boonton, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Sept. 30, 1968, Ser. No. 763,770
Int. Cl. B01j *9/04;* **C10g** *23/00*
U.S. Cl. 23—288 **8 Claims**



This invention is directed to an improved and novel distributor for use in packed end reactors wherein a mixed phase is to be passed through the bed. The distributor comprises a plate and a plurality of short tubes and a plurality of relatively longer notched tubes inserted through said plate. In a preferred embodiment, horizontal baffles are provided beneath each tube and cap plates are provided over the notched tubes.

3,524,732
POUR DEPRESSANT COMPOSITION

William M. Sweeney, Wappingers Falls, and Anthony L. Ippolito, Beacon, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 13, 1965, Ser. No. 513,573
Int. Cl. C10l *1/16*
U.S. Cl. 44—62 **4 Claims**

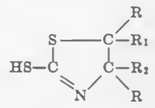
1. A fuel oil composition comprising a major proportion of a mineral oil having a high pour point containing a minor amount effective to substantially lower the pour point of a composition prepared by reacting ethylene and propylene in a mole ratio from 10:1 to 1:10 respectively under vigorous stirring in the presence of a combination of polymerization catalysts to produce a copolymer having a molecular weight from about 10,000 to 1,000,000 and subjecting said copolymer to cracking at a temperature in the range of 200 to 500° C. to produce a cracked ethylene-propylene copolymer having a molecular weight in the range of 2,000 to 6,000.

3,524,733
GASOLINE COMPOSITION

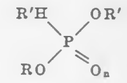
Seymour H. Patinkin, Chicago, and Thomas H. Webb, Hazel Crest, Ill. (both % Sinclair Research Inc., 400 E. Sibley Blvd., Harvey, Ill. 60426)

No Drawing. Continuation of applications Ser. No. 645,516, June 12, 1967, and Ser. No. 688,940, Dec. 7, 1967, which is a continuation-in-part of applications Ser. No. 410,738 and Ser. No. 410,744, both filed Nov. 12, 1964. This application July 3, 1968, Ser. No. 746,695
Int. Cl. C10l *1/22, 1/24, 1/26*
U.S. Cl. 44—63 **23 Claims**

A gasoline composition consisting essentially of hydrocarbon gasoline, an anti-knock quantity of tetra-lower-alkyl lead compound, and a gasoline-soluble metal salt of a 2-mercaptothiazole having the formula:



wherein R, R_1 and R_2 are selected from the group consisting of hydrogen and a hydrocarbon radical of up to 30 carbon atoms, with the proviso that at least one is a hydrocarbon radical. The metal is selected from the group consisting of Groups I*a*, II*a*, III*a*, V*a*, I*b*, II*b*, III*b*, IV*b*, V*b*, VI*b*, VII*b*, VIII and tin. The invention also contemplates adding an alkali metal salt of a mercaptothiazole to the gasoline composition in combination with a metal salt of a mercaptothiazole wherein the metal is one of Groups III*a*, V*a*, I*b*, II*b*, III*b*, IV*b*, V*b*, VI*b*, VII*b*, VIII and tin. The amount of metal salt is sufficient to provide 0.002 to 0.8, preferably 0.025 to 0.3, milligram atom of selected metal of the salt per gallon of gasoline. In order to provide gasoline compositions of further enhanced characteristics, for instance, as to preignition, spark plug fouling, and even in some instances, rumble, there can be included in the gasoline composition of the invention a gasoline soluble phosphorus compound, having the formula:



wherein R is a hydrocarbon radical of up to about 30 carbon atoms on the average, R′ is R or hydrogen and *n* is an integer of 0 to 1.

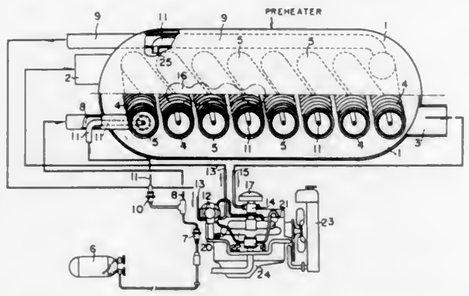
3,524,734
DEVICE FOR PROMOTING PERFECT COMBUSTION OF LIQUEFIED PETROLEUM GAS FOR USE IN CARS

Soko Kamiryo, 578 1-chome, Hikari-machi, Kokubunji-shi, Tokyo-to, Japan, and Tsunesuke Kubo, 20 Idogaya-Nakamachi, Kanagawa-ken, Yokohama-shi, Japan

Filed Oct. 31, 1967, Ser. No. 679,348
Int. Cl. B01f *3/02, 3/04;* **F02m** *21/06*
U.S. Cl. 48—180 **4 Claims**

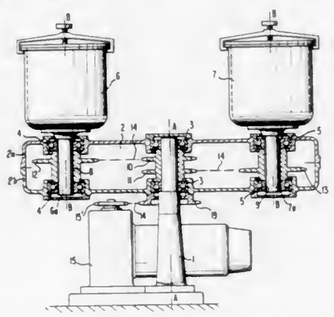
A liquefied petroleum gas combustion device particularly for cars comprising a preheater and a plurality of spiral pipes fitted therein. Each spiral contains a plurality

of radiation fins on the external surface thereof. A liquefied petroleum gas tank and a vaporizer are provided. The spiral pipes communicate with the liquefied petroleum gas tank and the vaporizer to form a continuous liquefied petroleum gas flow circuit starting from the gas tank passing through the insides of the spiral pipes in the preheater,



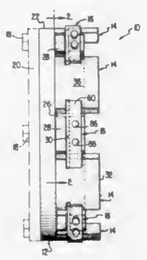
the vaporizer and the external surfaces of the spiral pipes, in that order, respectively. A gas mixer is provided which receives the gas from the vaporizer and means for vaporizing, condensing and mixing air in the flow circuit between the gas tank and the gas mixer as the liquefied petroleum gas flows therethrough.

3,524,735
APPARATUS FOR TREATING SMALL OBJECTS BY USING ROTATING DRUMS
Hans Oetiker, Oberdorfstrasse 21, Horgen, Switzerland
Filed Apr. 7, 1967, Ser. No. 629,311
Int. Cl. B24b *31/02*
U.S. Cl. 51—164 **4 Claims**



An apparatus for treating small objects which comprises a rotating support rotatably mounted by way of bearings on a stationary uright base, a plurality of rotating drums rotatably supported on the rotating base, preferably about approximately vertical axes, by way of bearings, and a drive arrangement for rotating the rotatable support and for rotating also the individual drums about their respective axes of rotation relative to the rotating support so that the objects contained in the drums are subjected to large forces causing improved surface finishing, for example, deburring. The drive of the rotating support may take place from an electric motor, preferably of the variable speed type, by way of a chain and sprocket drive while each drum is individually driven from the stationary base by way of a corresponding chain and sprocket drive. In the alternative, meshing gears may be used to effect the rotating movements of the various parts. The drives are so chosen that the rotating support normally rotates at a higher rotational speed than the rotation of the drums relative to the rotating support.

3,524,736
GRINDING SEGMENT AND HOLDER THEREFOR
Kendall H. Spencer, Winchester, Mass., assignor to Pneumo Dynamics Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Oct. 10, 1968, Ser. No. 766,497
Int. Cl. B24d *7/06*
U.S. Cl. 51—209 **12 Claims**



A grinding segment having notched means in the front face thereof is adjustably mounted in a chuck by releasable clamps. In the unworn condition, the grinding segment is precluded from movement from a work piece by the chuck. A clamp projection is accommodated by the notched means of the grinding segment when the segment is unworn. When the grinding segment becomes worn, the clamps are released, the grinding segments are advanced and the clamps are then secured to the chuck with the clamp projection in engagement with the upper part of the grinding segment to preclude movement of the segment away from the work.

ERRATUM

For Class 51—298 see:
Patent No. 3,524,286

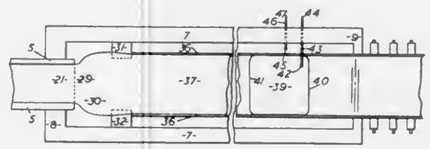
3,524,737
METHOD FOR THERMOCHEMICAL STRENGTHENING OF GLASS ARTICLES
Charles W. Doyle and Francis J. Marusak, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
No Drawing. Filed June 1, 1967, Ser. No. 642,686
Int. Cl. C03c *21/00*
U.S. Cl. 65—30 **3 Claims**

This invention relates to the strengthening of glass articles by creating a surface layer of compressive stress therein through an ion exchange process. More particularly, this invention relates to the strengthening of sodium aluminosilicate glasses wherein potassium ions are exchanged for sodium ions and contemplates heating such glasses in air prior to the ion exchange process.

3,524,738
SURFACE STRESSED MINERAL FORMED GLASS AND METHOD
Everett F. Grubb, Toledo, Erwin C. Hagedorn, Oregon, and Joseph R. Monks, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio
No Drawing. Filed Dec. 7, 1965, Ser. No. 512,235
Int. Cl. C03b *3/22, 5/16, 29/00*
U.S. Cl. 65—134 **8 Claims**

Process for making an easily melted, fast setting, readily ion exchangeable glass by forming a raw batch mixture of an alkali alumino silicate mineral (feldspar) and an alkaline earth material (dolomite), heating the raw batch mixture to form a molten glass, and cooling the molten glass to provide the above-described glass having a certain log viscosity at its liquidus temperature.

3,524,739
APPARATUS FOR THE MANUFACTURE AND SURFACE MODIFICATION OF FLAT GLASS
David Gordon Loukes, Prescot, and Glen Nightingale, Rainford, England, assignors to Pilkington Brothers Limited, Liverpool, England, a corporation of Great Britain
Original application July 6, 1966, Ser. No. 563,138, now Patent No. 3,467,508. Divided and this application Mar. 25, 1969, Ser. No. 810,294
Claims priority, application Great Britain, July 9, 1965, 29,288/65
Int. Cl. C03b *18/00*
U.S. Cl. 65—182 **6 Claims**



Flat glass manufacturing apparatus including a tank holding a bath of molten metal along which a layer of glass is advanced in molten form, means for shaping the margins of an advancing ribbon of glass to provide a trough for maintaining a pool of molten material on top of the glass, and means for passing an electric current through the glass between the pool and the bath.

3,524,740
LITHIUM CHLORIDE SOLUTIONS AS PLANT DESICCANTS AND DEFOLIANTS
Donald C. Young, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Continuation-in-part of application Ser. No. 577,827, Sept. 8, 1966. This application Feb. 26, 1969, Ser. No. 802,649
Int. Cl. A01n *5/00, 11/00, 11/02*
U.S. Cl. 71—69 **9 Claims**

The invention comprises the application of aqueous solutions comprising lithium chloride to the foliage of mature plants to effect desiccation and/or defoliation of the plants and thereby facilitate harvesting of the crops. The treatment can be applied to any plants where the desiccation or defoliation of the plant foliage would be desired, including cotton, potatoes, sugar beets, sugar cane, peppers, milo, roses, pineapple, alfalfa, tomatoes, grapes, etc. A surface active agent can be incorporated in the solution to facilitate wetting of the foliage by the applied solution and aerial or ground rig applications can be employed.

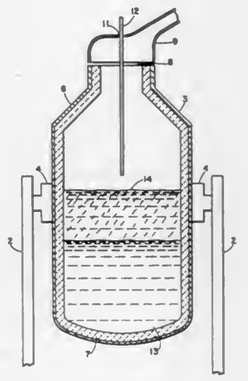
3,524,741
METHOD OF DEFOLIATING PLANTS WITH ORGANOMERCURIALS
Henry G. Braxton, Jr., Franklin Village, Mich., and Evelyn J. Lajiness, Caledonia, Wis., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Oct. 31, 1968, Ser. No. 772,356
Int. Cl. A01n *9/38*
U.S. Cl. 71—70 **4 Claims**

Plants are defoliated and desiccated by contacting with a composition containing as an active ingredient organomercury compounds having the formula:

R—Hg—OH

wherein R is selected from the group consisting of alkyl, cycloalkyl, aryl, alkaryl, and aralkyl groups having up to about 12 carbon atoms.

3,524,742
PROCESS FOR REFINING STEEL
Jackson L. Williams, 3845 Orleans Road, Birmingham, Ala. 35213
Filed July 5, 1967, Ser. No. 673,525
Int. Cl. C21c *5/32*
U.S. Cl. 75—51 **10 Claims**



Silicon carbide is used as an auxiliary fuel in the oxygen-converter process for refining steel. The silicon carbide is added in the ratio of 1 part of silicon carbide for about every 10 to 15 parts of ferrous scrap in excess of the parts of ferrous scrap normally required to maintain the process in thermal balance. The silicon carbide is charged to the converter after the ferrous scrap and before the hot metal. In the upright oxygen-converter process the metallic charge consists of hot metal and up to about 50% ferrous scrap.

3,524,743
METHOD OF PROCESSING FLY DUSTS CONTAINING SULPHUR, AND SMELTER MIXED OXIDES OR OTHER MIXED OXIDES CONTAINING ZINC AND LEAD
Hans-Joachim Hellwig, Goslar, and Bernhard Rose, Frankfurt am Main, Germany, assignors to Unterharzer Berg- und Huttenwerke G.m.b.H., Goslar, Germany, a corporation of Germany
No Drawing. Filed Jan. 31, 1968, Ser. No. 701,863
Claims priority, application Germany, Feb. 2, 1967, U 13,519
Int. Cl. C22b *7/02, 13/00, 19/30*
U.S. Cl. 75—77 **10 Claims**

This invention is concerned with a method of processing industrial fly dusts containing sulphur, and smelter mixed oxides or other mixed oxides containing zinc and lead, to give a crude lead, a slag rich in zinc and sulphur and a secondary fly dust which can be sintered. The essence of the process is mixing the fly dusts and mixed oxides with barium sulphate and an excess of a reducing agent such as coke, and then melting this mixture at a temperature between 820° and 1000° C. About 85% of the total lead content of the mixture separates out in the form of a crude lead melt which is at least 95% pure, while the zinc content of the mixture separates out into the slag and into the secondary fly dust. The sulphur is mainly retained in the slag. The slag is suitable for use as the charge in a zinc smelter and the secondary fly dust is suitable for sintering after it has been separated from the effluent gases from the furnace in which the mixture was melted.

3,524,744
NICKEL BASE ALLOYS AND PROCESS FOR THEIR MANUFACTURE

Niranjan M. Parikh, Chicago, Ill., assignor to IIT Research Institute, Chicago, Ill., a not-for-profit corporation of Illinois

Filed Jan. 3, 1966, Ser. No. 518,165
Int. Cl. B22d *23/08;* **B22f** *7/06;* **C22c** *19/00*
U.S. Cl. 75—171 **4 Claims**



Superalloys characterized by a uniformly dispersed ultrafine hardening phase and a very fine matrix phase having a composition by weight consisting essentially of from 3.5 to 6 percent molybdenum, from 3.5 to 6.5 percent aluminum, from 12 to 17 percent chromium, iron up to 4 percent maximum, from 0.5 to 4 percent titanium, from 0 to 20 percent cobalt, carbon up to 0.20 percent maximum, boron up to 0.05 percent maximum, from 0 to 0.15 percent zirconium, manganese up to 0.25 percent maximum, silicon up to 0.50 percent maximum, 0 to 0.5 percent copper, balance nickel with incidental impurities.

3,524,745
PHOTOCONDUCTIVE ALLOY OF ARSENIC, ANTIMONY AND SELENIUM

Peter J. Cerlon, Rochester, Mark B. Myers, Penfield, and Evan J. Felty, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Jan. 13, 1967, Ser. No. 609,126
Int. Cl. G03g *5/00*
U.S. Cl. 96—1.5 **17 Claims**

A vitreous photoconductive alloy comprising arsenic, antimony and selenium.

ERRATUM

For Class 99—90 see:
Patent No. 3,524,401

3,524,746
STABILIZED WET BABY FOOD

Vincent J. Kelly and William G. Fry, Fremont, Mich., assignors to Gerber Products Company, Fremont, Mich.

No Drawing. Filed Nov. 16, 1966, Ser. No. 594,688
Int. Cl. A23l *1/10*
U.S. Cl. 99—100 **9 Claims**

A thickened, wet, precooked formulation, especially suitable for infant feeding, formed from an aqueous slurry of food particles including meat, vegetables or combinations thereof, and from about 5 to 40 pounds per hundred gallons of final formulation, of a modified by acetylation with a monocarboxylic acid or etherification with an alkylene oxide. The amount of modification must be sufficient to maintain uniform cold stability of the formulation during subsequent prolonged periods of low temperature storage.

3,524,747
SEASONING COMPOSITIONS AND RELATED PRODUCTS AND METHODS

Masami O'Hara and Shizuyuki Ota, Tokyo, Hitoshi Enei and Sadanari Eguchi, Kawasaki-shi, and Shinji Okumura, Yokohama-shi, Japan, assignors to Ajinomoto Co., Inc., Tokyo, Japan

No Drawing. Filed Mar. 30, 1966, Ser. No. 538,583
Int. Cl. A23l *1/22*
U.S. Cl. 99—140 **21 Claims**

A seasoning for giving a beef or meat-like flavor to foods. The seasoning includes amino acids, at least one organic acid, at least one phosphate and at least one 5'-nucleotide. The amino and organic acids can be free acids or salts of the acids or mixtures thereof. The amino acids include glutamic acid and alanine, histidine, arginine, threonine, methionine and leucine. The latter six amino acids constitute at least 30% by weight of the total amount of amino acids exclusive of glutamic acid. The organic acid is no more than three parts by weight based on the weight of the free organic acids to one part of all of the amino acids employed exclusive of the glutamic acid.

3,524,748
HIGH STRENGTH ALPHA- AND BETA-QUARTZ GLASS-CERAMIC PRODUCTS AND METHOD

George H. Beall, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

No Drawing. Filed June 26, 1967, Ser. No. 648,938
Int. Cl. C04b *33/00, 39/00*
U.S. Cl. 106—39 **5 Claims**

This invention relates to the production of very high strength glass-ceramic articles through the controlled inversion of quartz. More particularly, this invention contemplates the formation of glass-ceramic articles having an integral surface compression layer therein beta-quartz (high quartz) is the primary crystal phase and an interior portion wherein alpha-quartz (low quartz) is the primary crystal phase.

3,524,749
CHLORINATED SOLVENT COMPOSITIONS CONTAINING PHOSPHORIC ACID FOR STABILIZATION AND FOR PHOSPHATIZING OF METALS

Arthur H. Parker, Franklin, Mich., and John P. Sherick, Dallas, Tex., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 627,315, Mar. 31, 1967, which is a division of application Ser. No. 90,949, Feb. 23, 1961, which is a continuation-in-part of application Ser. No. 795,588, Feb. 26, 1959, which in turn is a continuation-in-part of application Ser. No. 775,395, Nov. 21, 1958. This application Nov. 26, 1968, Ser. No. 779,272
The portion of the term of the patent subsequent to Oct. 28, 1986, has been disclaimed
Int. Cl. C23f *7/08*
U.S. Cl. 106—14 **4 Claims**

Compositions are disclosed containing at least 85% by weight of a chlorinated hydrocarbon solvent such as trichlorethylene or perchlorethylene, plus between 5 p.p.m. and 5% of phosphoric acid, plus from 2–10% of a C_{3-8} alcohol (such as amyl alcohol) as a solubilizer. The lower acid concentrations serve a stabilizing function; the higher concentrations provide compositions effective for the anhydrous phosphatizing of metals such as iron, steel, zinc and aluminum. The compositions are especially effective and safe when used for phosphatizing at their reflux temperatures.

3,524,750
STARCH ADHESIVES AND THEIR PREPARATION

Jean-Marc Billy, Outremont, Quebec, Canada, assignor to The Ogilvie Flour Mills Company Limited, Montreal, Quebec, Canada, a Canadian company

No Drawing. Filed Apr. 25, 1969, Ser. No. 819,465
Int. Cl. C09j *3/06*
U.S. Cl. 106—213 **12 Claims**

A starch adhesive composition prepared by an improved no-carrier process in which granular starch is added to an aqueous caustic solution at a temperature at which substantially no swelling of the starch occurs, gradually raising the temperature to initiate swelling of the starch and permitting the swelling to continue until the desired, specified viscosity is attained. The adhesive composition so-obtained is of a smooth and substantially uniform consistency, and is well-suited for use in the manufacture of laminated and corrugated paperboard.

3,524,751
PARTING COMPOSITIONS

Malcolm Kent Smith, 1083 Sunny View Road, Mountainside, N.J. 07092, and Robert L. Vignolo, 842 Kimball Ave., Westfield, N.J. 07090

No Drawing. Filed June 7, 1967, Ser. No. 644,082
Int. Cl. B29c *1/04;* **B28b** *7/36*
U.S. Cl. 117—5.1 **6 Claims**

Compositions are described which comprise a mixture of about 60% to 80% by weight of a castor oil with about 40% to 20% of an alkyl ester of an acetylated hydroxy fatty acid. These compositions have outstanding heat stability and a relatively low viscosity rendering them useful in the casting of aluminum and its alloys as a parting material.

3,524,752
ADDITION OF NITROGEN GAS TO ATMOSPHERE IN ALLOY DIFFUSION COATING

Richard A. Fleming, North Tonawanda, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 1, 1967, Ser. No. 657,539
Int. Cl. C23c *1/10*
U.S. Cl. 117—6 **7 Claims**

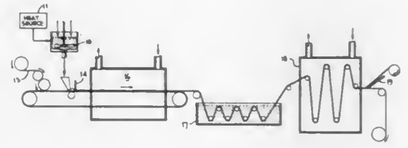
Inclusion of nitrogen in the essentially inert atmosphere surrounding the molten diffusion coating bath containing a metal transfer agent and at least one metal diffusing element causes stain and evaporation inhibiting nitrogen compounds (nitrides) to form on the coatings of the articles as they leave the bath.

3,524,753
METHOD OF MAKING A MICROPOROUS FILM

Frank Sharp, Dagenham Dock, England, assignor to Porvair Limited, Dagenham Dock, England, a company of Great Britain

Filed Nov. 24, 1964, Ser. No. 413,597
Claims priority, application Great Britain, Nov. 25, 1963, 46,529/63
Int. Cl. B29d *27/04;* **B44d** *1/09*
U.S. Cl. 117—11 **10 Claims**

A process for making a microporous film which comprises dispersing a finely divided salt in a solution of synthetic organic polymer in an organic solvent, coating a support with a film of the solution to which the film adheres, removing the solvent by evaporation, and avoiding encapsulation by using at least about 43% of solvent based on polymer, solvent, and salt.



3,524,754
METAL PLATING OF PLASTICS

George C. Blytas, Kensington, Edward S. Slott, Berkeley, and Edward R. Bell, Lafayette, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 28, 1967, Ser. No. 634,483
Int. Cl. C23c *3/02*
U.S. Cl. 117—47 **14 Claims**

Organic polymer substrates are conditioned for electroless deposition of metal coatings by impregnating their surface layer to a depth of at least about 5 microns with a metal such as copper or nickel, diffused into the surface layer from solution of a salt of said metal in an organic solvent which has a dissolving or swelling action on the plastic, followed by reduction in situ by means of contact with a reducing solution.

3,524,755
PROCESS FOR APPLYING A COATING COMPOSITION TO A MICROPOROUS MATERIAL

Jerome Hochberg, Nashville, Tenn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 23, 1966, Ser. No. 596,450
Int. Cl. B44d *1/092*
U.S. Cl. 117—47 **6 Claims**

A process for applying a liquid coating composition to a microporous material is provided for use in making non-mottled, uniform surface coatings. This process involves the application of a liquid coating composition to at least one surface of a microporous material after the surface micropores of the microporous material have been treated with wetting liquid in a way which causes about 5% to 99% of the void volume of the micropores to be filled with wetting liquid.

3,524,756
PROCESS OF COATING TABLETS WITH ALTERNATE TACKY AND NON-TACKY LAYERS

Charles A. Signorino, King of Prussia, and Thomas E. Jamison, Philadelphia, Pa., assignors to Colorcon Incorporated, West Point, Pa., a corporation of Pennsylvania

No Drawing. Filed May 29, 1967, Ser. No. 642,190
Int. Cl. B44d *1/14*
U.S. Cl. 117—72 **13 Claims**

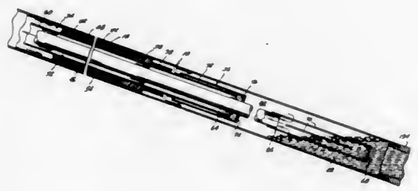
Process of coating tablets with alternate layers of liquid suspension of tacky material and aqueous suspension of non-tacky material wherein the tacky material is shellac, zein or gum arabic and the non-tacky material is sugar.

3,524,757

METHOD OF COATING A TUBE TO FORM A SEMIPERMEABLE MEMBRANE

Glenn G. Havens, San Diego, Calif., assignor to Havens International, San Diego, Calif., a corporation of California

Filed June 15, 1964, Ser. No. 374,928
Int. Cl. B05c *7/08;* B01d *13/04*
U.S. Cl. 117—95 8 Claims



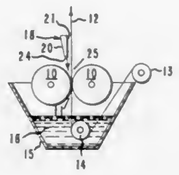
A method of forming a reverse osmosis membrane within a porous tube by using a liquid material containing a solvent to coat successive circumferential portions of the interior of the tube, and then effective evolvement of the solvent.

3,524,758

METHOD OF REDUCING LACQUER THROWING

Robert Carleton Miller, Richmand, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Sept. 1, 1966, Ser. No. 576,645
Int. Cl. B05c *11/00*
U.S. Cl. 117—102 3 Claims



In a method for coating webs wherein a freshly coated web is passed through doctor rolls, an improvement for reduced "lacquer throwing" by directing a stream of air toward the exit nip of the doctor rolls.

3,524,759

PROCESS FOR CURTAIN COATING ARTICLES WITH A MOLTEN COMPOSITION

Richard L. McConnell and Doyle A. Weemes, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 26, 1967, Ser. No. 648,950
Int. Cl. B44d *1/09;* B32b *27/10*
U.S. Cl. 117—105.3 3 Claims

A process of coating an article by a falling curtain of a hot melt coating composition comprising 40–99 percent by weight of a copolymer of ethylene and a comonomer from the group consisting of alkenyl alkanoates, alkyl acrylates, alkyl methacrylates, acrylic acid, and methacrylic acid; and 1–60 percent by weight of a crystallizable poly(α-olefin).

3,524,760

PROCESS FOR IMPARTING OIL AND WATER REPELLENCY TO LEATHERS

Robert Bruce Pinkerton, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 24, 1967, Ser. No. 685,308
Int. Cl. C14c *9/00;* B44d *1/32, 1/44*
U.S. Cl. 117—63 9 Claims

Process for rendering leather oil and water resistant which comprises subjecting leather, which has been impregnated with a fluoropolymer, to a hot solvent which is a hydrocarbon, a halogenated hydrocarbon, a ketone or an ester, which boils between 35° C. and 210° C. and which dissolves the fluoropolymer in amounts of at least 0.1% by weight at 25° C. Preferably the fluoropolymer is a copolymer of a methacrylate or acrylate ester which contains pendent perfluoroalkyl groups of 4–14 carbons and a nonfluorinated vinylidene monomer; while the solvent is trichloroethylene. Preferably, also, the leather is treated in an atmosphere of the solvent vapor.

3,524,761

ZINC AMMONIA BORATE COMPLEX

Sidney B. Humphrey, Bel Air, Md., assignor to Humphrey Chemical Corporation, Edgewood Arsenal, Md., a corporation of Maryland

No Drawing. Filed Apr. 25, 1968, Ser. No. 724,221
Int. Cl. C09k *3/28*
U.S. Cl. 117—138 11 Claims

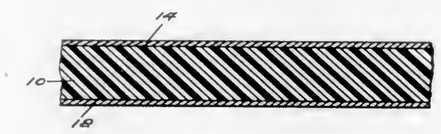
Zinc ammonia borate complexes in aqueous solution are prepared having a zinc to boron atomic ratio of from 1:1 to 1:4. The water soluble complexes are used to impregnate combustible materials, e.g. textiles, and upon drying the complex decomposes to give a water insoluble zinc borate residue which imparts flame retardance.

3,524,762

POLYESTER FILM COATED WITH WERNER CHROME COMPLEXES AND CHLORAL

Richard W. Bradt, Jr., Richmond, Va., and Russell T. Uhline, Orange, Tex., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Nov. 20, 1967, Ser. No. 684,130
Int. Cl. B23b *27/06*
U.S. Cl. 117—138.8 5 Claims



Polyester film coated with a combination of two Werner chrome complexes and chloral, used for a photographic base, for magnetic tape and like applications.

3,524,763

ACOUSTICAL GRID PANELS

Salvatore R. Taravella, Buffalo, and Walter L. Russ, Jr., Tonawanda, N.Y., assignors to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,582
Int. Cl. D21h *1/40;* B32b *19/04*
U.S. Cl. 117—161 9 Claims

A fibrous acoustical grid panel having improved resistance to sag at conditions of high relative humidity by coating the back surface of a dry, fibrous panel with a melamine fortified urea-formaldehyde resins system. The resin coating is cured in the presence of an acidic material to accelerate the curing rate of the resins.

3,524,764

PHOTOCONDUCTIVE MATERIAL FOR USE IN AN ELECTRO-PHOTOGRAPHIC PROCESS

Louis Frederick William Lawes, Walton-on-Thames, Surrey, and Nicholas Gilbert Shreeve and Nandor Mihalik, Weybridge, Surrey, England, assignors to Arlside Limited, Maidenhead, Berkshire, England, a corporation of the United Kingdom

Filed Aug. 17, 1964, Ser. No. 390,033
Claims priority, application Great Britain, Aug. 22, 1963, 33,289/63
Int. Cl. G03g *5/00*
U.S. Cl. 117—201 5 Claims

Photoconductive material useful in electro-photographic processes includes an electro-photographic member having a photoconductive layer comprising a binary alloy of a major proportion of selenium and a minor proportion of sulphur having a wide exposure range over which acceptable images may be formed, the binary alloy being prepared in situ on a surface of a support sheet which latter may be removed or permitted to remain when made of electrically conductive material.

3,524,765

WELDING ROD FOR WELDING STEEL CONTAINING 9% Ni

Tomokazu Godai and Toru Sugiyama, Kamakura-shi, Japan, assignors to Kobe Steel Ltd., Kobe, Japan

Filed Feb. 20, 1967, Ser. No. 617,331
Claims priority, application Japan, Feb. 20, 1966, 41/10,202
Int. Cl. B23k *35/30, 35/36*
U.S. Cl. 117—205 4 Claims

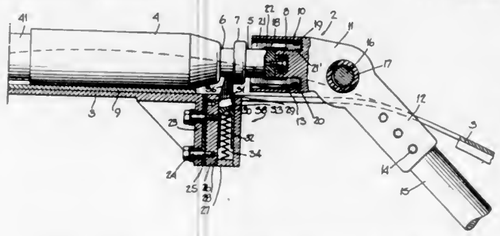
A welding rod for welding steel containing 9% Ni. The core wire of the welding rod contains 42–52% Ni and 11–17% Cr besides Fe, and either the core wire or the flux coating thereon contains 3–9% Mn, 1–4.5% Mo and 0.1–1.3% C in proportion to the weight of the core wire. The flux coating on the core wire comprises a binder, carbonates of alkaline earth metals, fluorite, rutile, silica sand, mica, Fe-Ti and if desired Fe-Si in addition to any Mn, Mo and C present. The weight of the flux coating is 20 to 35 percent of the total weight of the welding rod.

3,524,766

APPARATUS AND METHOD FOR THE MANUFACTURE OF ELECTRIC CABLES IMPREGNATED WITH INSULATING LIQUID

Agostino Oriani, Milan, Italy, assignor to Pirelli, S.p.A., Milan, Italy, a corporation of Italy

Filed Mar. 11, 1968, Ser. No. 712,009
Claims priority, application Italy, Mar. 25, 1967, 14,188/67
Int. Cl. B05c *5/00;* H01b *13/00*
U.S. Cl. 117—231 11 Claims



Improvement in the manufacture of oil-filled electric cables wherein the cable core is capable of being automatically removed from the drum during the sheathing operation.

3,524,767

METHOD OF OBTAINING COLLOIDAL SOLUTIONS OF STARCHES IN THE COLD STATE

Horst Kragen, Carentan, France, assignor to Societe de Produits Chimiques d'Auby, Neuilly-sur-Seine, Hauts-de-Seine, France

No Drawing. Filed June 23, 1967, Ser. No. 649,087
Int. Cl. C13l *1/08*
U.S. Cl. 127—71 4 Claims

A method of rendering starches soluble in the cold state, in accordance with which the starch, normally insoluble when cold, is mixed while hot in a solution comprising at least one colloidal substance, the said method being mainly characterized in that the heating temperature is less than 100° C., and in that the said colloidal substance is advantageously anionic and of high molecular weight.

3,524,768

METHOD OF TREATING PLASTIC FILM FOR ELECTRIC INSULATION

Takao Miyashita, Hitachi-shi, Tatsuo Igawa, Kitaibaragi-shi, and Yo Maeda, Shimodate-shi, Japan, assignors to Hitachi Chemical Company Ltd., and Hitachi, Ltd., Tokyo, Japan

Filed May 28, 1965, Ser. No. 459,863
Claims priority, application Japan, May 29, 1964, 39/30,089
Int. Cl. B08b *7/02*
U.S. Cl. 134—1 7 Claims



A method for increasing the dielectric strength and preventing insulation breakdown at low voltage of synthetic polymeric films containing extraneous conductive particles which have been introduced into said film during production thereof, said method including the steps of: (1) removing said conductive particulates without causing deterioration of said film by immersing said film in a mineral acid solution heated to a temperature below the softening point of the film to remove the conductive particles contained in the film, while subjecting said film to ultrasonic vibrations; (2) washing the film with water, (3) treating said film with an alkaline solution to neutralize said acid; and (4) washing said film with water.

3,524,769

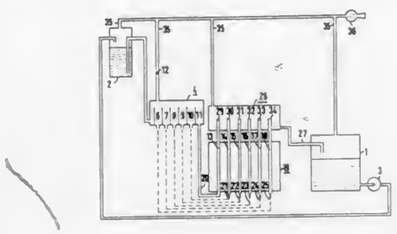
METHOD AND APPARATUS FOR INTERRUPTING SHORT-CIRCUIT CURRENTS IN FUEL-CELL BATTERIES

Ferdinand V. Sturm, Erlangen-Buchenbach, and Herbert Nischik and Manfredo Marchetto, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

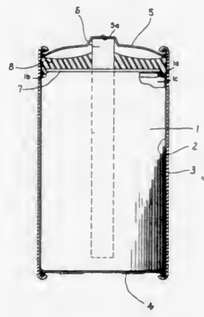
Filed June 28, 1968, Ser. No. 740,928
Claims priority, application Germany, June 30, 1967, S 110,593
Int. Cl. H01m *27/02, 7/00*
U.S. Cl. 136—86 19 Claims

Method and apparatus for interrupting short-circuit current in fuel-cell batteries wherein the cells are electrically connected in series and have electrolyte flow paths connected in parallel includes pumping electrolyte from a supply vessel to a leveling tank, thereafter conducting it discontinually to a distributor having a plurality of chambers connected respectively with electrolyte chambers in each fuel cell and then returning it through the battery electrolyte chambers and a collector vessel to the supply vessel. When being conducted, the electrolyte is in continuous communication in the distributor

and in the collector vessel between the individual fuel cells of the battery but, when not being conducted, is separated into discontinuous quantities due to discharge of electrolyte.



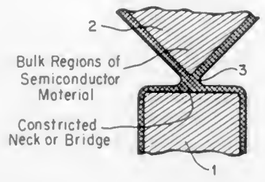
3,524,770
DRY CELL SEAL
Milton E. Wilke, Freeport, Ill., assignor to Servel, Inc., Freeport, Ill., a corporation of Delaware
Filed July 11, 1966, Ser. No. 564,182
Int. Cl. H01m *1/02*
U.S. Cl. 136—133 **3 Claims**



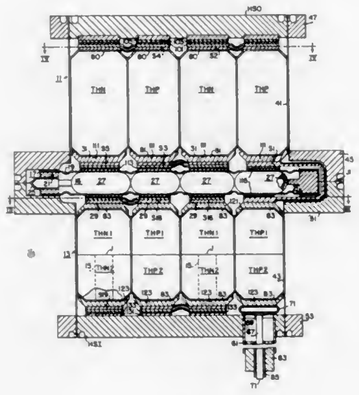
The top of the can of a dry cell is bevelled to support thereon a non-conductive washer having a diameter less than the inside diameter of the non-conductive sleeve which covers and extends beyond the top of the can and greater than the diameter of the bevelled top of the can, a body of sealing composition covering the top surface of the washer and sealingly engaging the external surface of the can at the bevel and the portion of the sleeve which extends beyond the can.

3,524,771
SEMICONDUCTOR DEVICES
Mino Green, Barnes, London, England, assignor to Zenith Radio Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 238,701, Nov. 19, 1962. This application Apr. 3, 1969, Ser. No. 813,248
Int. Cl. H01l *7/00;* **H01v** *1/28*
U.S. Cl. 136—203 **42 Claims**

Thermoelectric semiconductor elements are formed of ultrafine powders of particle sizes of 50 microns or less. In a first species of element, the particle sizes range between 0.1 micron and 50 microns and are only superficially sintered so that the interconnecting neck sections have cross-sectional dimensions of the order of the mean free path of a phonon in the material, or of the order of 100 angstrom units. In a second species, even finer particles with a mean grain size in the range from 100 to 2000 angstrom units are heavily compressed or compacted together into a densified pill. In both species, the interconnections between adjoining particles include high-angle grain boundaries which result in substantially reduced thermal conductivity and greatly enhanced thermoelectric figure of merit for the resulting continuum.



3,524,772
GENERATOR OF ELECTRICAL ENERGY
David L. Purdy, Murraysville, Pa., assignor to Nuclear Materials and Equipment Corporation, Apollo, Pa., a corporation of Pennsylvania
Filed Dec. 3, 1964, Ser. No. 415,637
Int. Cl. H01v *1/30*
U.S. Cl. 136—205 **16 Claims**

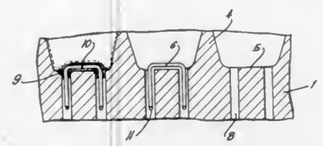


A thermoelectric generator including electrically cascaded blocks or thermopiles of high-temperature-resistant (Si-Ge) and low-temperature-resistant (Pb-Te) thermoelectric elements. The connecting straps and insulating and conducting strips are brazed to the high temperature resistant elements and to each other; the straps and strips are held against the low-temperature elements by resilient pressure applied by compressed capillary screen of a heat-pipe which serves to transfer heat between the high-temperature and low-temperature elements respectively by cyclic evaporation and condensation of cesium.

3,524,773
HEAT FLOW SENSOR COMPRISING THERMOCOUPLES
Jiri Cermak, Prague, Czechoslovakia, assignor to Ceskoslovenska akademie ved, Prague, Czechoslovakia
Filed Aug. 3, 1965, Ser. No. 476,943
Claims priority, application Czechoslovakia, Aug. 6, 1964, 4,480/64
Int. Cl. H01v *1/00, 1/04*
U.S. Cl. 136—224 **3 Claims**

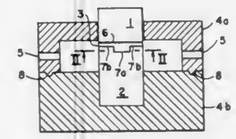
A thermal sensor and a method of making the same. A body of ceramic material of disc shape has two major surfaces one of which is provided with a grid of projecting ribs which subdivided it into a plurality of individual facets. The body is formed with a plurality of passages extending from the one to the other surface,

two passages being located within the confines of each facet. A thermocouple is located on each facet with its terminals extending through the associated passages to the other major surface. At the other major surface the terminals of all thermocouples are connected in series.



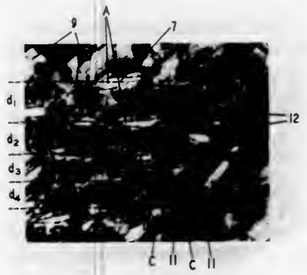
These connected terminals and the other major surface are covered with a waterproof coating. The one major surface and the thermocouples thereon, as well as the projecting grids, are covered with a coating of metallic material.

3,524,774
SOLDERING MATERIAL
Ulrich Volker and Gunter Gerloff, Reinbek, Germany, assignors to Jurid Werke G.m.b.H., Glinde, Germany
Filed May 18, 1967, Ser. No. 639,421
Claims priority, application Germany, May 25, 1966, J 30,923
Int. Cl. B23k *35/30*
U.S. Cl. 148—22 **1 Claim**



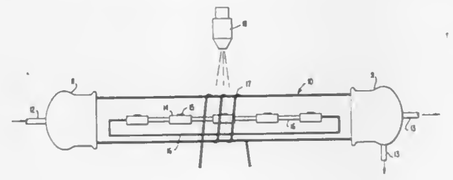
The porous, absorbent products of powder metallurgical manufacturing operations are brazed and soldered by using a soldering material that is a mixture of powders of solder, meltable at the soldering temperature, and a substance that does not melt at the soldering temperature.

3,524,775
HIGH STRENGTH COBALT-BERYLLIUM ALLOY AND METHOD OF PRODUCING THE SAME
Henri Hatwell and Angeline M. P. Fourdeux, Brussels, Belgium, assignors, by mesne assignments, to Cabot Corporation, a corporation of Delaware
Filed Dec. 6, 1967, Ser. No. 688,944
Int. Cl. C22f *1/10*
U.S. Cl. 148—158 **4 Claims**



Cobalt-beryllium alloy characterized by a periodic beryllide precipitate and having increased strength and hardness. The alloy is produced by heating to an elevated temperature, quenching the alloy and then heating the alloy to an elevated temperature to cause precipitation of the beryllide phase.

3,524,776
PROCESS FOR COATING SILICON WAFERS
Aram K. Hampikian, Norwalk, Conn., and Bing C. Chu and Shih-Lu Chen, Raleigh, N.C., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Jan. 30, 1967, Ser. No. 612,521
Int. Cl. H01l *7/00, 7/36, 7/34*
U.S. Cl. 148—189 **7 Claims**



A process for coating semiconductor wafers with an N- or P-type dopant by placing such semiconductors into a longitudinal reactor side-by-side, providing a dopant atmosphere and driving the dopant into each wafer by localized heat from a high frequency coil focused on each wafer in successive steps.

3,524,777
SLURRY EXPLOSIVE CONTAINING AN IMPROVED THICKENING AGENT
Yoshikazu Wakazono, Kyoto, and Yoshiyasu Otsuka, Niihama-shi, Japan, assignors to Sumitomo Chemical Co., Ltd., Osaka, Japan
No Drawing. Filed June 5, 1969, Ser. No. 830,868
Claims priority, application Japan, June 10, 1968, 43/42,648
Int. Cl. C06b *1/00, 7/00, 9/00*
U.S. Cl. 149—41 **6 Claims**

A slurry explosive comprising a composition consisting essentially of ammonium nitrate, or a mixture of ammonium nitrate and an alkali metal nitrate, or a mixture of ammonium nitrate and an alkaline earth metal nitrate, or a mixture of ammonium nitrate and an alkali metal nitrate and an alkaline earth metal nitrate, at least one member selected from the group consisting of 2,4,6-trinitrotoluene, aluminum, smokeless powder and fuels, and water, 0.1 to 2.0% guar gum, not more than 0.3% of a borate or borates, and/or not more than 20% of hexamethylene tetramine, and 0.02 to 2.0% of an antimony compound or compounds, all percents being by weight.

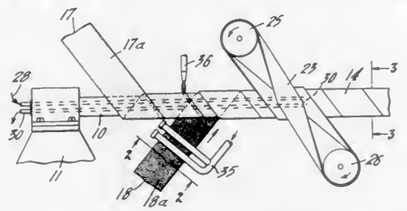
3,524,778
MANUFACTURE OF PLASTICIZER-CONTAINING MAT-SURFACE POLYVINYL BUTYRALDEHYDE SHEET MATERIAL DIRECTLY USABLE IN THE MANUFACTURE OF LAMINATED SAFETY GLASS
Wolfgang Jensch, Troisdorf, Hans-Georg Gröblinghoff, Oberlar, and Rolf Beckmann, Siegburg, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany, a corporation of Germany
No Drawing. Filed Feb. 29, 1968, Ser. No. 709,221
Claims priority, application Germany, Mar. 2, 1967, D 52,415
Int. Cl. B65h *81/00*
U.S. Cl. 156—184 **5 Claims**

Process for manufacturing plasticizer-containing mat-surface polyvinyl butyraldehyde sheet materials for direct use in the manufacture of laminated safety glass comprising applying a polyolefin foil separating sheet onto a mat-surface polyvinyl butyraldehyde sheet having the required content of moisture, thereafter winding the same into a roll and storing the rolls under conditions ensuring the absence of air and water.

3,524,779
METHOD OF MAKING WOUND TUBULAR PRODUCTS

John Edmund Masters and Lawrence Mathias Simon, Barrington, and Hubert Joseph Germiat, Fox River Grove, Ill., assignors to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Aug. 31, 1966, Ser. No. 576,383
Int. Cl. B31c *9/00*
U.S. Cl. 156—190 5 Claims

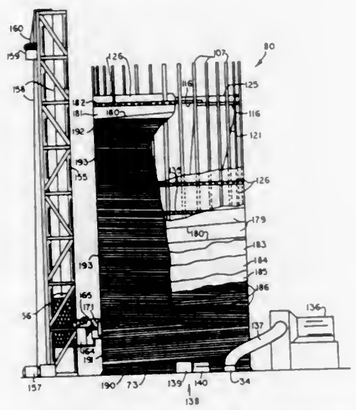


A method of making spirally wound tubing from a plurality of plies of material wherein at least one surface of one of said plies is precoated with a layer of a heat activatable adhesive and wherein the precoated strip is passed through a heating zone which extends longitudinally along the path or travel of the strip as it approaches the mandrel of the spiral winding machine in order to activate the adhesive and put sufficient heat into the strip to maintain it in a heated condition when it reaches the winding mandrel.

3,524,780
PROCESS FOR THE ON-SITE FABRICATION OF A LARGE CAPACITY FIBER REINFORCED RESIN TANK

Harry R. Clements, Bonita, Calif., assignor to Rohr Corporation, Chula Vista, Calif., a corporation of Delaware

Original application Sept. 13, 1967, Ser. No. 667,399, now Patent No. 3,470,656, dated Oct. 7, 1969. Divided and this application Aug. 14, 1968, Ser. No. 761,385
Int. Cl. B65h *81/00*
U.S. Cl. 156—191 6 Claims

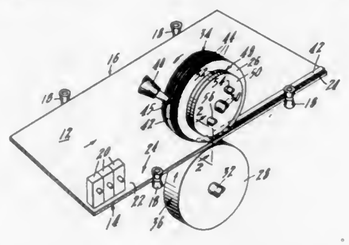


A large capacity storage tank is manufactured on-site of glass reinforced resin, using portable equipment. A glass-resin layer, ultimately the bottom of the tank, is formed on a concrete base for the tank, and a steel framework cylindrical mandrel constructed on the glass-resin layer is rotated with the layer on an air bearing developed between the layer and concrete base. Resin wetted glass roving is wound on the rotating mandrel from an elevator which moves vertically at one side of the mandrel. When the cylindrical wall is complete and integrated with the bottom layer, they are settled on the base by cutting the air pressure to the air bearing. A membrane, applied to the top of the cylindrical wall, is dome-shaped by internal air pressure and sprayed with glass resin to form the tank cover while the tank is rotating.

3,524,781
APPLICATION OF THIN LINE ADHESIVE TO A SHEET USING A GROOVED ROLL AS APPLICATOR

Philip Henry Winterroth, Island Lake, Richard Otto Wahler, Rolling Meadows, and Robert Neal Rogers, Lake Zurich, Ill., assignors to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Mar. 2, 1966, Ser. No. 531,181
Int. Cl. B29d *23/10*
U.S. Cl. 156—231 8 Claims

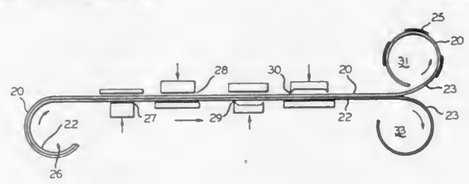


An extruded ribbon of thermoplastic is precisely positioned on the marginal edge surface of a sheet. The extruded ribbon is transferred onto the sheet from a cooled roll which has a plurality of grooves about is periphery to prevent lateral displacement of the ribbon to assure that it is placed precisely at the correct location on the sheet.

3,524,782
COMBINATION PROTECTION LABEL AND COUPON

Duwayne F. Buske, % Layton Label Mfg. Co., Inc., 426 W. Walnut St., Milwaukee, Wis. 53212

Filed Mar. 10, 1967, Ser. No. 622,178
Int. Cl. B32b *31/18*
U.S. Cl. 156—248 2 Claims



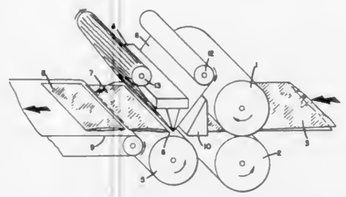
Includes a label that has pressure sensitive adhesive for attaching the same to a container or the like. The label has a coupon adhered to the rear thereof and the label is perforated so that it can be opened by tearing along the perforations for access to the coupon.

3,524,783
METHOD AND APPARATUS FOR HEAT-SEALING AND CUTTING THERMOPLASTIC FILMS

Donald Sutherland, Toronto, Ontario, Canada, assignor to E. S. & A. Robinson (Canada) Limited, Toronto, Ontario, Canada

Filed Apr. 16, 1968, Ser. No. 721,749
Claims priority, application Canada, Feb. 27, 1968, 013,448
Int. Cl. B32b *31/18*
U.S. Cl. 156—251 16 Claims

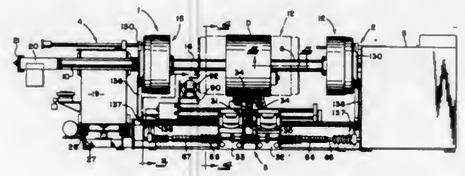
An apparatus and method for preventing the deposit of charred materials in the heat sealing of thermoplastic films wherein a foil is interposed between the heat seal and the hot knife used for sealing. After a heat seal operation the foil, which has a melting point above the temperature of the hot knife, is moved at least one knife width thereby carrying any material picked off the surface of the thermoplastic film away from the hot knife so that it cannot char and so that a clean foil surface is presented for successive operations of the knife.



3,524,784
TIRE BUILDING MACHINE

Gustaf E. Isaksson, Columbiana, Thomas C. Jones, Salem, Ernest S. Ulm, Stow, and Herbert G. Haas, Canton, Ohio, assignors, by mesne assignments, to AMK Subsidiary Corporation, Akron, Ohio, a corporation of Ohio

Filed Jan. 12, 1967, Ser. No. 608,847
Int. Cl. B29h *17/18*
U.S. Cl. 156—367 27 Claims



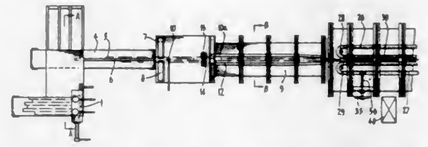
A tire building machine having stitcher stools whose movements are controlled by position feedback means which indicate the location of each of the tools, preposition control means which specify the desired tool positions, and a comparator for interrupting the tool movements when the signals received from the position feedback means match those of the preposition control means. A programmer selects the sequence in which the signals are compared to control sequence of tool movements. Ply pull-out rings located in drum ends are withdrawn with bead setter mechanisms for turning ply ends outwardly into contact with beads.

3,524,785
APPARATUS FOR JOINTING TIMBER SECTIONS

Samuel Feiglin, Caulfield, Victoria, Australia, assignor to M. Feiglin & Sons Proprietary Limited, Nunawading, Victoria, Australia, a corporation of Victoria

Filed Jan. 23, 1967, Ser. No. 610,959
Claims priority, application Australia, Feb. 9, 1966, 1,462/66
Int. Cl. B29c *19/02*
U.S. Cl. 156—380 3 Claims

Apparatus for the continuous jointing of lengths of timber to form a unitary composite structure. Means are provided for conveying a plurality of trains of timber lengths laid in end to end alignment. A glueing station applies glue to a face of one of said trains facing another train. The trains converge in a guideway after application of the glue to effect substantial aligned interfacial contact of adjacent trains. A compression zone through which said glued and aligned trains are passed applies lateral clamping pressure to the trains, and a field of radio frequency energy associated with said compression zone to effect curing of the glue during passage therethrough.

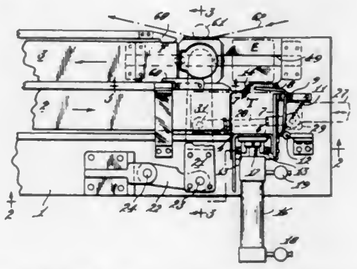


The compression zones has two spaced chains of links and each link is provided with means for applying said lateral clamping pressure.

3,524,786
RECIPROCATING LABELING APPARATUS FOR CONTAINERS HAVING A PLURALITY OF SIDES

Walter Spokowski, Wayland, and Vitle S. Rakauskas, Shrewsbury, Mass., assignors to Dennison Manufacturing Company, Framingham, Mass., a corporation of Nevada

Filed July 3, 1968, Ser. No. 742,313
Int. Cl. B65c *9/06*
U.S. Cl. 156—447 9 Claims

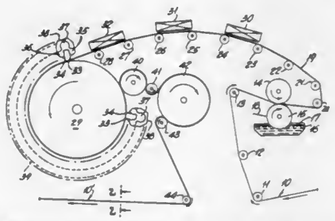


For labeling articles such as bottles having a plurality of sides, apparatus comprising an applicator, a rotary support for the articles, means for recurrently moving the support past the applicator, means for turning the support between the passes to present a different side of the article to the applicator during each pass, and means for ejecting the article after the last side has been labeled.

3,524,787
APPARATUS FOR THE MANUFACTURE OF PLASTIC LAMINATES

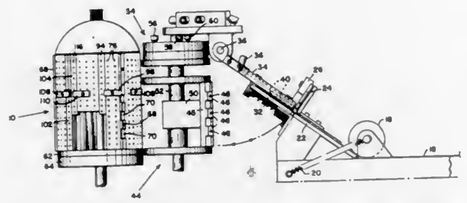
Marc A. Chavannes, New York, N.Y., assignor to Sealed Air Corporation, Hawthorne, N.J., a corporation of New Jersey

Original application Dec. 26, 1963, Ser. No. 336,097, now Patent No. 3,405,020, dated Oct. 8, 1968. Divided and this application June 27, 1968, Ser. No. 740,714
Int. Cl. B32b *31/00*
U.S. Cl. 156—498 6 Claims



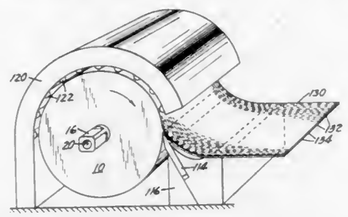
Improved apparatus for the coating and laminating of plastics which are particularly useful for the manufacture of cellular materials.

3,524,788
LABEL ACTIVATOR DRUM
Alten E. Whitecar, Westville, N.J., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 9, 1966, Ser. No. 532,946
Int. Cl. B65c *9/00*
U.S. Cl. 156—499 **6 Claims**



A heated rotating activating and transfer drum has openings adjacent the periphery and parallel to the axis of the drum and openings extending from these openings to the periphery of the drum. A vacuum system connected to the aforesaid openings provides for retaining on and releasing a label from the drum. The periphery of the drum has a recessed portion adapted to prevent the activation by heat of a portion of a label spanning to the recessed portion. Advantageously the drum has at least one movable segment to vary the area of the recessed portion. Valve means are available to regulate the number of openings extending from the periphery which are in communication with the vacuum means.

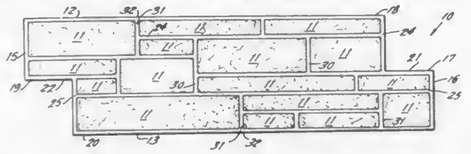
3,524,789
LOUVERED TRANSPARENT SHEETING MADE BY SKIVING
Frederick O. Olsen, Oakdale Heights, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Aug. 15, 1967, Ser. No. 660,754
Int. Cl. B44f *1/00;* **B32b** *31/00*
U.S. Cl. 161—6 **10 Claims**



Skiving of a laminated billet having opaque layers while heating the surface provides a web with longitudinal louver-like elements. The surface is polished.

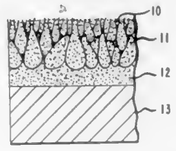
3,524,790
SIMULATED MASONRY FACING PANEL
Richard A. Mason, Orange, Conn., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Jan. 3, 1967, Ser. No. 606,771
Int. Cl. B44f *9/04*
U.S. Cl. 161—37 **10 Claims**

A single panel of facing material, having simulated masonry stones of various dimensions on its front; being stepped in complementary fashion at its opposite sides to permit its being positioned either rightside up or upside down with its ends engaging the ends of sidewise adjacent identical panels; having a simulated joint extending horizontally across the entire panel; and having a plurality of simulated vertical joints which intersect the top and bottom edges of the panel and are so positioned that they form extensions of actual vertical joints between



the panels next above and next below the panel being considered.

3,524,791
MAN-MADE SUEDE AND METHOD OF MAKING SAME
Donald C. Bethman, Richmond, Va., Joseph Jaeger, Seaford, Del., and William F. Manwaring, Madison, Tenn., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 3, 1967, Ser. No. 650,787
Int. Cl. D04h *11/08*
U.S. Cl. 161—64 **28 Claims**



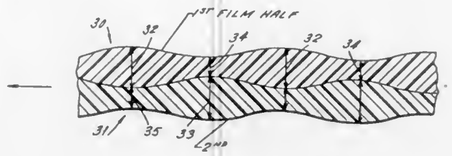
A very smooth and attractive man-made suede useful for shoe-uppers, upholstery and the like is prepared by (1) applying to a suitable fabric or other substrate a wetting liquid which is a coagulant for a polymer solution to be applied to the fabric, (2) coating the resulting prewet fabric with a layer of polymer solution, (3) coagulating, bathing and drying the layer of polymer solution under conditions which convert it to a solidified composite cellular structure having a coarse-pore layer on top of a fine-pore layer, and (4) subjecting the top surface to a napping operation wherein part of the coarse-pore layer is removed.

3,524,792
ELASTICALLY-STRETCHABLE, LEATHER-LIKE MATERIAL AND METHOD OF MAKING THE SAME
Robert T. Dawes, % Thomas Taylor & Sons, Inc., Hudson, Mass. 01749
Continuation of application Ser. No. 269,488, Apr. 1, 1963. This application Nov. 7, 1966, Ser. No. 592,673
Int. Cl. D03d *3/00, 15/00, 17/00*
U.S. Cl. 161—77 **5 Claims**

An elastically-stretchable material of practical utility in the manufacture of shoe uppers, for example, as an inserted gore, and which is pervious to air and moisture similarly to natural leather and has a surface appearance closely simulating leather.

3,524,793
LAMINATED PLASTIC SHEET HAVING THE TRANSVERSE GAUGE BANDS OF LAMINATED SHEET NESTED WITH RESPECT TO ONE ANOTHER
Emilie Lucille Carley, Trumbull, Conn., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Original application June 28, 1965, Ser. No. 467,588, now Patent No. 3,416,986, dated Dec. 17, 1968. Divided and this application Dec. 26, 1967, Ser. No. 725,966
Int. Cl. B32b *3/00*
U.S. Cl. 161—119 **1 Claim**

A laminated plastic sheet is formed of two layer of extruded plastic material, each layer having identical transverse gauge bands repeating in a cyclic pattern. The gauge bands of the two layers are longitudinally displaced and



nested with respect to each other to decrease the overall thickness variation of the sheet.

3,524,794
FLUID SEALING GASKET
Nelson Jonnes, Stillwater, and Edward P. Davis, West St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Aug. 4, 1966, Ser. No. 570,226
Int. Cl. B32b *5/16*
U.S. Cl. 161—160 **19 Claims**

A fluid sealing gasket less than about 4 mm. thick comprising an elastomeric binder matrix containing 20–80 volume percent hollow rigid collapsible particles dispersed and permanently bonded therein, the particles preferably being hollow glassy spheroids having a size range of 10–300 microns (microbubbles). The hollow particles are selected such that the gasket material is capable of withstanding a continuous static pressure of 250 p.s.i. without a particle collapse of more than 10%, and incapable of withstanding a continuous static pressure of 1600 p.s.i. without a particle collapse of at least 50%. These properties provide a gasket which combines both high conformability under the pressure conditions involved in forming a gasket seal and high resistance to relaxation or compression-set.

3,524,795
PACKAGING FILM
Norman R. Peterson, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed July 1, 1965, Ser. No. 468,886
Int. Cl. B32b *7/02, 31/30;* **B65b** *25/00*
U.S. Cl. 161—165 **11 Claims**

Layered barrier packaging films are disclosed which employ polyolefin outer layers and gas barrier inner layers. The films thermoform well and are eminently suited for food packaging and the like.

3,524,796
STARCH PHOSPHATE-KETENE DIMER EMULSION AS INTERNAL PAPER SIZE
Naoyuki Henry Yui, Chicago, Ill., and Lawrence R. Cohen, Hammond, Ind., assignors to American Maize-Products Company, a corporation of Maine
No Drawing. Filed Jan. 6, 1967, Ser. No. 607,663
Int. Cl. D21h *3/28, 3/36*
U.S. Cl. 162—175 **11 Claims**

An aqueous emulsion of a ketene dimer and an anionic starch phosphate derivative, the latter being defined by the method of preparation thereof, is added to paper beater stock to internally size the paper and achieve improved results.

ERRATUM

For Class 176—36 see:
Patent No. 3,524,924

3,524,797
LYSINE PRODUCTION
H. Boyd Woodruff, Plainfield, and Marion Jackson, Cranford, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Aug. 8, 1967, Ser. No. 659,036
Int. Cl. C12d *13/06*
U.S. Cl. 195—29 **3 Claims**

The processing of producing lysine by cultivating a lysine producing mutant microorganism which possesses a double amino acid deficiency, one of which is homoserine.

3,524,798
STABILIZATION OF ALPHA-AMYLASE PREPARATIONS
Norman E. Lloyd, Robert E. Lodge, and Robert A. Wynes, Clinton, Iowa, assignors to Standard Brands Incorporated, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 422,425, Dec. 30, 1964. This application May 23, 1967, Ser. No. 640,489
Int. Cl. C07g *7/02*
U.S. Cl. 195—63 **8 Claims**

High levels of calcium acetate, calcium formate, calcium propionate, and calcium lactate in alpha-amylase preparations provide a significant degree of storage stability to the alpha-amylase. These salts may be incorporated into alpha-amylase preparation during defecation, after defecation, or after the alpha-amylase preparation is concentrated.

3,524,799
ANODIZING ALUMINUM
Kenneth Howard Dale, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
No Drawing. Application July 10, 1967, Ser. No. 652,020, which is a continuation-in-part of application Ser. No. 559,389, June 22, 1966, which in turn is a continuation-in-part of application Ser. No. 306,999, Sept. 6, 1963. Divided and this application June 13, 1969, Ser. No. 840,585
Int. Cl. C23b *9/02*
U.S. Cl. 204—58 **9 Claims**

A hard dense anodic coating is formed on the surface of aluminum and aluminum base alloys by anodizing the aluminum in an aqueous electrolyte containing a mineral acid, such as sulfuric acid, a polyhydric alcohol of 3 to 6 carbon atoms, an organic carboxylic acid containing at least one reactive group in the alpha-position to the carboxylic acid group, such as lactic acid or glycine, and an alkali salt of a titanic acid complex of a hydroxyaliphatic carboxylic acid containing from 2 to 8 carbon atoms, such as, for example, titanium dilactate ammonium salt.

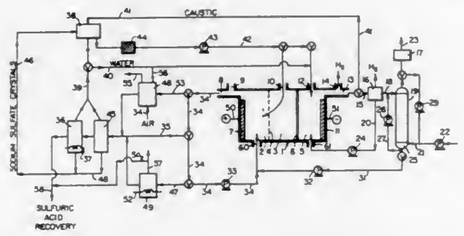
3,524,800
METHOD FOR THE PRODUCTION OF SAMARIUM ALLOYS
Edward Morrice, Jr., James E. Murphy, and Thomas A. Henrie, Reno, Nev., assignors to the United States of America as represented by the Secretary of the Interior
No Drawing. Filed Apr. 4, 1968, Ser. No. 718,908
Int. Cl. C22d *3/20*
U.S. Cl. 204—71 **3 Claims**

Samarium is electrodeposited from a Sm_2O_3 source onto a consumable iron, nickel or cobalt cathode to produce a samarium alloy. The samarium is then separated from the alloy by vacuum sublimation.

3,524,801
PROCESS FOR PRODUCING SULFURIC ACID FROM SO_2 CONTAINING WASTE GAS

Edgardo J. Parsi, Watertown, Mass., assignor to Ionics, Incorporated, Watertown, Mass.

Continuation-in-part of application Ser. No. 693,903, Dec. 27, 1967. This application Feb. 9, 1968, Ser. No. 704,284
Int. Cl. B01d *13/02*; B01k *3/00*; C01b *17/56*
U.S. Cl. 204—104 13 Claims



This invention is directed to a cyclic process for the removal of SO_2 from an SO_2 containing waste gas with subsequent recovery of at least some of the SO_2 in the form of sulfuric acid. A three compartment diaphragm type electrolytic cell is employed to convert a feed solution of an alkali metal sulfate salt into its corresponding acidic and basic components. The basic caustic solution will absorb the SO_2 from the waste gas forming primarily an alkali metal bisulfite which is at least partially oxidized into bisulfate and the resulting liquid mixture evaporated to separate out alkali metal sulfate crystals. The crystals are redissolved in water and cycled back to feed to the electrolytic cell. The mother liquid of sulfuric acid remaining from the crystallization step is collected as a valuable product.

3,524,802
PROCESS TO RECOVER COPPER FROM SULFIDE CONCENTRATES

Galen W. Clevenger, Salt Lake City, Utah (P.O. Drawer U, Morenci, Ariz. 85540)

Filed Sept. 1, 1967, Ser. No. 665,703
Int. Cl. C22d *1/16*
U.S. Cl. 204—108 1 Claim

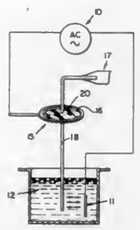
Method of producing metallic copper in sheets comprising: (1) calcining a concentrated ore containing 20–30% copper to remove sulfur while oxidizing the iron content of the ore to produce predominantly ferric iron oxide; (2) leaching the calcined concentrate with sulfuric acid at pH 2–4 to produce copper sulfate solution while precipitating the ferric salts of iron; (3) removing the precipitate and subjecting the filtrate to electrolysis (to deposit metallic copper in sheets) at a current density of 50–100 amperes/square foot of electrode; while (4) constantly drawing liquor from the electrolysis vats and returning it to the leaching operation at a rate chemically equal to that at which said filtrate is supplied to said vats.

3,524,803
METHOD OF ELECTROLYTICALLY ETCHING FIELD FILAMENTARY MATERIAL TO MAKE EMITTERS

Gary G. Rannefeld, Decatur, Ala., assignor to the United States of America as represented by the Secretary of the Army

Filed May 13, 1968, Ser. No. 728,653
Int. Cl. C23b *3/04*
U.S. Cl. 204—142 9 Claims

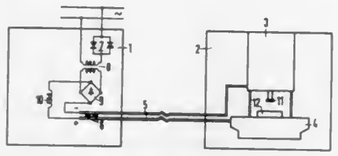
A method for fabricating field emitters where the fabrication is due to an electro-chemical etching process which is automatically interrupted at the precise time fabrication is complete, such interruption being solely due to the action of gravity on the material being fabricated thereby interrupting the flow of current from an AC source to an etching film through which the material to be fabricated is passed. An electrolyte solution is used for completing the conduction path. Hydrogen gas bubbled off during one-half cycle of the AC source protects the upper shank portion of the material being fabricated, while the ionic form of the material being fabricated, which is the result of the etching reaction occurring during the other half cycle of the AC source, protects the lower shank portion of the material being fabricated.



3,524,804
DEVICE FOR LIMITING THE SHORT-CIRCUIT ENERGY IN ELECTROLYTIC METAL-SHAPING APPARATUS

Friedrich Götz, Bubenreuth, and Günter Jacoby, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

Filed Apr. 25, 1967, Ser. No. 633,491
Claims priority, application Germany, Apr. 26, 1966, S 103,417
Int. Cl. B23p *1/02*; B01k *3/00*
U.S. Cl. 204—224 6 Claims



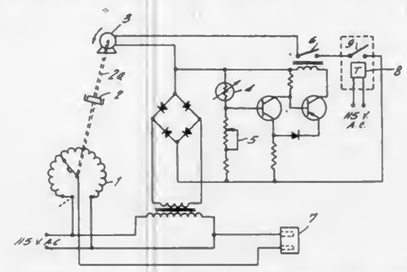
A device for limiting the short-circuit current between tool and workpiece of an electrolytic shaping or forming metal-forming machine whose tool and workpiece are connected to an alternating-current supply through an alternating-current controller and a rectifier in series with a smoothing reactor. A voltage sensing member is connected across the electrolyte gap between tool and workpiece and responds to a slight departure from the rated operating voltage to then cause the alternating-current controller to block the further supply of current. The member simultaneously releases a normally open power-current switch likewise connected across the electrotyte gap and constituted by thyristors or the like solid-state switches which are mounted by clamping them directly between the parallel and juxtaposed bus bars that supply the rectified current to the electrolytic metal-forming machine.

3,524,805
SILVER RECOVERY SYSTEM

Edmund Engelman, 62—36 80th St., Elmhurst, N.Y. 11379

Filed Jan. 3, 1968, Ser. No. 695,417
Int. Cl. B01k *3/00*; C22d *1/12*
U.S. Cl. 204—228 9 Claims

In a silver recovery system which includes the usual electrolytic cell, a silver-containing electrolyte and appropriate electrodes, the improvement comprising a sealed probe including a photoelectric cell which reads the reflections from the coat of silver deposited on the cathode through a series of balanced resistances, a variable transformer coupled to a motor operating the transformer to step down the voltage when the silver deposit starts to darken, thus preventing overload and too rapid deposition.



3,524,806
PROCESS OF MAKING LARGE COKE PARTICLES

Everett N. Case, Homewood, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 2, 1967, Ser. No. 671,929
Int. Cl. C10b *55/02*, *55/04*
U.S. Cl. 208—46 22 Claims



Large pellets of petroleum coke, with physical properties sufficient to meet the requirements of metallurgical and chemical processing, are formed by passing a fluid, agglutinizing hydrocarbon binder material, particularly asphalt, into a compact bed of finely divided coke, so that discrete particles of the coke are bound into large pellets precursors. The binder is pyrolized, either concurrently or subsequently, to form coke, providing a discrete pellet. The physical properties of the calcined pellet can be enhanced by adding additional charges of the binder to the discrete pellet, with subsequent pyrolysis, until the requisite mechanical properties are attained.

3,524,807
HYDROCRACKING IN THE PRESENCE OF CONTROLLED AMOUNTS OF NITROGEN

Charles T. Lewis, Jr., Groves, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 28, 1967, Ser. No. 694,202
Int. Cl. C10g *13/02*
U.S. Cl. 208—111 5 Claims

Good yields of heavy naphtha are obtained by carrying out the hydrocracking of gas oils and the like in the presence of 25–75 p.p.m. nitrogen based on the weight of hydrocarbon oil charge.

3,524,808
HYDROCRACKING CATALYST CONTAINING CARRIER TREATED WITH A SOLUTION OF NH_4F IN HNO_3

Willem C. J. Quik, Pieter A. van Weeren, and Herman W. Kouwenhoven, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 6, 1968, Ser. No. 703,263
Claims priority, application Netherlands, Feb. 21, 1967, 6702572
Int. Cl. C10g *13/02*; B01j *11/74*, *11/78*
U.S. Cl. 208—111 9 Claims

A process for preparation of a catalyst and a hydrocracking process using the catalyst which involves incorporation of fluorine into the catalyst refractory metal oxide carrier by impregnation from a solution of a fluoride compound in an acid such as nitric, formic or acetic acid either before or after impregnation of the oxide with a solution of hydrogenative metals and in which the oxide is dried after each impregnation and calcined after the last impregnation.

3,524,809
HYDROCRACKING PROCESS AND CATALYST

Rowland C. Hansford, Yorba Linda, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

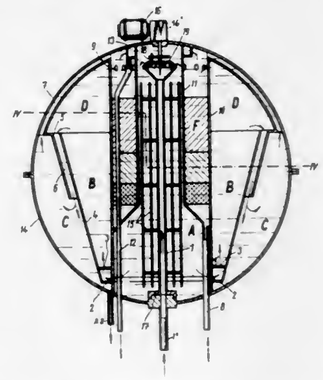
No Drawing. Continuation-in-part of application Ser. No. 371,186, May 29, 1964, which is a continuation-in-part of application Ser. No. 244,918, Dec. 17, 1962. This application Jan. 11, 1968, Ser. No. 697,029
Int. Cl. C10g *13/02*
U.S. Cl. 208—111 4 Claims

Zeolite hydrocracking catalysts displaying an optimum combination of activity and hydrothermal stability comprise a minor proportion of a Group VIII noble metal deposited on a Y zeolite cracking base containing less than 1.5 weight-percent Na_2O, and wherein about 50–60% of the zeolitic ion-exchange capacity is satisfied by hydrogen ions and about 30–40% by magnesium ions.

3,524,810
METHOD AND ARRANGEMENT FOR CHEMICAL CLARIFYING OF LIQUIDS

Svatopluk Mackrle, Brno, Vladimir Mackrle, Prague, and Oldrich Dracka, Brno, Czechoslovakia, assignors to Rudne A. Nerudne Doly, narodni podnik, Ejpovice, Czechoslovakia

Filed July 1, 1968, Ser. No. 741,711
Claims priority, application Czechoslovakia, June 30, 1967, 4,828
Int. Cl. B01d *21/08*
U.S. Cl. 210—20 16 Claims



A method of clarifying liquids, especially water, in which the liquid and coagulation agents mixed thereto

are fed under pressure in an enclosed space to form in the latter, by reaction of the agents with the impurities of the liquid, flakes suspended in the liquid, in which the flakes are broken up by mechanical action to substantially uniform size close to the size of colloidal particles, in which from the thus obtained homogenized suspension fluidized sludge blanket is formed through which additional homogenized suspension is fed in upward direction and the liquid from the space above the sludge blanket is passed under pressure through a multilayer filter bed from which the clarified liquid is discharged; and an apparatus for carrying out the method.

ERRATUM

For Class 210—23 see:
Patent No. 3,524,546

3,524,811
FLOCCULATING PROCESS
Andrew G. Tsuk, Laurel, and Thomas E. Ferington, Sandy Spring, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed Apr. 8, 1968, Ser. No. 719,694
Int. Cl. C02b *1/20*
U.S. Cl. 210—52 **3 Claims**

A process for settling of solids suspended in water by treating the suspension with cupric or nickel ions and a water soluble acrylate polymer.

3,524,812
METHOD FOR DECREASING THE BIOCIDAL EFFECT OF BROMONITROSTYRENE
Bernard F. Shema, Glenside, and Robert H. Brink, Swarthmore, Pa., assignors to Betz Laboratories, Inc., Trevose, Pa., a corporation of Pennsylvania
No Drawing. Filed Dec. 16, 1968, Ser. No. 784,229
Int. Cl. C02c *5/04*
U.S. Cl. 210—63 **11 Claims**

The present invention is directed to a method of detoxifying bromonitrostyrene. The method comprises contacting and thereby reacting bromonitrostyrene with a sufficient quantity of a compound which is capable of oxidizing the bromonitrostyrene to render it substantially non-toxic. The compounds react with the bromonitrostyrene in such a way as to substantially decharacterize it to significantly affect the toxicity of this compound with regard to existing life and more specifically to marine life, such as the fish and plant life which exists in the streams where industrial waste waters are commonly disposed. The compounds which have been found operable for this purpose are oxidizing agents such as the organic and inorganic sulfites and compounds such as hydrogen peroxide and potassium permanganate.

3,524,813
DRILLING FLUID
Jack H. Kolaian, Houston, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 25, 1967, Ser. No. 633,432
Int. Cl. C10m *3/14*
U.S. Cl. 252—8.5 **9 Claims**

An aqueous drilling fluid dispersant and a method of drilling wells using said drilling fluid which contains a substituted hydroxyacetophenone dispersant, namely, 2,4-dihydroxyacetophenone, 2-hydroxy-5-methylacetophenone and mixtures thereof.

3,524,814
METHOD OF PREPARING OVER-BASED ALKALINE EARTH SULFONATES
Albert R. Sabol, Munster, and Eli W. Blaha and Cecil G. Brannen, Highland, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed June 20, 1966, Ser. No. 558,571
Int. Cl. C10m *1/40, 1/32, 1/10*
U.S. Cl. 252—33.2 **9 Claims**

The preparation of over-based alkaline earth sulfonates by carbonating with carbon dioxide an oil mixture of neutral alkaline earth sulfonate, alkaline earth oxide, and alkanol is improved by initially forming and maintaining a catalytic amount of ammonium carbamate in the mixture during the treatment thereof with carbon dioxide.

3,524,815
LITHIUM BROMIDE-LITHIUM IODIDE COMPOSITIONS FOR ABSORPTION REFRIGERATION SYSTEM
William E. Hensel, Jr., Powell, Ohio, and William W. Harlowe, Jr., San Antonio, Tex., assignors, by mesne assignments, to Arkla Industries, Inc., Evansville, Ind., a corporation of Delaware
Filed Jan. 3, 1968, Ser. No. 695,523
Int. Cl. C09k *3/02*
U.S. Cl. 252—69 **3 Claims**

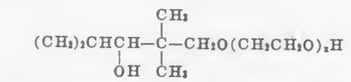
Aqueous solutions of LiI–LiBr containing up to about 50 weight percent LiI based on total salt are used as the refrigerant-absorbent in an air-cooled, two-pressure absorption refrigeration system. The crystallization temperatures of these solutions are sufficiently low that crystal formation will not occur when the temperature of the solution drops to ordinarily expected ambient temperatures of, for example, 100° F. Further depression of the crystallization temperature is obtained by adding ethylene glycol or glycerine to the mixed salt solution.

3,524,816
POLYETHER COMPOSITIONS USEFUL AS HYDRAULIC FLUIDS
Hugh J. Hagemeyer, Jr., Alden E. Blood, and James D. Heller, Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Sept. 6, 1966, Ser. No. 577,185
Int. Cl. C09k *3/02*
U.S. Cl. 252—73 **4 Claims**

A mixture of polyethers having the general formulae

(1) $HOCH_2CH_2O(CH_2CH_2O)_xCH_2CH_2OH$

and

(2)


wherein x is a whole number of from 1–10, said mixture being useful as components of hydraulic fluids.

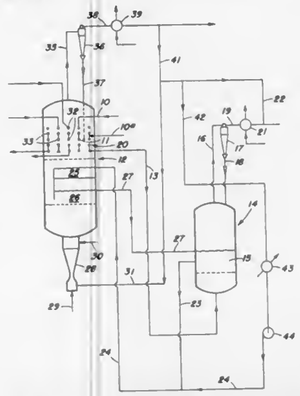
3,524,817
METHOD AND COMPOSITIONS FOR CHEMICALLY POLISHING ZINC
Clarence Henry Roy, Waterbury, and Robert C. East, Hamden, Conn., assignors to MacDermid Incorporated, Waterbury, Conn., a corporation of Connecticut
No Drawing. Filed Nov. 2, 1966, Ser. No. 591,408
Int. Cl. C23f *3/00*
U.S. Cl. 252—79.3 **17 Claims**

Zinc surfaces are deburred and polished in a process which comprises first cleaning the surfaces in an aqueous alkaline bath, immersing the surfaces in a deburring and polishing bath composition comprising nitric acid, citric acid, a soluble fluoride and, optionally, hydrochloric acid, tartaric acid, or phosphoric acid together with a sequestering agent or surfactants and finally subjecting the zinc surfaces to a post-polishing step in which the surfaces are contacted with an alkaline preplating conditioning solution consisting essentially of water, sodium carbonate, sodium hydroxide, sodium cyanide and an organic oxidizing agent.

3,524,818
PROCESS FOR PRODUCTION OF VAPOROUS TITANIUM TETRACHLORIDE CONTAINING EXACT AMOUNTS OF ALUMINUM TRICHLORIDE
Karl-Jurgen Bramekamp and Gerhard Hitzemann, Leverkusen, Germany, assignors to Titangesellschaft m.b.H., Leverkusen, Germany, a corporation of Germany
Filed June 16, 1967, Ser. No. 646,594
Claims priority, application Germany, July 26, 1966, T 31,684
Int. Cl. C09k *3/00*
U.S. Cl. 252—188.3 **6 Claims**

The present invention relates to an improved process for producing an admixture of vaporous titanium tetrachloride and aluminum trichloride in exact predetermined ratios.

3,524,819
STEAM REFORMING OF HYDROCARBONS
Salvatore A. Guerrieri, Rowayton, Conn., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed Mar. 3, 1967, Ser. No. 620,373
Int. Cl. C01b *2/16, 2/22*
U.S. Cl. 252—373 **7 Claims**



A process for steam reforming a hydrocarbon, such as methane, by passing a feed of the hydrocarbon and steam through a bed of a stream refroming catalyst at a superficial velocity that is sufficient to effect fluidization of the catalyst. The steam reforming may be effected at higher temperatures and pressures than previously employed, e.g. between 1400 F. and 2300° F. and between 50 p.s.i.g. and 600 p.s.i.g., and the reaction temperature is maintained by continuously circulating the catalyst through a heater wherein the catalyst is maintained in a fluidized state and heated by direct heat transfer with a hot flue gas.

3,524,820
PREPARATION OF RARE EARTH METAL EXCHANGED CRYSTALLINE ALUMINO SILICATES
Kenneth D. Vesely, La Grange Park, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Aug. 19, 1968, Ser. No. 753,444
Int. Cl. C01b *33/28*
U.S. Cl. 252—455 **5 Claims**

The ammonium form of a crystalline alumino silicate is ion-exchanged with a solution of rare earth metal salts. The alumino silicate and rear earth metal salt solution are commingled and passed through a series of contact zones in a simulated plug-flow whereby ion-exchange is effected with a substantially total utilization of the rare earth metal salts.

3,524,821
REGENERATING OF CHROMIUM OXIDE CONTAINING DEHYDROGENATION CATALYSTS
Ludo K. Frevel, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Apr. 26, 1967, Ser. No. 633,711
Int. Cl. B01j *11/64, 11/04*
U.S. Cl. 252—416 **7 Claims**

The content of Cr_2O_3 in catalysts is maintained at a desired level by adding aqueous H_2CrO_4 to a gaseous catalyst regeneration stream. This procedure is particularly useful for replenishing the chromium oxide lost as CrO_3 during regeneration of dehydrogenation catalysts.

3,524,822
PROCESS FOR WASHING AND REMOVING CATALYST FINES FROM A BED OF SOLID CATALYST PARTICLES IN A REACTOR
John H. Frankovich and Donald K. Wunderlich, Chicago, and Robert L. Foster, Homewood, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 11, 1967, Ser. No. 666,998
Int. Cl. B01j *11/168*
U.S. Cl. 252—416 **11 Claims**

Catalyst fines or dust including fine iron particles and other impurities are removed from an in place catalyst bed by simultaneously passing liquid cleansing fluid, such as water, and a gas, such as air, concurrently upwardly through the catalyst bed at such a rate as to cause at least a small expansion of the catalyst bed, thereby effecting intimate contact between the catalyst and the cleansing fluid to wash away the catalyst fines.

3,524,823
CATALYST AND METHOD OF PREPARING UNSATURATED ACIDS AND ALDEHYDES
Jamal S. Eden, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
No Drawing. Original application Aug. 30, 1965, Ser. No. 483,868, now Patent No. 3,467,700, dated Sept. 16, 1969. Divided and this application Jan. 21, 1969, Ser. No. 816,434.
Int. Cl. B01j *11/82*
U.S. Cl. 252—437 **6 Claims**

Catalysts containing molybdenum oxide, tellurium oxide and bismuth or antimony phosphates are useful in the vapor phase oxidation of propylene or isobutylene to form acrolein and acrylic acid or methacrolein and methacrylic acid.

3,524,824
CATALYST AND PROCESS OF PREPARING UNSATURATED ALDEHYDES AND ACIDS
Jamal S. Eden, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
No Drawing. Original application Aug. 30, 1965, Ser. No. 483,869, now Patent No. 3,456,004, dated July 15, 1969. Divided and this application Jan. 21, 1969, Ser. No. 822,760
Int. Cl. B01j *11/82*
U.S. Cl. 252—437 **4 Claims**

Catalysts useful in the vapor phase oxidation of propylene or isobutylene to form acrolein and acrylic acid and methacrolein and methacrylic acid contain molybdenum oxide, tellurium oxide and a tin phosphate.

3,524,825
POLYURETHANE FOAM AND METHOD FOR MAKING SAME

John C. Rill, Jr., Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Continuation-in-part of application Ser. No. 756,880, Aug. 25, 1958. This application Apr. 29, 1959, Ser. No. 809,702

Int. Cl. C08g *22/44*

U.S. Cl. 260—2.5 **2 Claims**

1. In a process for manufacturing a rigid polyurethane closed cell heat insulation having the cells substantially filled with retained trichloromonofluoromethane, the steps comprising; introducing into a mixing chamber a first substantially anhydrous liquid component consisting of an organic polyisocyanate, introducing into said mixing chamber a portion only of a second anhydrous liquid component comprising a polymeric material having a plurality of reactive hydrogen groups and a negligible acid number not substantially greater than 1.5 and a high hydroxyl number of about 420 to 440 and consisting of a polyester which is a reaction product of a polycarboxylic acid and a polyhydric alcohol and being capable of reacting with the first mentioned component to form a liquid isocyanate-modified polymer, reacting said two components within said chamber, then introducing into said chamber the remainder of said polymeric material together with trichloromonofluoromethane in liquid form, mixing thoroughly all said liquid components, vaporizing said trichloromonofluoromethane by heat generated due to the exothermic reaction between the isocyanate-modified polymer and the remainder of said polymeric material, initiating the formation of cells in said liquid mixture solely by the vaporization of said trichloromonofluoromethane, and subsequently pouring the resulting mixture into a mold wherein continuing polymerization takes place to form a rigid closed cell structure containing the trichloromonofluoromethane in the cells thereof.

2. A rigid polyester polyurethane cellular material prepared from (1) an anhydrous, fluid polyester polyol having a hydroxyl number of from about 350 to 500 and having an average of at least 3 hydroxyl groups per molecule, said polyester polyol being prepared from a composition comprising phthalic anhydride, adipic acid and trimethylolpropane, (2) an isocyanato-terminated polyester polyurethane having an average of at least 3 isocyanato groups per molecule and prepared by reacting a molar excess of an arylene diisocyanate with a polyester polyol of the type described in (1), above, (3) an arylene diisocyanate, (4) trichloromonofluoromethane and (5) a tertiary amine catalyst; the total number of isocyanato groups in (2) and (3) being about equal to the total number of hydroxyl groups in (1); there being about 8.7 to 18.2 parts by weight of said trichloromonofluoromethane for every 100 parts by weight of said rigid polyurethane cellular material.

3,524,826
COVULCANIZABLE BROMINATED TERPOLYMERS

Edward N. Kresge, Elizabeth, Charles P. O'Farrell, Roselle, and Delmer L. Cottle, Highland Park, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 514,683, Dec. 17, 1965. This application Feb. 24, 1969, Ser. No. 801,868.

Int. Cl. C08f *27/03;* **C08d** *9/08;* **C08c** *9/14*

U.S. Cl. 260—5 **11 Claims**

Elastomeric terpolymers of ethylene-propylene and a nonconjugated acyclic or alicyclic diene are additively brominated at non-backbone sites of unsaturation at temperatures below 60° C. in the absence of free-radical initiators. Such brominated polymers are readily compatible with highly unsaturated synthetic and natural rubbers and yield covulcanizates having outstanding physical properties.

3,524,827
METHOD FOR COMBINING A POLYALKYLENIMINE WITH A STARCH

Donald L. Johnson and Allen C. Kryger, Decatur, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

No Drawing. Filed Nov. 24, 1967, Ser. No. 685,267

Int. Cl. C08b *25/00*

U.S. Cl. 260—9 **8 Claims**

A process for combining a polyalkylenimine with starch by adding an aqueous solution of a polyalkylenimine maintained at a particuler pH to a starch slurry which is maintained at a different but particular pH. The product obtained has utility as an adhesive in paper coating compositions.

3,524,828
COMPOSITION FOR ADHERING PLASTIC FILM TO A VAPOR PENETRABLE NON-METALLIC SUBSTRATE

Robert J. Keithley, Peabody, Mass., assignor to Borden, Inc., New York, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 31, 1964, Ser. No. 356,083

Int. Cl. C08b *21/32, 21/34*

U.S. Cl. 260—17 **12 Claims**

This invention relates to an adhesive composition for applying a plastic film over a vapor penetrable backing or core material comprising an aqueous emulsion consisting essentially of a copolymer containing, for each 100 parts by weight thereof, 60–75 parts of vinyl acetate and the remainder of the copolymer being an alkyl ester of an unsaturated acid and mixtures thereof with methacrylic acid and a water dispersible non-separating combination of (1) a water soluble ester of a mono-C_1–C_4 alkyl ether of a C_2–C_8 glycol with a C_2–C_4 saturated monocarboxylic aliphatic acid and (2) a plasticizing ester of glycerin with saturated C_2–C_4 monocarboxylic aliphatic acid, the ester of the said ether and the plasticizing ester being dispersed in substantially non-separating condition in the aqueous phase of the emulsion.

3,524,829
REDOX CATALYST AND CATALYTIC METHOD OF POLYMERIZING MONOMERS COMPRISING VINYL CHLORIDE

Claude Lambling, Boulogne, and Jean-Claude Percheron, Chedde, France, assignors to Produits Chimiques Pechiney Saint-Gobain, Paris, France

No Drawing. Filed Dec. 14, 1967, Ser. No. 690,397

Claims priority, application France, Dec. 22, 1966, 88,502

Int. Cl. B01j *11/82*

U.S. Cl. 260—23 **5 Claims**

Redox type systems for the polymerization of monomers comprising vinyl chloride, preferably in aqueous suspension, containing a typical organic peroxy compound and the titanium salt of a saturated fatty acid in which the titanium is of valence III (titanous).

3,524,830
ACRYLIC POLYMER COMPOSITION CONTAINING THIOCYANATE SALTS OR THIOUREA

Takashi Minato, Yasuo Matsumura, and Kunio Maruyama, Saidalji, Japan, assignors to Japan Exlan Company, Ltd., Osaka, Japan

No Drawing. Continuation-in-part of application Ser. No. 527,068, Feb. 14, 1966. This application May 13, 1968, Ser. No. 728,834

Int. Cl. C08c *11/48*

U.S. Cl. 260—30.8 **3 Claims**

The present disclosure provides for an acrylic polymer composition consisting essentially of (1) an acrylonitrile polymer and (2) a mixed substantially anhydrous molten mixture of at least two compounds selected from a group consisting of sodium thiocyanate, potassium thiocyanate, ammonium thiocyanate and thiourea, said mixture having a melting point below 150° C.

3,524,831
NOVEL ORGANOTIN COMPOSITIONS AND RESINS STABILIZED THEREWITH

Christian H. Stapfer, Newtown, Pa., assignor to Carlisle Chemical Works, Inc., Reading, Ohio, a corporation of Ohio

No Drawing. Filed July 19, 1967, Ser. No. 654,347

Int. Cl. C07f *7/22;* **C08f** *45/62*

U.S. Cl. 260—30.8 **6 Claims**

Dialkyltin carboxylates are used as internal lubricants and costabilizers for diorganotin mercapto compounds in the stabilization of halogen-containing resins.

3,524,832
POLYOXYMETHYLENE CONTAINING ALKYLATED DIPHENYL AMINE AND CYANOGUANIDINE AS STABILIZERS

Richard Green, Livingston, N.J., assignor to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed Nov. 4, 1966, Ser. No. 591,970

Int. Cl. C08g *41/04, 51/60*

U.S. Cl. 260—45.9 **5 Claims**

Formaldehyde polymer compositions that contain as stabilizer an alkyldiphenylamine and a nitrogen-containing compound, such as a superpolyamide or cyanoguanidine, are characterized by excellent thermal stability, oxidative stability, color, and color retention.

3,524,833
POLYMERS OF HYDROXY KETONES AND HYDROXY SULFONES

Roland Darms, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 669,295, Sept. 20, 1967. This application Jan. 6, 1969, Ser. No. 789,414

Int. Cl. C08g *33/10*

U.S. Cl. 260—47 **4 Claims**

Polymers are provided of poly(hydroxyketones) and poly(hydroxysulfones) of an inherent viscosity sufficient to form tough self-supporting shaped structures such as, for example, film structures.

3,524,834
CROSS-LINKABLE COMPOSITION OF A THERMOPLASTIC POLYMER AND A URETIDIONE OLIGOMER

Dennis Charlton Allport, Runcorn, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Dec. 26, 1967, Ser. No. 693,075

Claims priority, application Great Britain, Jan. 2, 1967, 97/67

Int. Cl. C08g *22/26*

U.S. Cl. 260—77.5 **13 Claims**

A thermoplastic cross-linkable composition which can be processed at moderately elevated temperatures, e.g., to form a shaped article, and is thereafter cross-linkable by heating to slightly higher temperatures and having as the two essential ingredients (i) a copolymer of specified kind having active hydrogen atoms and (ii) as cross-linking agent at least one uretidione oligomer of an aromatic diisocyanate which is at least trimeric, or a mixture of one or more such uretidione oligomers with at least one uretidione dimer of an aromatic diisocyanate.

3,524,835
HEAT TREATMENT OF POLY(ARYLENE SULFIDE) RESINS

James T. Edmonds, Jr., and Harold Wayne Hill, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Original application Nov. 27, 1963, Ser. No. 327,143, now Patent No. 3,354,129, dated Nov. 21, 1967. Divided and this application Sept. 11, 1967, Ser. No. 666,999

Int. Cl. C08g *23/00*

U.S. Cl. 260—79.1 **11 Claims**

Poly(arylene sulfide) resins are increased in molecular weight by heat treatment under oxidizing atmosphere at an elevated temperature above the melting point of said polymer to produce thermoplastic materials capable of withstanding very high temperatures.

3,524,836
VULCANIZATION OF FLUORINATED POLYMERS AND COMPOSITIONS THEREFOR

Arthur Livingston Barney and Wolfgang Honsberg, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 661,230, Aug. 17, 1967. This application June 20, 1968. Ser. No. 738,426

Int. Cl. C08f *15/06, 27/00, 29/16*

U.S. Cl. 260—80.77 **11 Claims**

The acceleration of the vulcanization of saturated, fluorinated polymers by the use of open-chain polyethers. The accelerators enable a satisfactory rate and state of cure with polyhydroxy aromatic nucleophiles in a weakly basic system, otherwise incapable of adequately curing fluorinated polymers. The accelerators are of the formula



wherein R is hydrogen or C_1 to C_4 alkyl, m is from 1–3, R′ is hydrogen or methyl and n is an integer sufficient to give a molecular weight of at least about 150.

3,524,837
NOVEL BENZIMIDAZOLE POLYMERS

Harold H. Levine, La Jolla, and Martin B. Sheratte, San Diego, Calif., assignors to Whittaker Corporation, Los Angeles, Calif., a corporation of California

No Drawing. Filed May 15, 1967, Ser. No. 638,596

Int. Cl. C08g *33/02*

U.S. Cl. 260—78 **7 Claims**

This patent describes the preparation of benzamides carrying amino and N(aromatic) groups in the ortho position with respect to each other. The patent also describes the preparation of poly(1-aromatic-2,5-benzimidazole) prepolymers and polymers useful in the manufacture of high-temperature adhesives, laminates, ablative materials, and other applications where strength retention is required under extreme conditions of heat and oxidation.

3,524,838
NOVEL POLYMERIZATION METHOD OF VINYL COMPOUND

Minoru Imoto, Okashinmachi, Osakafu, Kiichi Takemoto, Osakafu, and Hiroyuki Sutoh, Kaorigaokamachi, Osakafu, Japan, assignors to Chisso Corporation, Osaka, Japan, an organization of Japan, and Kiichi Takemoto, Osakafu, Japan

Filed Jan. 29, 1968, Ser. No. 701,140

Claims priority, application Japan, Feb. 3, 1967, 42/6,960

Int. Cl. C08f *7/12, 3/64, 3/76*

U.S. Cl. 260—88.3 **1 Claim**

A method for polymerizing a vinyl compound which comprises polymerizing a vinyl compound such as 1-vinyl-

2-methyl-imidazole, 1-vinyl-2-ethyl imidazole, methyl methacrylate, methyl acrylate, 4-vinyl pyridine, 2-methyl-5-vinyl pyridine, acrylonitrile, styrene, and a mixture thereof, in the presence of (1) an organic polymer having a hydroxy group or amide chain linkages in its molecule such as cellulose, silk or polyvinyl alcohol, (2) carbon tetrachloride or carbon tetrabromide, and (3) water.

3,524,839

POLYMERS AND COPOLYMERS OF ALLYL FLUORIDE

Simona Margulis, Kiryat Haim, and Leonard M. Shorr, Romema, Haifa, Israel, assignors to Israel Mining Industries-Institute for Research and Development, Haifa Bay, near Ir Ganim, Israel, a company of Israel

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,655
Claims priority, appplication Israel, Feb. 7, 1966, 25,131
Int. Cl. C08f *3/32, 15/34, 1/78*
U.S. Cl. 260—92.1 7 Claims

There are provided homopolymers and copolymers of allyl fluoride in which the fluorine content is at least 85% of the theory. The theoretical fluorine content of such a homopolymer or copolymer is that which follows from the theoretical number of allyl fluoride monomers per molecule of the polymer.

3,524,840

CATALYSTS FOR THE POLYMERIZATION OF 1,3-BUTADIENE, THEIR METHODS OF PREPARATION AND USE

Richard Rodney Durst, Stow, Ohio, assignor to The General Tire & Rubber Company, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 492,307, Oct. 1, 1965. This application Sept. 11, 1968, Ser. No. 759,202
Int. Cl. C08d *3/06*
U.S. Cl. 260—94.3 10 Claims

Homogeneous catalysts of the organometallic class are prepared by mixing in specific manner a solvent, titanium tetrachloride, iodine, an organic amine and trialkyl aluminum. Polymerization of 1,3-butadiene with these catalysts yields high molecular weight polymers high in cis-1,4 content with excellent processability on both cold and hot roll mills and useful for the manufacture of automobile tires and mechanical goods and in master batching.

3,524,841

CATALYSTS FOR THE POLYMERIZATION OF 1,3-BUTADIENE, THEIR METHODS OF PREPARATION AND USE

Richard Rodney Durst, Stow, Ohio, assignor to The General Tire & Rubber Company, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 492,291, Oct. 1, 1965. This application Sept. 16, 1968, Ser. No. 760,075
Int. Cl. C08d *3/06*
U.S. Cl. 260—94.3 9 Claims

Homogeneous catalysts of the organometallic class are prepared by mixing in specific manner a solvent, titanium tetraiodide, organic amine and trialkyl aluminum. Polymerization of 1,3-butadiene with these catalysts yields high molecular weight polymer high in cis-1,4 content, with excellent processability on both cold and hot roll mills and useful for the manufacture of automobile tires and mechanical goods and in master batching.

3,524,842

WATER-SOLUBLE CATIONIC PHENYLAZO-NAPHTHOL DYESTUFFS CONTAINING A QUATERNARY AMMONIUM GROUP

Hans Grossmann, Oberwil, and Heinz Keller, Muttenz, Switzerland, assignors to Durand & Huguenin A.G., Basel, Switzerland

No Drawing. Filed Aug. 4, 1967, Ser. No. 658,333
Int. Cl. C09b *29/28;* D06p *1/02;* A61k *7/12*
U.S. Cl. 260—151 5 Claims

Compounds of the formula

$$z—A—N{=}N—B—L_{m-1}—Q^+X^-$$

in which A represents a 1,4-phenylene residue, a 1,4- or 2,6-naphthylene residue or a 4,4'-diphenylene residue, B represents the residue of a coupling component that contains a hydroxyl group in ortho-position or α-position to the azo-bridge, *z* represents a primary, secondary or tertiary amino group, L represents a divalent bridge member, *m* is the whole number 1 or 2, Q^+ represents a quarternary ammonium group, and X^- represents an anion that imparts solubility in water, and which contain no further acid groups capable of dissociating, are particularly useful in dyeing pelts, animal or human hair, and especially living human hair. Living human hair is dyed uniformly and at room temperature without dyeing the skin when these dyestuffs are utilized. They are also suitable for dyeing textile fibers and goods.

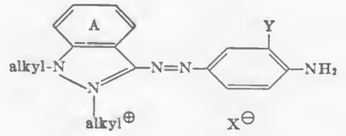
3,524,843

BASIC INDAZOLE CONTAINING MONOAZO DYESTUFFS

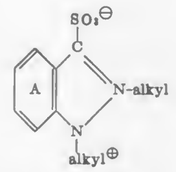
Gilbert Victor Henri Kremer, Ermont, and Robert Frederic Michel Sureau, Enghien-les-Bains, France, assignors by mesne assignments, to Ugine Kuhlmann, Paris, France, a corporation of France

No Drawing. Filed Aug. 6, 1965, Ser. No. 477,969
Claims priority, application France, Aug. 14, 1964, 985,225
Int. Cl. C09d *29/38;* D06p *1/02*
U.S. Cl. 260—163 7 Claims

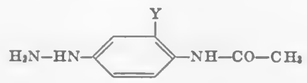
Light-fast dyestuffs of the general formula:



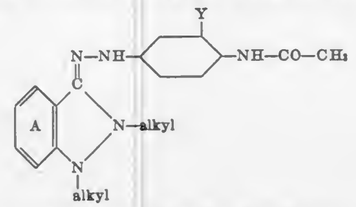
are formed by first condensing in an organic solvent a compound of the formula:



in which each of the alkyl groups is methyl or ethyl and the benzene nucleus A is substituted by hydrogen, chlorine, or nitro groups, with a phenylhydrazine of the formula:



in which Y is hydrogen, chlorine or methyl group, oxidizing the hydrazone obtained as represented by:



in an acid medium and thereafter deacylating.

3,524,844

EPIPODOPHYLLOTOXIN GLUCOSIDE DERIVATIVES

Camilla Keller-Juslen, Max Kuhn, Jany Renz, and Albert von Wartburg, Basel, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

No Drawing. Continuation-in-part of applications Ser. No. 569,793, July 29, 1966, and Ser. No. 600,735, Dec. 12, 1966. This application Dec. 6, 1967, Ser. No. 688,375
Claims priority, application Switzerland, Sept. 21, 1965, 13,016/65, 13,018/65; Dec. 13, 1966, 17,752/66, 17,753/66, 17,754/66, 17,755/66, 17,756/66, 17,759/66
Int. Cl. C07c *47/18*
U.S. Cl. 260—210 25 Claims

There are provided 4'-demethyl-epipodophyllotoxin-β-D-(substituted) glucosides, e.g. 4'-demethyl-epipodophyllotoxin-β-D-ethylidene-glucoside, together with intermediates therefor and novel processes used in the production thereof. The 4'-demethyl-epipodophyllotoxin-β-D-glucoside derivatives have cytostatic activity as demonstrated particularly by a strong effect against experimental tumours.

3,524,845

PROCESS FOR THE MANUFACTURE OF 3-FORMYLRIFAMYCIN-SV

Hans Bickel, Binningen, and Wilhelm Kump, Therwil, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 21, 1968, Ser. No. 730,911
Claims priority, application Switzerland, May 29, 1967, 7,533/67
Int. Cl. C07c *47/18*
U.S. Cl. 260—210 12 Claims

A new process for preparing 3-formylrifamycin-SV in high yield and smooth reaction is based on a finding that when rifamycin-S derivatives having in 3-position a free or a substituted aminomethyl group are irradiated with ultraviolet light in a suitable solvent, tautomeric compounds are formed which readily hydrolyse to give 3-formylrifamycin. The said 3-aminomethyl-rifamycin-S derivatives used as starting materials are obtained in pure form by a special process. These products were hitherto avialable only in form of their manganese salts; they have antibacterial activity and are useful as medicaments.

3,524,846

PROCESS FOR THE DIDEALKYLATION OF PHOSPHONATE ESTERS

John G. Moffatt, Los Altos, and Gordon H. Jones, Palo Alto, Calif.; said Moffatt assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed June 2, 1967, Ser. No. 643,078
Int. Cl. C07f *9/40*
U.S. Cl. 260—211.5 22 Claims

Didealkylation of phosphonate esters is effected by heating them with a soluble bromide or iodide salt in an aprotic dipolar solvent at a temperature in excess of 100° C.

3,524,847

SALTS OF LEVAN-SULFURIC ACID WITH ORGANIC BASES AND PROCESS FOR PREPARING THEM

Horst Grotsch, Frankfurt am Main, and Heinz Feier, Bad Soden, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed May 7, 1968, Ser. No. 727,350
Claims priority, application Germany, May 12, 1967, F 52,396
Int. Cl. C08b *19/02*
U.S. Cl. 260—234 2 Claims

Salts of levan-sulfuric acid with alkanolamines alkylenediamines or basic amino-acids for precutaneous application to increase lipoproteid-lipase activity.

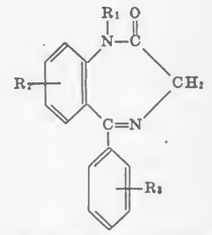
3,524,848

PROCESS FOR PRODUCING BENZODIAZEPINE DERIVATIVES

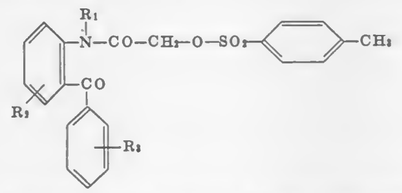
Hiroaki Moriyama, Hisao Yamamoto, and Shigeho Inaba, Nishinomiya, Hideo Nagata and Toshio Tamaki, Ibaraki, and Toshiyuki Hirohashi, Kobe, Japan, assignors to Sumitomo Chemical Co., Ltd., Osaka, Japan

No Drawing. Filed Nov. 1, 1967, Ser. No. 679,625
Claims priority, application Japan, Nov. 2, 1966, 41/72,552; Nov. 16, 1966, 41/75,623; Sept. 6, 1967, 42/57,394
Int. Cl. C07d *53/06*
U.S. Cl. 260—239.3 10 Claims

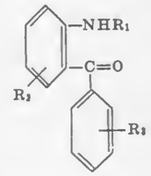
Therapeutically useful benzodiazepines of the formula



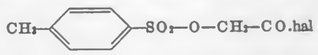
wherein R_1 is H or lower alkyl, and each of R_2 and R_3 is H, halogen, nitro, lower alkyl or CF_3 are prepared by reacting the corresponding 2-(tosyloxyacetamido)-benzophenones of the formula



with ammonia, or by reacting a 2-aminobenzophenone of the formula



with a tosyloxyacetic acid derivative of the formula



In some cases, a particular ammonia concentration gives optimal results.

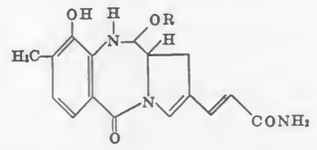
3,524,849

PROCESS FOR THE PREPARATION OF PYRROLO-BENZODIAZEPINE ACRYLAMIDES AND INTERMEDIATES USEFUL THEREIN

Andrew David Batcho, North Plainfield, and Willy Leimgruber, Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 27, 1967, Ser. No. 678,532
Int. Cl. C07d *53/06*
U.S. Cl. 260—239.3 **6 Claims**

Pyrrolo benzodiazepine acrylamide compounds of the formula



wherein R is either hydrogen or methyl are prepared by a multistep process utilizing 3-benzyloxy-2-nitro-p-toluoyl chloride and L-4-hydroxyproline methyl ester as the starting materials. Novel intermediates produced in the various process steps are also disclosed. The final products are chemotherapeutically active and are useful as antitumor agents, they also are useful as intermediates for preparing chemotherapeutically active compounds.

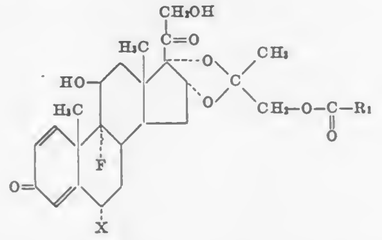
3,524,850

METHYLALKANOYLOXYMETHYL KETALS OF PREDNISOLONE DERIVATIVES

Bo Thuresson af Ekenstam, Molndal, Karl Göran Claeson, Vastra Frolunda, and Fritz Henn, Askim, Sweden, assignors to Aktiebolaget Bofors, Bofors, Sweden

No Drawing. Filed Jan. 18, 1967, Ser. No. 610,010
Claims priority, application Sweden, Jan. 27, 1966, 1,048/66
Int. Cl. C07c *173/00*
U.S. Cl. 260—239.55 **4 Claims**

Compounds of the formula:



wherein X is H or F and R_1 is an alyl group having 3 to 5 carbon atoms possess anti-inflammatory action.

3,524,851

1-PHENOXY-3-MORPHOLINO ALKYLAMINO-2-PROPANOLS

Burton Kendall Wasson, Valois, Quebec, and Nathan Norman Share, Montreal, Quebec, Canada, assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 21, 1966, Ser. No. 588,312
Int. Cl. C07d *87/40*
U.S. Cl. 260—247.5 **7 Claims**

The tile compounds possess β-blocking properties. The products are prepared by reacting a 1-(substituted phenoxy)-3-haloalkanol or a 2,3-epoxy-1-(substituted phenoxy)-propane with a primary or secondary amine or with a primary or secondary aminoalkylamine.

3,524,852

PREPARATION OF CYANURIC CHLORIDE

Wilhelm Gruber, Darmstadt, and Peter Quis, Gross Zimmern, Kreis Dieburg, Germany, assignors to Rohm & Haas G.m.b.H., Darmstadt, Germany

No Drawing. Filed Mar. 4, 1968, Ser. No. 709,868
Claims priority, application Germany, Mar. 18, 1967, R 45,542
Int. Cl. C07d *55/42*
U.S. Cl. 260—248 **4 Claims**

Reaction of cyanogen with chlorine in the gaseous phase at 350 to 750° C. in the presence of an activated charcoal catalyst is improved by operating with a molar excess of chlorine, preferably at a temperature of 380 to 460° C., and preferably in a reactor having an interior ceramic surface.

3,524,853

PROCESS OF PRODUCING CYANURIC ACID

Yoshitaka Saito, Tadotsu-machi, and Satoru Takeuchi and Takuo Mashige, Marugame-shi, Japan, assignors to Shikoku Kasei Kogyo Company, Limited, Kagawaken, Japan

Filed Feb. 1, 1968, Ser. No. 702,362
Int. Cl. C07d *55/36*
U.S. Cl. 260—248 **8 Claims**

In a process of producing cyanuric acid by thermally cracking urea and/or biuret on the surface of a molten metal, the reaction zone where the thermal cracking is effected is partitioned by cylindrical rollers horizontally arranged along the upper surface of and partly dipped into the molten metal, whereby the commercial working of the process is facilitated. Particularly the walls of the reaction vessel are prevented from adhesion of the product.

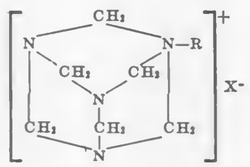
3,524,854

HEXAMETHYLENETETRAMINE SALTS OF CYANOALKYL HALIDES

Stephen J. Kuhn, Sarnia, Ontario, Canada, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 16, 1968, Ser. No. 721,581
Int. Cl. C07d *55/52*
U.S. Cl. 260—248.5 **3 Claims**

The disclosure is directed to hexamethylenetetramine salts of haloorganic compounds of the group consisting of cyanoalkyl halides and cyanobenzyl halides and in particular, the hexamethylenetetramine salts of 4-bromobutyronitrile, 5-bromovaleronitrile, α-chloro-o-toluonitrile, α-chloro-m-toluonitrile and α-chloro-p-toluonitrile. The compounds of this disclosure are represented by the formula



wherein R represents a cyanobenzyl radical or a cyanoalkyl radical of 3-10 carbon atoms and X represents bromine or chlorine. The method of preparation as well as the use of these compounds as bactericides and fungicides is taught.

3,524,855

11-AMINOALKYL-DIBENZO[b,f]OXEPIN-10(11H)-ONE

Walter Riehen Schindler and Hans Blattner, Basel, Switzerland, assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Original application Dec. 3, 1964, Ser. No. 415,820. Divided and this application Jan. 3, 1968, Ser. No. 722,812
Claims priority, application Switzerland, Dec. 5, 1963, 14,908/63; Apr. 23, 1964, 5,284/64
Int. Cl. C07d *9/00*
U.S. Cl. 260—268 **10 Claims**

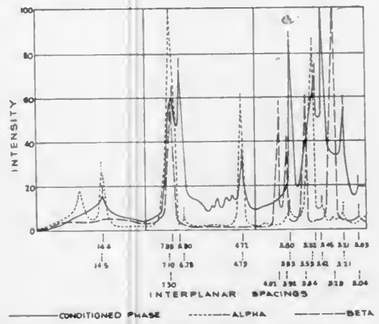
11-aminoalkyl-dibenzo[b,f]oxepin-10(11H)-ones have stimulating effect on the central nervous system and anticholinergic effects. They are prepared by alkylation of the corresponding 11-unsubstituted compounds.

3,524,856

4,11-DICHLOROQUINACRIDONE PIGMENTS

Anthony P. Wagener, Park Forest, and George J.Meisters, Chicago, Ill., assignors to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio

Filed Aug. 7, 1967, Ser. No. 658,889
Int. Cl. C07d *37/00*
U.S. Cl. 260—279 **2 Claims**



This invention comprises a new 4,11-dichloroquinacridone pigment and the method of preparing said pigment by milling the crude compound with a solid, soluble inorganic salt and an aromatic solvent such as xylene at approximately room temperature. This new phase of the compound is distinguished by its characteristic X-ray diffraction pattern. It has an X-ray diffraction pattern having lines of strong intensity at interplanar spacings of 6.80, 3.80, 3.52 and 3.45 angstrom units, lines of intermediate intensity at 7.08, 4.72 and 3.21 A., and weak lines at 14.40 and 3.03 A. This product also has a yellow orange color characterized by a dominant wave length of 601.0, a light purity of 94.6%, and a reflectance, or Y value. of 18.59 at 100% pigment.

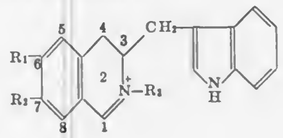
3,524,857

3 - INDOLYLMETHYL - 3,4 - DIHYDROISOQUINOLINE DERIVATIVES AND PROCESS FOR THEIR PRODUCTION

John Shavel, Jr., Mendham, and Harold Zinnes, Rockaway, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

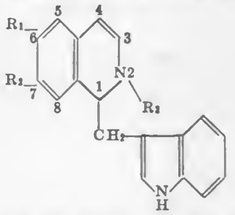
No drawing. Filed Apr. 27, 1967, Ser. No. 634,133
Int. Cl. C07d *35/34*
U.S. Cl. 260—286 **5 Claims**

Compounds of structure I:



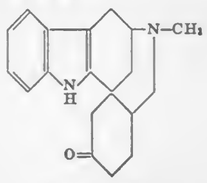
(I)

are disclosed wherein R_1 and R_2 are hydrogen or lower alkoxy and R_3 is lower alkyl or aralkyl. They are prepared by rearrangement of compounds of structure V:



(V)

with treatment of one equivalent of acid. These compounds are useful as intermediates in the preparation of analgesic agents of structure I*b*:



(Ib)

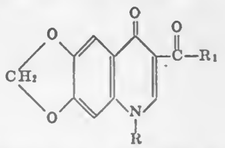
3,524,858

1,4 - DIHYDRO-1-SUBSTITUTED ALKYL-6,7-METHYLENEDIOXY - 4 - OXOQUINOLINE-3-CARBOXYLIC ACID

Daniel Kaminsky, Parsippany, and Robert I. Meltzer, Rockaway, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

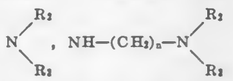
No Drawing. Filed May 18, 1967, Ser. No. 639,304
Int. Cl. C07d *33/56*
U.S. Cl. 260—287 **5 Claims**

The present invention relates to compositions of matter containing quinolines of the formula:



(I)

wherein R represents alkyl, substituted lower alkyl, cycloalkyl, alkenyl and aralkyl; R_1 represents O-alkyl, O-mono or dialkylaminoalkyl, O-cycloalkyl, NH-alkyl, NH-aryl,



$NHCOOR_2$, NHOR, or any readily hydrolyzable group. These compounds are useful as anti-microbial agents.

3,524,859

MESO-IONIC DIDEHYDRO 3a,4,9,10-TETRAHYDRO-1H,3H-[1,2,3]OXADIAZOLO[3',4':1,6]PYRIDO[3,4-b]INDOL-3-ONES

Hans A. Wagner, Skokie, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 687,480, Dec. 4, 1967. This application May 7, 1969, Ser. No. 822,699
Int. Cl. C07d *31/40*
U.S. Cl. 260—295 **9 Claims**

Preparation of 1,2,3,4-tetrahydro-2-nitroso-9H-pyrido [3,4-b]indole-carboxylic acid and the meso-ionic didehydro 3a,4,9,10 - tetrahydro - 1H,3H-[1,2,3]oxadiazolo[3', 4':1,6]pyrido[3,4-b]indole-3-one intermediates to pepsin-inhibiting and anti-ulcerogenic 9,10-dihydro-4H-pyrazolo [1',5':1,6]pyrido[3,4-b]indole-2,3-dicarboxylic acids and esters are disclosed.

3,524,860
(2-IMIDAZOLIN-2-YL)ALKYL-SUBSTITUTED 7-AZAINDOLES

Noel F. Albertson, East Greenbush, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 697,620, Jan. 15, 1968, which is a continuation-in-part of application Ser. No. 529,207, Feb. 23, 1966. This application July 18, 1969, Ser. No. 843,212

Claims priority, application Great Britain, Feb. 2, 1967, 5,200/67

Int. Cl. C07d *31/42*

U.S. Cl. 260—296 **24 Claims**

A series of (2-imidazolin-2-yl)alkyl-substituted 7-azaindoles possessing vasoconstrictor activity are useful as topical agents for shrinking mucosal tissue. The compounds of the series are prepared by interaction of the appropriate cyanoalkyl-substituted 7-azaindole and an ethylene diamine in the presence of a small amount of carbon disulfide.

3,524,861
PHOSPHORYLATED BENZOFURAZANS

Johannes T. Hackmann, Enschede, Netherlands, and Derek A. Wood, Sittingbourne, Kent, England, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 487,062, Sept. 13, 1965. This application Feb. 2, 1967, Ser. No. 613,422

Claims priority, application Great Britain, Sept. 14, 1964, 37,449/64; June 24, 1965, 26,792/65

Int. Cl. C07f *9/12, 9/18*

U.S. Cl. 260—307 **4 Claims**

The following specification is drawn to novel dialkyl benzofurazanyl phosphates and phosphorothionates, and their use as insecticides.

3,524,862
(ISOXAZOLYL)(AMINO)-METHYL-TETRAHYDROANTHRACENES

Lloyd H. Conover, Quaker Hill, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Application July 27, 1967, Ser. No. 568,133, now Patent No. 3,409,616, dated Nov. 5, 1968, which is a continuation-in-part of application Ser. No. 277,081, May 1, 1963. Divided and this application Oct. 30, 1967, Ser. No. 679,256

Int. Cl. C07d *85/22*

U.S. Cl. 260—307.5 **9 Claims**

The total synthesis of 5a,6-anhydrotetracycline-type antibiotics by a multi-step process comprising: (1) the aldol condensation of a 3,4,10-trioxo-1,2,3,4,4a,9,9a,10-octahydroanthracene with (a) an ester of glyoxalic acid, or (b) a 3- and/or 4-substituted 5-formylisoxazole to produce the corresponding 2-carboxymethylidene-(I–A) or 2-[5′-(3′- and/or 4′-substituted) (isoxazolyl)methylidene] - 3,4,10 - trioxo - 1,2,3,4,4a,9,9a,10 - octahydroanthracene (II–A) aldol condensation products; (2) Michael reaction of the aldol condensation products with an amine to give the corresponding 3,4,10-trioxo-1,2,3,4,-4a,9,9a,10-octahydroanthracenes bearing an α-aminoacetic acid ester (I–B) or an isoxazolyl substituted aminomethyl group (II–B) at the 2-position; (3) selective reduction of the trioxo Michael reaction products to the corresponding 3-hydroxy compounds and thence to the 4,10-dioxo compounds, (4) aromatization of the 4,10-dioxooctahydroanthracenes at the 9,9a- and 10,4a-positions by bromination and dehydrobromination to the corresponding 4,10-dioxo-1,2,3,4-tetrahydroanthracenes; (5) the 4,10-dioxo-1,2,3,4-tetrahydroanthracene-2-(α-amino)acetic acids are converted to mixed anhydrides and then to acyl malonates; (6) the isoxazole ring of the 2-[5′-(isoxazolyl)(amino) methyl] - 4,10 - dioxo - 1,2,3,4 - tetrahydroanthracenes is cleaved to provide the corresponding acyl malononitriles, 4,10 - dioxo - 1,2,3,4 - tetrahydroanthracene 2[α-(amino) acetonyl]α-nitriles; (7) the acyl malonates and acyl malononitriles are cyclized to 12a - deoxytetracyclines which are then hydroxylated to 5a,6-anhydrotetracyclines.

The 3,4,10 - trioxo - 1,2,3,4,4a,9,9a,10 - octahydroanthracenes are prepared from benzoyl halides by (a) Friedel-Crafts reaction of a benzoyl halide with a pyrocatechol ether, e.g., a di-(lower)alkyl ether, to produce a 3,4-di-(lower)alkoxybenzophenone; (b) conversion of the benzophenone by partial or complete reduction of the carbonyl group by chemical or catalytic methods to a 3,4-di-(lower)alkoxydiphenylmethanol or 3,4-di-(lower) alkoxydiphenylmethane; or to a 3,4-di-(lower)alkoxydiphenylalkane via a Grignard reaction and reduction of the thus-produced alkanol; (c) oxidation of the 3,4-di-(lower) alkoxydiphenylalkane, or the corresponding dihydroxy compound, to a dienedioic acid ester or dienedioic acid; (d) hydrogenation of the dienedioic acid compound to a benzyl adipic acid derivative; (e) cyclization of said compound to a 2-(2-carbalkoxyethyl)-4-tetralone by means of dehydrating or dehydrohalogenating agents; (f) cyclization of the 4-tetralone derivatives by condensation with a dialkyloxalate to give a 2-carbalkoxy 3,4,10-trioxo-octahydroanthracene; and (g) removal of the 2-substituent by decarboxylation. The intermediates and final products are useful as bactericides and/or chelating agents.

3,524,863
9 - OXO - 2 - CYANO - 2,3[1H] - XANTHENEDICARBOXIMIDE COMPOUNDS AND PROCESS OF PREPARATION

Kenneth Robert Huffman and Edwin Fisher Ullman, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Oct. 24, 1966, Ser. No. 588,763

Int. Cl. C07d *27/52*

U.S. Cl. 260—326 **10 Claims**

New photochromic 9-oxo-2-cyano-2,3[1H]-xanthenedicarboximide compounds and a process for their preparation.

3,524,864
SULTONE ISOMERIZATION PROCESS

Joseph Rubinfeld and H. Leon Levinsky, Brooklyn, N.Y., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 14, 1966, Ser. No. 579,214

Int. Cl. C07d *89/06*

U.S. Cl. 260—327 **6 Claims**

Converting gamma sultones to delta sultones by concentrated sulfuric acid.

3,524,865
KALAMYCIN ALKYLATES AND ACYLATES

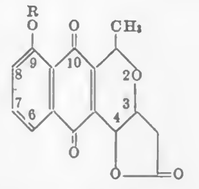
Herman Hoeksema, Cooper Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich, a corporation of Delaware

No Drawing. Filed Oct. 23, 1967, Ser. No. 677,060

Int. Cl. C07d *5/06*

U.S. Cl. 260—343.6 **4 Claims**

Kalamycin alkylates and acylates having the following formula:



wherein R is alkyl of from 1 to 16 carbon atoms, inclusive, and isomeric forms thereof, or wherein R is hydrocarbon carboxylic acid acyl of from two to eighteen carbon atoms, inclusive; halo-, nitro-, hydroxy-, amino-, cyano-, thiocyano-, and loweralkoxy-substituted hydrocarbon carboxylic acid acyl of from two to eighteen carbon atoms, inclusive; and loweralkoxycarbonyl. These kalamycin derivatives can be used as antifungal agents, for example, to inhibit the growth of *Cryptococcus neoformans* in pigeon roosts.

3,524,866
ALPHA-SUBSTITUTED BETA-LACTONES STABILIZED WITH AROMATIC DIAZONIUM SALTS

Arie Klootwijk, deceased, late of Purmerend, Netherlands, by Johanna Maria Klootwijk, personal representative, Purmerend, Netherlands, and Willem M. Wagner and Jannetje De Waal, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 29 1967, Ser. No. 687,419

Claims priority, application Great Britain, June 5, 1967, 25,838/67

Int. Cl. C07d *3/00*

U.S. Cl. 260—343.9 **3 Claims**

Stabilizing α-substituted β-lactones by intimately contacting the lactone with a minor amount of an aromatic diazonium salt of a complex fluoro acid represented by the formula

$$[Ar—N\equiv N]_n{}^+[AF_x]^{n-}$$

where Ar is an aryl group, A is the central atom in the complex fluoro acid anion, *n* is the valence of the anion and an integer from 1 to 4 and *x* is an integer from 4 to 8. The resulting stabilized compositions, comprising a β-lactone substituted on the alpha carbon thereof with from 1 to 2 alkyl substituents and a minor amount of the diazonium salt, are characterized by an enhanced stability during storage as shown by a reduced tendency toward autopolymerization.

3,524,867
PROCESS FOR PRODUCING CYCLOPENTA [b]PYRANS

Philip F. Beal III, Kalamazoo, Frank H. Lincoln, Jr., Portage, and John E. Pike, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Original application June 6, 1966, Ser. No. 555,283, now Patent No. 3,435,053, dated Mar. 25, 1969. Divided and this application Mar. 20, 1969, Ser. No. 809,046

Int. Cl. C07d *7/24*

U.S. Cl. 260—345.2 **3 Claims**

The invention is a process for making prostaglandin analogs of the dihydro-PG_1 and PG_1 series with the side chains both attached in alpha configuration, and intermediates useful for that purpose.

3.524,868
KALAMYCINIC ACID AND DERIVATIVES AND THEIR PRODUCTION

Herman Hoeksema, Cooper Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 677,038, Oct. 23, 1967. This application Nov. 9, 1967, Ser. No. 681,883

Int. Cl. C07d *7/20*

U.S. Cl. 260—345.2 **14 Claims**

Novel alkaline degradation product of the antibiotic kalamycin named kalamycinic acid, and alkyl and acyl derivatives thereof; dehydrokalamycinic acid and alkyl and acyl derivatives thereof; and 4-deoxy-4-halo derivatives of esters of kalamycinic acid, and processes for preparing the same. Also, a process for converting kalamycinic acid to kalamycin. The novel compounds of this invention have antifungal activity and can be used as antifungal agents.

3,524,869
TRIORGANOTIN (SUBSTITUTED PHENOXIDES)

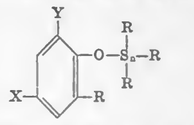
Pasquale P. Minieri, Woodside, N.Y., assignor to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed Feb. 28, 1968, Ser. No. 708,802

Int. Cl. C07f *7/22*

U.S. Cl. 260—429.7 **5 Claims**

Organotin compounds that have the structural formula



wherein each R represents an alkyl group having from 4 to 8 carbon atoms or a phenyl group; one of the X substituents represents an alkyl group having from 4 to 8 carbon atoms, phenyl, or menthyl; the other X substituent represents hydrogen, halogen, nitro, or an alkyl group having from 1 to 4 carbon atoms; and Y represents hydrogen, halogen, or nitro are useful in the control of the growth of undesirable organisms.

3,524,870
PREPARATION OF ALUMINUM MONOHYDRIDE DIETHOXIDE

Norman E. Matzek, Midland, and William H. Crawford, Gladwin, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 8, 1967, Ser. No. 688,993

Int. Cl. C07f *5/06*

U.S. Cl. 260—448 **1 Claim**

New organoaluminum compounds and their method of preparation wherein the compounds correspond to the formula

$$H_nAl[OC_2H_5]_{n'}$$

where *n* and *n′* are the integers 1 and 2 and wherein when either one of *n* or *n′* is 1 the other integer is 2.

The novel compounds are useful as reducing agents, especially in organic chemical reactions. They can also be used as an aluminum source material for the plating of metallic aluminum onto various substrate materials.

The compounds can be prepared by reacting aluminum ethoxide with aluminum trihydride in an inert solvent to obtain a mixture of said compounds and reacting ethanol and aluminum trihydride in an inert solvent to obtain aluminum monohydride diethoxide.

3,524,871
SEQUESTERING SOLVENT PROCESS FOR THE PRODUCTION OF METHYLENE BIS THIOCYANATE

Joseph Matt, Chicago, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed May 23, 1967, Ser. No. 640,558

Int. Cl. C07c *161/02*

U.S. Cl. 260—454 **8 Claims**

The present invention relates to an improvement in the general process of producing methylene bis thiocyanate (MT) by the following equation:

$$2AlkSCN + CH_2X_2 \longrightarrow \underset{(MT)}{CH_2(SCN)_2} + 2AlkX$$

where Alk=Na+K+.

It has now been found that the use of certain water-immiscible reaction solvents in percent by weight greater than any water or miscible reaction solvents used or added gives improved yields and freedom from polymer formation in the product. Although operable for many

hydrophobic or immiscible solvents of safe flash point and operable boiling point, it has been further found that the cyclic aromatics—benzene, toluene, xylene, and cymene (BTX solvents), give optimum results and superior polymerfree yields when compared with equivalent concentrations of water-miscible solvents, such as lower aliphatic alcohols, ketones, etc. Finally, where the BTX solvents are used in the range greater than 50% and less than 80% by weight of total solvent or in the optimum range of about 55–70%, optimum efficacy is attained in obtaining a superior off-white MT with an M.P. of 103–106° C.

Additionally, it has been found that in utilizing the present immiscible solvent system, it was optional but beneficial to neutralize the reaction mixture by adjusting the mixture from the reaction termination point of about a pH 2→about pH 6.6–7 to facilitate recovery of methylene bis thiocyanate (MT).

Finally, it has been found to be optional but beneficial to include in the reaction mixture an aromatic monocyclic diketone or diphenol such as a hydroquinone type stabilizer and oxidation inhibitor for bromine, HCN and other unwanted products of side reactions.

3,524,872

PRODUCTION OF METHYLENE BIS THIOCYANATE FROM AMMONIUM THIOCYANATE AND DIHALO METHANES

Joseph Matt, Chicago, Ill., assignor to Naico Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed May 15, 1967, Ser. No. 638,624
Int. Cl. C07c *161/02*
U.S. Cl. 260—454 **9 Claims**

The present invention relates to an improvement in the general process of producing methylene bis thiocyanate (MT) by the following equation:

$$\underset{\text{(AT)}}{2NH_4CNS} + CH_2X_2 \longrightarrow \underset{\text{(MT)}}{CH_2(SCN)_2} + NH_4X$$

3,524,873

PROCESS FOR PRODUCING α-ALKYLACRYLONITRILE

Naoya Kominami, Tokyo, Hitoshi Nakajima, Urawa-shi, and Masazumi Chono, Kitaadachi-gun, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan

No Drawing. Filed Dec. 20, 1967, Ser. No. 691,924
Claims priority, application Japan, Dec. 27, 1966, 42/84,729
Int. Cl. C07c *121/32*
U.S. Cl. 260—465.9 **2 Claims**

Process for the production of α-alkylacrylonitriles, comprising heating a cyano-terminated alkene (i.e. β-methylacrylonitrile, β-ethylacrylonitrile or allylnitrile) at a temperature of from 300 to 600° C. in the presence of at least one oxide, hydroxide, nitrate, carbonate or lower carboxylate of magnesium, aluminum, lithium, sodium, potassium, rubidium or cesium as catalyst alone or together with at least one alkali metal halide.

3,524,874

PROCESS FOR THE PRODUCTION OF PHENYLACRYLONITRILES

Naoya Kominami, Tokyo, Hitoshi, Nakajima, Urawa-shi, and Takeo Kimura and Tokio Sakurai, Tokyo, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan

No Drawing. Filed Dec. 20, 1967, Ser. No. 691,937
Claims priority, application Japan, Dec. 28, 1966, 42/85,418
Int. Cl. B01j *11/12;* **C07c** *121/70, 121/72*
U.S. Cl. 260—465 **7 Claims**

Process for the production of phenylacrylonitriles, comprising subjecting a gas mixture containing styrene or a derivative thereof, oxygen or a molecular oxygen-containing gas and hydrogen cyanide to a gas phase catalytic reaction at a temperature of from 100° to 500° C. in the presence of palladium, rhodium or one compound of palladium or rhodium.

3,524,875

PURIFICATION OF ACRYLONITRILE

David James Hadley, Epsom Downs, Anthony Richard Philpotts, Carshalton Beeches, and Alfred Frank Millidge, Coulsdon, England, assignors to BP Chemicals (U.K.) Limited, London, England, a British company

No Drawing. Continuation of application Ser. No. 628,837, Apr. 6, 1967. This application July 25, 1969, Ser. No. 848,398
Int. Cl. C07c *121/32*
U.S. Cl. 260—465.3 **9 Claims**

A process for the production of acrylonitrile monomer of improved quality by removal from the monomer of oxazole C_3H_3NO.

3,524,876

N,N-DIMETHYLOLCARBAMATES OF ETHER ALCOHOLS

James E. Gregson, Jr., Danville, Va., assignor to Dan River Mills, Incorporated, Danville, Va., a corporation of Virginia

No Drawing. Filed July 27, 1965, Ser. No. 475,269
Int. Cl. C07c *125/08;* **D06m** *13/36*
U.S. Cl. 260—482 **3 Claims**

Compounds of the formula

$$RO[CH_2CH_2O]_nCNH_2CNH_2$$
$$\qquad\qquad\qquad\qquad\qquad\qquad\quad \| \quad\quad \|$$
$$\qquad\qquad\qquad\qquad\qquad\qquad\quad O \quad\quad O$$

wherein R is an alkyl group having 1 to 6 carbon atoms and *n* is an integer of 1 to 10, formaldehyde condensates thereof, methods of crease proofing cellulosic fabrics with such condensates, novel cellulosic fabrics having such condensates cured thereon, novel mixtures of such condensates and triazone-formaldehyde condensates, and fabrics having such mixtures cured thereon.

3,524,877

METHOD OF PRODUCING KETO ACIDS

Klaus Haage, Berlin-Pankow, and Heinz Reinheckel, Berlin, Germany, assignors to Deutsche Akademie der Wissenchaften Zu Berlin, Berlin-Adlershof, Germany

No Drawing. Filed June 17, 1966, Ser. No. 558,227
Int. Cl. C07c *63/00, 53/00, 57/00*
U.S. Cl. 260—515 **12 Claims**

Saturated and unsaturated γ- and δ-keto acids are produced by reacting saturated or unsaturated dicarboxylic acid anhydrides with alkyl aluminum compounds followed by hydrolysis.

3,524,878

2,6-(α,α-DIBROMOMETHYL)BENZOIC ACID DERIVATIVES

Karl J. Doebel, Ossining, and John E. Francis, Pleasantville, N.Y., assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Original application Apr. 1, 1966, Ser. No. 539,294. Divided and this application Jan. 15, 1968, Ser. No. 720,428
Int. Cl. C07c *63/12*
U.S. Cl. 260—515 **2 Claims**

2,6-(α,α-dibromomethyl)benzoic acid, optionally substituted in the 4-position, is an intermediate in the synthesis of 8-aldehydo-1(2H)phthalazinone hydrozones.

3,524,879

POLYFLUORO NITRO AROMATIC COMPOUNDS

Paul Leslie Coe and John Colin Tatlow, Birmingham, England, assignors to Imperial Smelting Corporation (N.S.C.) Limited, London, England, a British company

No Drawing. Continuation-in-part of application Ser. No. 640,386, May 22, 1967. This application May 24, 1968, Ser. No. 731,722
Claims priority, application Great Britain, May 25, 1966, 23,353/66
Int. Cl. C07c *63/00, 79/12, 103/20*
U.S. Cl. 260—515 **20 Claims**

Good yields of highly fluorinated aromatic nitro compounds are obtained by nitrating highly fluorinated aromatic compounds having at least one hydrogen atom in at least one ring, the nitration being carried out by boron trifluoride and fuming nitric acid in the presence of a polar aprotic solvent, particularly sulpholane (tetrathiophen-1,1-dioxide). The method is used to prepare various new nitro compounds, having one or two aromatic rings, with (in some cases) other substituent groups in addition to fluorine and one or two nitro groups. For example, tetrafluoronitro-benzene substituted with bromine, iodine, alkyl, alkoxy, acetamido, amido, carboxyl or nitro groups and nitro- or dinitro-octafluorobiphenyl are disclosed. These compounds are useful as fungicides and bactericides and as intermediates.

3,524,880

PREPARATION OF PYRUVIC ACID

Lieng-Huang Lee, Midland, and Dan E. Ranck, Sanford, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 17, 1966, Ser. No. 558,277
Int. Cl. C07c *59/34*
U.S. Cl. 260—526 **4 Claims**

The aqueous hydrolysis of 2,2-dichloropropionic acid provides good yields of pyruvic acid when the pH of the reaction mixture is maintained below 6. The reaction is carried out at 75–125° C., preferably in the presence of an alkali metal or alkaline earth metal compound as an acid acceptor.

3,524,881

PHOSPHINIMINOSULFOXONIUM COMPOUNDS AND PROCESS FOR PREPARING THE SAME

Ted J. Logan, Colerain Township, Hamilton County, and Terence W. Rave, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Oct. 25, 1966, Ser. No. 589,208
Int. Cl. C07c *145/00*
U.S. Cl. 260—551 **6 Claims**

The phosphiniminosulfoxonium salts and a process for preparing these salts are disclosed. The phosphiniminosulfoxonium salts are useful as emulsifying, fabric softening and antibacterial agents.

3,524,882

PROCESS FOR THE PREPARATION OF 1,4-N,N'-TETRAMETHYLDIAMINOBUTENE-(2)

Albrecht Moschel, Kelkheim, Taunus, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Nov. 16, 1967, Ser. No. 683,461
Claims priority, application Germany, Nov. 23, 1966, F 50,732
Int. Cl. C07c *85/16*
U.S. Cl. 260—583 **4 Claims**

Improved process for the preparation of 1,4-N,N'-tetramethyldiaminobutene-(2) by reacting 1,4-dichlorobutene-(2) with dimethylamine, in which the reaction is carried out in a two-phase system consisting of an aqueous medium and a hydrocarbon.

3,524,883

LESS THAN FULLY ALKYLATED HYDROXY ALKYL ETHYLENE DIAMINE

Paul W. Kersnar and Samuel Taormina, San Francisco, Calif., assignors to Progressive Products Co., San Francisco, Calif., a corporation of California

No Drawing. Continuation-in-part of applications Ser. No. 640,389, May 22, 1967, and Ser. No. 652,183, July 10, 1967, the former being a division of application Ser. No. 476,193, July 30, 1965, and the latter being, in turn, a continuation-in-part of application Ser. No. 578,963, Sept. 13, 1966. This application July 15, 1968, Ser. No. 744,635
The portion of the term of the patent subsequent to Aug. 20, 1985, has been disclaimed
Int. Cl. C07c *89/02, 91/08, 91/12*
U.S. Cl. 260—584 **7 Claims**

Ethylene diamine is less than fully alkylated in the ratio of 1 mol with 2.5 to 3.5 mols of hydroxy alkyl groups of between 2–12 carbon atoms, thereby leaving free terminal hydrogen attached directly to at least some of the nitrogen of ethylene diamine for obtaining further reaction products useful as cleaning compositions and for ion sequestering.

3,524,884

INTRAMOLECULAR CYCLIZATION OF CIS-4-CYCLOOCTENE-1-CARBOXYLIC ACID CHLORIDE TO FORM BICYCLO[3.3.1]NONYL COMPOUNDS

Herbert C. Kretschmar, Greenhills, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 28, 1966, Ser. No. 597,226
Int. Cl. C07c *45/00, 49/00*
U.S. Cl. 260—586 **9 Claims**

The intramolecular cyclization of cis-4-cyclooctene-1-carboxylic acid chloride to form bicyclo[3.3.1]nonyl compounds is disclosed. The bicyclo[3.3.1]nonyl compounds are useful in perfume and flavor compositions.

3,524,885

PROCESS FOR THE PRODUCTION OF BENZALDEHYDES

Adolph J. Deinet, Woodcliff Lake, N.J., assignor to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed Dec. 26, 1967, Ser. No. 693,063
Int. Cl. C07c *47/54*
U.S. Cl. 260—599 **9 Claims**

In an improved process for the production of benzaldehyde and halogenated benzaldehydes, the appropriate benzal chloride is hydrolyzed in the presence of zinc phosphate at a temperature in the range of 130° to 135° C. In a preferred embodiment of the process, zinc oxide and phosphoric acid are added to the benzal chloride and the zink phosphate catalyst is formed in situ during the course of the hydrolysis reaction.

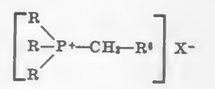
3,524,886

NOVEL PHOSPHONIUM HALIDES

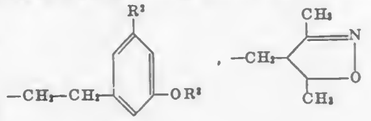
John H. Fried, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

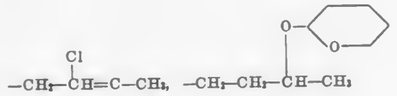
No Drawing. Filed Dec. 4, 1967, Ser. No. 687,477
Int. Cl. C07f *9/02*
U.S. Cl. 260—606.5 **7 Claims**

Phosphonium halides having the formula



wherein R_6 is a group having one of the formulas





and $-CH_2-CH_2-CH(OCH_3)_2$

These compounds are useful as intermediates for the conversion of enol lactones into α,β-unsaturated carbocyclic ketones useful in the total synthesis of steroids.

3,524,887
PROCESS FOR PREPARING SOLID SODIUM 2-HYDROXYETHYL MERCAPTIDE
John C. Summers, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 12, 1968, Ser. No. 697,312
Int. Cl. C07c *149/18*
U.S. Cl. 260—609 **8 Claims**

Process for preparing solid sodium 2-hydroxyethyl mercaptide from the aqueous molten salt, an antioxidant such as sodium sulfite being optionally present, by rapid crystallization which is favored by controlling the water to sodium 2-hydroxyethyl mercaptide molar ratio between 1.5–2.5 to 1. The solid obtained is then stabilized to reduce the hygroscopic nature of the final product.

3,524,888
ALKYL BENZENE HYDROPEROXIDE PREPARATION
Hans Dressler, Pitcairn, and Robert J. Lovin, Murrysville, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
No Drawing. Filed Nov. 14, 1967, Ser. No. 682,984
Int. Cl. C07c *73/06, 73/08*
U.S. Cl. 260—610 **7 Claims**

Increased rates of alkyl benzene hydroperoxide formation and increased conversion of polyalkyl benzenes to hydroperoxides result from the oxidation of alkylbenzene in the presence of an N,N-dialkylacetamide or sulfolane as solvent. These solvents enable easy separation of the hydroperoxide from the reaction mixtures. The hydroperoxides are useful as polymerization catalysts and as intermediates in the formation of tar acids.

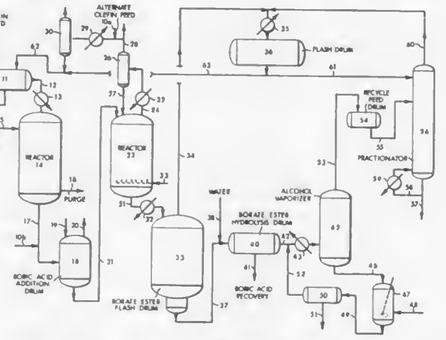
3,524,889
ALKANOL HEMIKETAL OF 2,2,2′,4′,5′-PENTACHLOROACETOPHENONE
Joseph W. Sims, Modesto, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 5, 1968, Ser. No. 757,765
Int. Cl. C07c *43/20*
U.S. Cl. 260—611 **2 Claims**

2,2,2′,4′,5′-pentachloroacetophenone is separated from a mixture of isomeric pentachloroacetophenones containing the 2,2,2′,3′,6′-isomer by reacting the mixture with a lower alkanol under acidic conditions to form selectively a novel hemiketal of the 2,2,2′,4′,5′-isomer, separating the hemiketal from the reaction mixture, and regenerating the pure 2,2,2′,4′,5′-pentachloroacetophenone.

3,524,890
CYCLOPENTADIENE ADDUCTS
Eugene F. Cox, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Continuation of application Ser. No. 458,431, May 24, 1965. This application Oct. 17, 1968, Ser. No. 769,479
Int. Cl. C07c *41/02, 27/00, 29/00*
U.S. Cl. 260—611 **5 Claims**

A vicinal epoxide is reacted with a cyclopentadiene in the presence of only a catalytic amount (not over 5%) of a base to produce adducts useful as polyols for making urethane polymers. The epoxide may be a monoepoxide, such as propylene oxide, a polyepoxide such as the dipoxides 3,4-epoxycyclohexymethyl 3,4-epoxycyclohexanecarboxylate or (1-bromo-3,4-epoxycyclohexane-1-yl)methyl 1-bromo-3,4-epoxycyclohexanecarboxylate, or a mixture of monoepoxide and diepoxide.

3,524,891
BORIC ACID OXIDATION PROCESS
Robert P. Cahn, Millburn, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Continuation-in-part of application Ser. No. 303,122, Aug. 19, 1963. This application Nov. 7, 1967, Ser. No. 681,143
Int. Cl. C07c *35/02, 35/08, 55/04*
U.S. Cl. 260—617 **13 Claims**

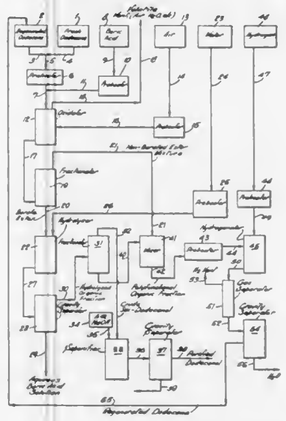


Saturated feeds, prepared by the hydrogenation of olefins or as paraffin extracts, are oxidized in the presence of boric acid to produce borate esters, the latter being separated from the reaction product by flashing; the borate ester recovered as bottoms is hydrolyzed to produce alcohols, while the overhead is hydrogenated, in conjunction with the saturated feed, and recycled to the oxidation stage, the alcohols prepared thereby being useful in the preparation of dibasic acids for use in polymerization reactions, or sulfonates for detergents.

3,524,892
HEXANEDIOL FROM CYCLOHEXANE
Theodore Horlenko and Hopkins W. Tatum, Corpus Christi, Tex., assignors to Celanese Corporation, a corporation of Delaware
No Drawing. Application Nov. 16, 1962, Ser. No. 238,293, now Patent No. 3,268,588, dated Aug. 23, 1966, which is a continuation-in-part of application Ser. No. 860,349, Dec. 18, 1959. Divided and this application Oct. 14, 1965, Ser. No. 509,242
Int. Cl. C07c *31/18*
U.S. Cl. 260—635 **7 Claims**

Hexanediol is produced by oxidizing cyclohexane with molecular oxygen to produce a mixture of difunctional carboxylice acids including predominantly adipic and ε-hydroxycaproic acids. This acid mixture is then esterified with an alkanediol, 1,6-hexanediol being particularly useful, following which the ester product is hydrogenated to form 1,6-hexanediol. Esterification with an alkanediol, as distinguished from prior art use of monohydric alcohols, allows use of non-catalytic low-pressure esterification conditions, and use of 1,6-hexanediol in particular simplifies processing in recovery of the product 1,6-hexanediol.

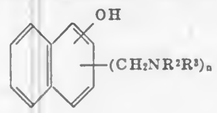
3,524,893
SECONDARY ALCOHOL MANUFACTURE
William P. Doyle, Lagrangeville, N.Y., Kenneth H. Gee, Cincinnati, Ohio, and Charles H. Ware, Jr., and Harry Chafetz, Poughkeepsie, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 22, 1967, Ser. No. 692,857
Int. Cl. C07c *29/12*
U.S. Cl. 260—639 **6 Claims**



The manufacture of secondary alkanol from normal paraffin of an ultraviolet light (UV) absorbency at 260–280 mμ of less than 1 comprising first contacting said n-paraffin with an oxygen containing gas in the presence of a boric acid selected from the group consisting of orthoboric acid and metaboric acid to form a crude oxygenated product, fractionating said oxygenated product to remove unreacted paraffins, ketones, carboxylic acids and other volatile oxygenates as a first overhead, leaving n-alkyl borate ester as a first residue, contacting said borate ester residue with water under hydrolysis conditions, fractionating the hydrolyzed product to recover said secondary alkanols as overhead and polyfunctional oxidates as a second residue, combining said first overhead with said second residue and contacting the resultant combination with hydrogen in the presence of a Group VIII metal hydrogenation catalyst at a temperature less than about 700° F. to form an n-paraffin product of a UV absorbency at 260–280 mμ of less than about 1 and recycling said n-paraffin product to said first contacting step.

3,524,894
INHIBITING POPCORN POLYMER FORMATION WITH TERTIARY AMINO NAPHTHOL COMPOUND
Harry Elmer Albert, Lafayette Hill, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed May 13, 1968, Ser. No. 728,770
Int. Cl. C07c *7/18;* **C08d** *5/00*
U.S. Cl. 260—666.5 **10 Claims**

Popcorn polymer formation in processes for preparing synthetic rubber is inhibited by contacting the monomers with a tertiary amino naphthol compound of the structure



where R^2 and R^3 are alkyl radicals, β-hydroxyalkyl radicals, and oxydiethylene when R^2 and R^3 together form a single radical; and n is 1 or 2.

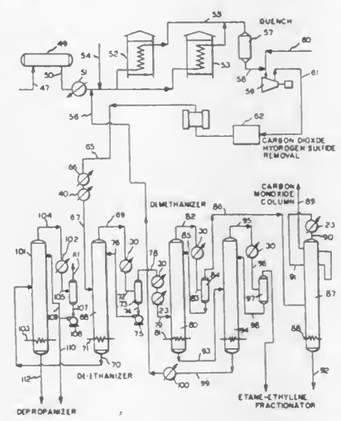
3,524,895
METHOD FOR SEPARATING TRANS FROM CIS ISOMERS
Nai Yuen Chen, Cherry Hill, and Stanley J. Lucki, Runnemede, N.J., assignors to Mobil Oil Corporation, a corporation of New York
No Drawing. Continuation of application Ser. No. 624,100, Mar. 17, 1967. This application June 19, 1969, Ser. No. 838,023
Int. Cl. C07c *11/00, 7/12*
U.S. Cl. 260—677 **3 Claims**

An improved separation of cis and trans hydrocarbon isomers is achieved by passing a mixture thereof through a crystalline aluminosilicate adsorption zone for a relatively short adsorption period. It has been found that the rate of adsorption of the cis isomer is substantially lower than the trans isomer and that trans isomers can be separated from mixtures thereof with cis isomers if the period of time allowed for adsorption is such that adsorption of the cis isomer by the aluminosilicate does not exceed 50 percent of the sorption capacity of the aluminosilicate.

3,524,896
DIOLEFIN ALKYLATION PROCESS
John E. Bozik, Pittsburgh, Harold E. Swift, Gibsonia, and Ching Yong Wu, Pittsburgh, Pa., assignors to Goodrich-Gulf Chemicals, Inc., a corporation of Delaware
No Drawing. Filed Dec. 26, 1968, Ser. No. 787,226
Int. Cl. C07c *3/10, 11/12*
U.S. Cl. 260—680 **16 Claims**

Process for alkylation of diolefins comprising reacting a diolefin and an olefin in contact with a catalyst system comprised of: (1) a cobalt salt, (2) an organometallic compound and (3) a 3,5-dioxa-1-phosphacyclohexane.

3,524,897
LNG REFRIGERANT FOR FRACTIONATOR OVERHEAD
Ludwig Kniel, Scarsdale, N.Y., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 316,048, Oct. 14, 1963. This application Oct. 17, 1968, Ser. No. 779,292
Int. Cl. F25j *3/08;* **C07c** *7/04*
U.S. Cl. 260—683 **4 Claims**



A process for producing ethylene and regasifying a natural gas to recover the cold potential thereof wherein

the caloric potential recovered by regasifying and superheating the natural gas is employed to meet the refrigeration requirements for both a demethanizer in the regasification plant and the separation and purification zones in the ethylene plant, with the bottoms recovered from the demethanizer being employed as feed to the ethylene plant.

3,524,898

HOMOGENEOUS DEHYDROGENATION OF PARAFFINS

Patrick D. Beirne, Farmington, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Oct. 29, 1968, Ser. No. 771,658

Int. Cl. C07c *5/18, 15/00;* **B01j** *11/12*

U.S. Cl. 260—683.3 **10 Claims**

Dehydrogenate C_{6-20} paraffins by contacting them with a carbonyl halide Group VIII transition metal complex such as $IrCl(CO)(PR_3)_2$ as a catalyst, at temperatures from 300° to 425° C., and optionally in the presence of a hydrogen acceptor.

3,524,899

CATALYST COMPOSITIONS

John Paton Candlin and Ronald Stanley McKenna, Runcorn, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Aug. 21, 1967, Ser. No. 661,772

Claims priority, application Great Britain, Sept. 8, 1966, 40,207/66

Int. Cl. C07c *5/02, 5/08*

U.S. Cl. 260—683.9 **5 Claims**

A catalyst composition for the homogeneous hydrogenation of ethylenically or acetylenically unsaturated compounds which comprises the product of reacting a ruthenium compound having a valency of two or more with a simple hydride of a metal of Group I–A or II–A or an element of Group III–B of the Periodic Table or a complex hydride containing more than one such metal or element.

3,524,900

SURFACE TREATING COMPOSITIONS

Robert Muir Gibbon, West Kilbride, and Edward Keith Pierpoint, Largs, Scotland, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed May 22, 1967, Ser. No. 640,360

Claims priority, application Great Britain, May 31, 1966, 24,226/66

Int. Cl. C08g *47/02;* **D21h** *1/28*

U.S. Cl. 260—825 **10 Claims**

Rapid curing compositions particularly suitable for paper treatment comprise a hydroxy ended diorganopolysiloxane, a mono-organopolysiloxane, an amino-alkoxy silicon compound and a tin curing agent in a solvent.

3,524,901

FLAME RETARDANT VINYL ESTERS CONTAINING ACRYLIC OR METHACRYLIC PHOSPHATE ESTERS

Daniel J. Najvar, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 22, 1968, Ser. No. 699,354

Int. Cl. C08g *45/04, 45/14;* **C07f** *9/02*

U.S. Cl. 260—835 **19 Claims**

Flame retardant thermosettable resins containing both phosphorus and halogen are prepared by reacting an unsaturated polyester with a polyepoxide resin, an unsaturated carboxylic acid and a reactive phosphate ester. The resin may be diluted with a polymerizable monomer to produce resins suitable for making reinforced plastic articles and the like.

3,524,902

REACTION PRODUCT OF POLYESTER OF A POLYOXYALKYLENE ETHER OF A DIHYDRIC PHENOL, AND AN UNSATURATED DICARBOXYLIC ACID WITH AN EPOXY COMPOUND AND AN UNSATURATED MONOMER

Joseph Feltzin and Frank T. Sanderson, Wilmington, Del., assignors to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 2, 1967, Ser. No. 643,071

Int. Cl. C08g *45/14*

U.S. Cl. 260—835 **14 Claims**

Process of improving the clarity, stability, and uniformity of unsaturated polyester composition-unsaturated monomer solutions by improving the solubility of unsaturated polyester compositions in unsaturated monomers. The process comprises reacting the carboxy salts present in the unsaturated polyester composition with an epoxy compound having a molecular weight from 44 to 1,000. The unsaturated polyester is prepared from equimolar proportions of an unsaturated dicarboxylic acid and a polyoxyalkylene ether of a dihydric phenol.

3,524,903

FLAME-RETARDANT VINYL ESTER CONTAINING ALKYL HYDROGEN PHOSPHATE RESIN AND A HALOGENATED EPOXIDE RESIN

Sampse R. Hargis, Jr., Brazoria, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 22, 1968, Ser. No. 699,321

Int. Cl. C08g *45/04;* **C07f** *9/02*

U.S. Cl. 260—837 **23 Claims**

A flame retardant vinyl ester resin incorporating both phosphorus and halogen is prepared from a mixture of polyepoxide resins, wherein at least one of which resins preferably is a halogen containing polyepoxide resin, an ethylenically unsaturated carboxylic acid and a flame retardant amount of certain alkyl hydrogen phosphate esters. Diluted with a polymerizable monomer, the vinyl ester resin is useful in preparing a variety of reinforced plastic objects, molded articles, etc.

3,524,904

GRAFT COPOLYMER PREPARATION VIA PEROXIDATION BY HIGH ENERGY IRRADIATION

Edmund F. Baxter, Jr., Cleveland Heights, Ohio, assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 858,563, Dec. 10, 1959. This application Mar. 17, 1966, Ser. No. 534,999

Int. Cl. C08f *27/00*

U.S. Cl. 260—877 **3 Claims**

This invention concerns the preparation of a graft copolymer wherein a peroxidizable polymer backbone is subjected to high energy radiation in the presence of oxygen at a temperature no greater than 40° F., and preferably at least as low as 32° F., after which the peroxidized polymer is heated in the presence of a selected monomer at a sufficiently high temperature to decompose the peroxide groups and effect the desired graft polymerization. The advance over the prior art is in use of the low temperature during the irradiation step, leading to improved yields and enhanced quality of graft copolymer. Examples of the invention include the grafting of N-vinyl pyrrolidone onto a backbone of a copolymer of vinyl acetate and mixed aliphatic alcohol esters of fumaric acid, and the grafting of vinyl pyrrolidone onto a backbone of polymethyl methacrylate.

3,524,905

POLYPROPYLENE-HYDROLYZED ETHYLENE/VINYL ESTER COPOLYMER BLENDS

John S. Coates, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 30, 1967, Ser. No. 686,845

Int. Cl. C08f *29/12, 37/18*

U.S. Cl. 260—897 **16 Claims**

Adhesive compositions, having superior peel strength, of isotactic polypropylene and hydrolyzed ethylene/vinyl ester (e.g., vinyl acetate) copolymers are disclosed. The hydrolyzed copolymer initially contains about 5–25 mole percent vinyl ester and is hydrolyzed to at least about 60 percent.

3,524,906

TRANSPARENT AND WEATHERABLE POLYMER BLENDS OF ACRYLATE POLYMERS AND POLYVINYLIDENE FLUORIDE

Joseph Michael Schmitt, Ridgefield, and Charles Hartley Miller, Jr., Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Oct. 10, 1967, Ser. No. 674,094

Int. Cl. C08f *29/12*

U.S. Cl. 260—900 **7 Claims**

Transparent and weatherable polymer blends of polymers of methyl methacrylate, polymers of ethyl acrylate and polyvinylidene fluoride and a method for their production are disclosed.

3,524,907

POLYFLUORO ALKYL ESTERS OF POLYMERIC PHOSPHONITRILIC ACID

Richard Frederick Stockel and George Robert Depaolo, Bridgewater Township, Somerset County, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Oct. 26, 1967, Ser. No. 678,180

Int. Cl. C07f *9/02;* **D06m** *1/00*

U.S. Cl. 260—926 **5 Claims**

Polyfluoro alkyl esters of polymeric phosphonitrilic acid (Formula I) having average molecular weights in the range of 5,000–10,000, a method for making the polymers, and the use of the polymers in oil and water repellent finishes for cellulosic textile materials.

$$\left[\begin{array}{c} OCH_2R_f \\ | \\ -P=N- \\ | \\ OCH_2R_f \end{array}\right]_n \quad \text{I}$$

R_f is a perfluoroalkyl group of at least two carbon atoms, preferably of at least three carbon atoms, and n is the number of units required for an average molecular weight between 5,000 and 10,000.

3,524,908

PHOSPHORAMIDES

Derek Redmore, St. Louis, Mo., assignor to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 25, 1966, Ser. No. 596,798

Int. Cl. C02b *1/18, 5/00;* **C07f** *9/24*

U.S. Cl. 260—959 **3 Claims**

Phosphoramides formed from esters of phosphorous acid, such as dialkyl or dialkynyl phosphites, and polyalkylene polyamines, useful in preventing corrosion of iron, steel and ferrous alloys in oil wells producing oil or oil-brine mixtures and also in the clarification of water containing suspended matter.

3,524,909

PREPARATION OF HYDROCARBON THIOALKYLENE PHOSPHITES

Harry Braus, Springdale, and Jay R. Woltermann, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,656

Int. Cl. C07f *9/08;* **C08f** *45/58*

U.S. Cl. 260—968 **12 Claims**

A process for the preparation of hydrocarbon thioalkylene phosphites is provided within a haloalkylene phosphite is reacted with an alkali metal mercaptide to form the hydrocarbon thioalkylene phosphite. The phosphites are thermal stabilizers for poly olefins.

3,524,910

SUSTAINED RELIEF ANALGESIC COMPOSITIONS

William M. Holliday, Madison, Murray Berdick, Branford, and Saul A. Bell, New Haven, Conn., and George C. Kiritsis, Richmond, Va., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 508,528, Nov. 18, 1965. This application June 9, 1969, Ser. No. 831,624

The portion of the term of the patent subsequent to Jan 6, 1987, has been disclaimed

Int. Cl. A61j *3/07, 3/10;* **A61k** *9/04*

U.S. Cl. 424—35 **3 Claims**

An oral sustained-release analgesic composition consists essentially of aspirin of specified size and shape encapsulated with a continuous thin coating of ethyl cellulose, the weight ratio of aspirin to ethyl cellulose being in the range from 22:1 to 50:1.

3,524,911

AEROSOL INSECTICIDAL COMPOSITIONS

Seymour Leavitt, Lincolnwood, Ill., assignor to Madison Chemical Corporation, Maywood, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 504,090, Oct. 23, 1965. This application Apr. 15, 1968, Ser. No. 721,181

Int. Cl. A01n *9/00, 9/36*

U.S. Cl. 424—45 **12 Claims**

An insecticidal composition in an aerosol spray container comprising a substantially nonaqueous mixture of a toxic concentration of a vaporizable insecticide which is volatile at ambient temperatures, and a substantially inert, foam-forming carrier exemplified by an unsaponified fatty acid which is normally solid at room temperatures. The inert, foam-forming carrier is characterized in that, upon spraying of the pressurized mixture from an aerosol spray container onto a surface, it is formed into a stable, substantially form-sustaining foam which maintains the insecticide carried thereby on the surface and retards the volatilization of the insecticide to an extent whereby the insecticide is released from said foam in toxic concentrations at a controlled rate over a prolonged period at ambient temperatures. The insecticide is preferably present in the carrier in its applied form in a concentration of from about 5% to about 50%, by weight.

3,524,912
VETERINARY COUGH MEDICINE
Reginald George Withycombe, Alscot Park, Stratford-on-Avon, Warwickshire, England
No Drawing. Filed Jan. 27, 1967, Ser. No. 612,082
Claims priority, application Great Britain, Feb. 25, 1966, 8,431/66
Int. Cl. A61k *27/00*
U.S. Cl. 424—150 **2 Claims**

The specification describes a veterinary cough medicine comprising sulphanilamide, iodine and an orally-ingestible carrier such as black treacle.

3,524,913
GEL FORMING ALUMINUM HYDROXIDE OF LOW ORDER OF REACTIVITY
Herbert T. Snyder, Morris Plains, and Arthur J. Sikora, Bernardsville, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
No Drawing. Filed Apr. 23, 1965, Ser. No. 450,514
The portion of the term of the patent subsequent to July 30, 1985, has been disclaimed
Int. Cl. A61k *27/00*
U.S. Cl. 424—157 **6 Claims**

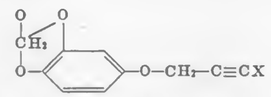
A method is described for producing gel forming aluminum hydroxide of a low order of reactivity. The process comprises the steps of (A) reacting aluminum sulfate and an alkali metal hydroxide at a temperature of from about 50° C. to about 60° C. for a period of about 1 to 5 minutes in an aqueous reaction medium having a pH of about 8.2 to about 8.9; (B) diluting the reaction slurry, obtained in Step (A), with water and aging the slurry, so diluted, for a period of from about 45 minutes to about 2 hours at a temperature of from about 50° C. to about 90° C.; and (C) filtering the aged slurry, obtained in Step (B), to recover the gel forming aluminum hydroxide.

3,524,914
COMPOSITIONS AND METHODS USEFUL IN THE TREATMENT OF SARCOMA 180 IN MICE
Roy L. Whistler, West Lafayette, Ind., assignor to Purdue Research Foundation, Lafayette, Ind., a not-for-profit corporation
No Drawing. Filed Nov. 14, 1967, Ser. No. 682,976
Int. Cl. A61k *27/00*
U.S. Cl. 424—180 **6 Claims**

Methods and compositions incorporating the polysaccharide hemicellulose B prepared from wheat straw for the treatment of sarcoma 180 in mice, are described. The conventional preparation of hemicellulose B from wheat straw is also described.

3,524,915
SYNERGISTIC INSECTICIDAL CARBAMATES WITH 3,4 - METHYLENEDIOXYPHENYL-3-HALO-2-PROPYNYL ETHERS
Josef Fellig, Glen Rock, and Albert Israel Rachlin, Verona, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 531,371, Mar. 3, 1966. This application Sept. 16, 1968, Ser. No. 760,057
Int. Cl. A01n *9/02, 9/24*
U.S. Cl. 424—282 **13 Claims**

Synergistic insecticidal compositions comprising a compound of the formula



(I)

wherein X represents hydrogen, iodine, bromine or chlorine, together with an insecticidal carbamate are disclosed

3,524,916
GRISEOFULVIN-ETHYLENE GLYCOL MONOSALICYLATE COMPOSITIONS
Hiroyuki Mima, Hyogo, Etsunosuke Noda and Tolchiro Matsuzaki, Osaka, Masayuki Yamada, Hyogo, and Yoko Nishida, Osaka, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan
No Drawing. Filed July 6, 1967, Ser. No. 651,392
Claims priority, appplication Japan, July 7, 1966, 41/44,902, 41/44,903
Int. Cl. A61k *21/00*
U.S. Cl. 424—285 **2 Claims**

Ethylene glycol monosalicylate is a good solvent for effective amounts of griseofulvin. The resultant compositions, which may be in gel form when a gelation agent is incorporated into the solution, are stable potency-wise and composition-wise for a long period of time. The compositions, as solutions or as gels, are effective in the topical therapy of athlete's foot.

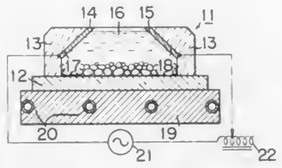
3,524,917
TABLETS OF MAGNESIUM PROBENECID TETRAHYDRATE
David J. Morgans, North Wales, Joseph F. Bavitz, Willow Grove, and Robert A. Castello, Doylestown, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 722,821, Apr. 7, 1968. This application Feb. 10, 1969, Ser. No. 798,108
Int. Cl. A61k *27/00*
U.S. Cl. 424—317 **1 Claim**

Pharmaceutical tablets containing magnesium probenecid tetrahydrate.

ELECTRICAL

3,524,918
ELECTRICALLY-HEATED GLASS-MELTING APPARATUS
Eizo Goto, Chigasaki-shi, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Aug. 29, 1968, Ser. No. 756,226
Claims priority, application Japan, Sept. 4, 1967, 42/56,527; Jan. 10, 1968, 43/882; July 5, 1968, 43/46,525
Int. Cl. C03b *5/02*
U.S. Cl. 13—6 **11 Claims**

Electrically-heated glass-melting apparatus comprising a bath to accommodate molten glass therein, a pair of electrodes disposed at the opposite inner sides of the bath to concentrate passage of electric current at the surface region of the molten glass, a cooling means provided at said bath bottom to cool the lower layer of the



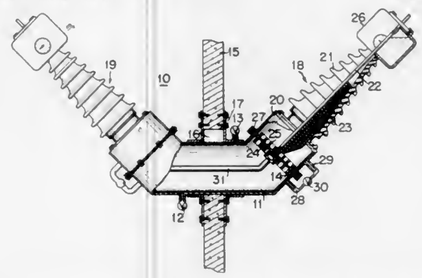
glass, and a power supplying means connected across said electrodes.

ERRATA

For Class 13—6 see:
Patent No. 3,524,206

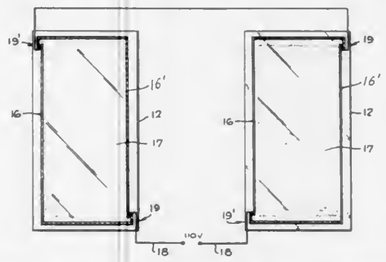
For Classes 84—1.13 and 84—1.25 see:
Patent Nos. 3,524,375 and 3,524,376

3,524,919
INSULATING BUSHING FOR HIGH TENSION CONDUCTORS
Motoyuki Oishi, Tokyo, Japan, asssignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Dec. 5, 1968, Ser. No. 781,416
Claims priority, application Japan, Dec. 8, 1967, 42/78,397
Int. Cl. H01b *17/26*
U.S. Cl. 174—15 **7 Claims**



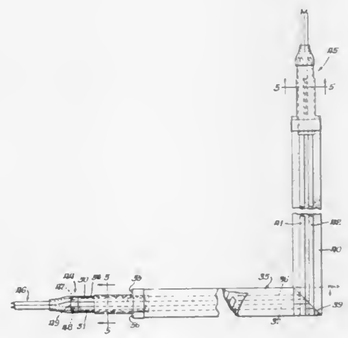
A cylindrical metal casing open on both sides to connect a pair of insulating tube assemblies and having an oil supply valve and oil discharge valve positioned on the upper and lower sides respectively is inserted through a hole bored in the walls, for example, of an indoor substation. A pair of insulating tube assemblies each consisting of an insulating tube embedded in a base member formed of another metal casing and a central conductor housed in said insulating tube are provided, and the openings of both base members, respectively, communicate with both openings of the first-mentioned cylindrical casing with an insulating spacer interposed therebetween. Central conductors encased in the insulating tubes of both base members are connected together by a cable housed in the aforementioned cylindrical metal casing, and the interior of said cylindrical metal casing and those of both base members communicate with each other through an oil path provided on the outside.

3,524,920
CIRCUIT BREAKER FOR CONDUCTIVE-COATED GLASS
Michael E. Stromquist, Studio City, and James J. Heaney, Glendale, Calif., assignors to Anglass Industries, Inc., San Francisco, Calif., a corporation of California
Filed Feb. 16, 1968, Ser. No. 706,184
Int. Cl. H05b *3/46;* **H05k** *1/10*
U.S. Cl. 174—68.5 **3 Claims**



A safety device for a refrigerator door containing a conductive-coated tempered glass panel, in which the bus bar used to supply current to the conductive coating is frangibly bonded to the glass and arranged to surround the edges of the glass completely to form a continuous breakable current carrying barrier between the coating and the edges of the glass.

3,524,921
TWO-LEAD STRIP CABLE AND SLIDING CONNECTOR THEREFOR
Leo Wolf, 5701 Sheridan Road, Chicago, Ill. 60626
Filed June 7, 1968, Ser. No. 735,280
Int. Cl. H01b *7/08*
U.S. Cl. 174—70 **2 Claims**

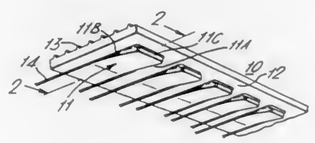


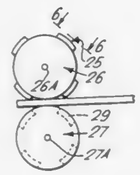
An electrical cable for attachment to an exterior surface and concealable therewith by painting or papering includes a thin, flat tape having one side coated with pressure-sensitive adhesive and the other side having a paintable surface. First and second continuous, thin, flat metal-foil conductors are secured to and extend longitudinally of the adhesive-coated side of the tape. The conducting strips are separated from each other and laterally spaced inward of the edges of the tape to define three parallel bands of exposed adhesive-coated tape for securing the same to a surface. A release strip is attached to the exposed adhesive-coated bands of the tape when packaged. A connector for the strip cable includes a stiff contact board with first and second elongated strip contacts of similar width as the conductors on the tape and spaced to register with them. A conventional two-wire conduit may have one wire attached, soldered, or welded to each of the contacts of the connector; and a receptacle is formed for slidably receiving the contact board by securing flaps cut from the tape to the back of a rigid board having a width at least as great as the contact board.

3,524,922
RADIANT HEAT CABLE SUPPORT
Stanley E. Johnson, 151 Slater St., Ottawa 4, Ontario, Canada
Filed Nov. 27, 1967, Ser. No. 685,906
Int. Cl. H01b *17/00;* **H05b** *3/22;* **B26d** *1/44*
U.S. Cl. 174—138 **6 Claims**

An extruded relatively thin anchor strip for radiant heat cable having tabs for anchoring the cable, which tabs are formed by arcuate cuts located inwardly from the marginal edges of the strip and in longitudinal alignment at selected spaced positions along the strip. The tabs have a free end portion overlapping the remainder

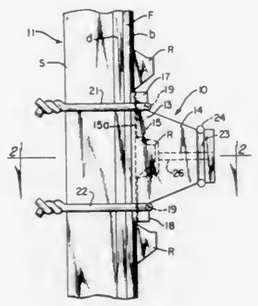
of the body of the strip to retain the tabs in offset relation facilitating entry of the cable. The tabs further include notches to receive the pointed end of a tool for moving the tab out of the plane of the remainder of the strip. The strip is tapered in cross-section conserving on material and has ribs on one face to facilitate adhesively securing the strip to a wall. The strip is extruded and





while being extruded, the tabs are punched in successive relation by passing between a rotatably mounted die and rotatably mounted mandrel. The die has one edge thereof appropriately shaped to provide an angle cut in the strip whereby the free end portion of the tabs is struck outwardly from the strip and have a tapered portion overlapping the remainder of the body of the strip to retain the tabs in the above-mentioned offset relation.

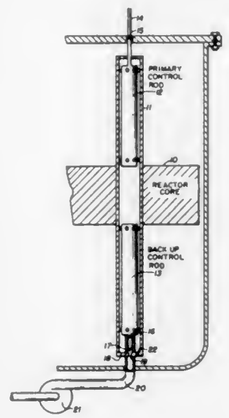
3,524,923
FENCE POST INSULATOR
Rhinhold J. Zeeb, Lesterville, S. Dak. 57040
Filed Feb. 6, 1969, Ser. No. 797,152
Int. Cl. H01b *17/16, 17/24*
U.S. Cl. 174—163 **1 Claim**



A fence post insulator particularly suited for mounting on T-shaped metal fence posts to support electric fence wire has a relatively broad base and a narrower cantilever portion which projects outwardly from the base. The base has a recess to fit over a rib on the fence and fits between two adjacent ribs. Oppositely disposed attachment flanges on the base facilitate its attachment to the metal post and a central longitudinal hole receives a spike for its attachment to wood posts.

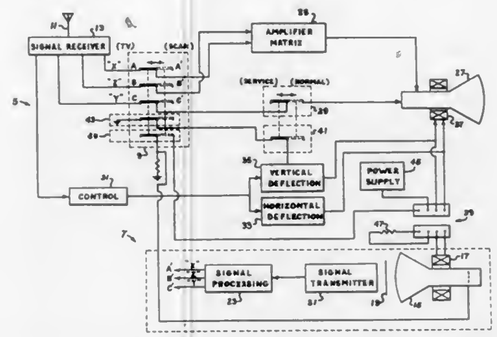
3,524,924
BACKUP CONTROL ROD SYSTEM
John H. Germer, San Jose, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed July 16, 1968, Ser. No. 745,262
Int. Cl. G21c *7/16*
U.S. Cl. 176—36 **6 Claims**

A backup control rod arrangement which functions to shut down a nuclear reactor in the event of failure of the primary control system. During normal operation of the reactor, the backup control rod is maintained in a position beneath the reactor core by suction produced by an electro-magnetic pump or the like. Upon failure of the primary control system or other desired shut down of the reactor, the pump is reversed or inactivated and the control rod is allowed to float upwardly into the reactor core due to the backup rod being less dense than the coolant in the core, which, for example, may be sodium. In addition, the reverse flow of fluid from the electromagnetic pump may be utilized to force the backup rod into the core.

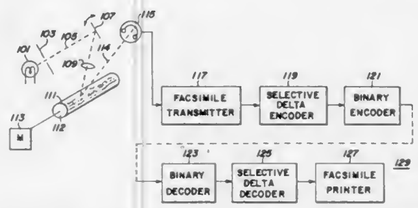


3,524,925
PROTECTION CIRCUITRY
George Cleveland Waybright, Batavia, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed July 23, 1968, Ser. No. 746,988
Int. Cl. H04n *5/44, 7/00*
U.S. Cl. 178—5.4 **14 Claims**

In a reproduction system having electrical to optical and optical to electrical signal transducer means providing a visual display of signals derived from television signals and photographic film, a protection circuit for the optical to electrical signal transducer includes series connected first and second switching means for selectively coupling and decoupling a deflection signal source and a potential reference level and a detachment means and switching means series connected for selective coupling and decoupling of a power supply and an electrode of a flying spot scanner tube of the optical to electrical signal transducer and a deflection signal source and deflection apparatus associated with the flying spot scanner tube.



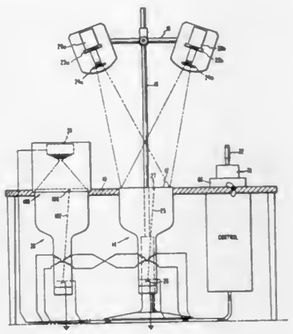
3,524,926
SYSTEM FOR DELTA ENCODING AT SELECTED INTERVALS
Arthur T. Starr, New Barnet, Peter James Greaves, Harrow, and Peter F. T. C. Stillwell, Aldershot, England, assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Aug. 10, 1966, Ser. No. 571,507
Claims priority, application Great Britain, June 15, 1966, 26,808/66
Int. Cl. H04n *7/12*
U.S. Cl. 178—6 **4 Claims**



A modified delta encoding technique for periodically purging streaking errors and reducing the number of binary digits required to represent a given message in a graphic communication system. Apparatus is disclosed which compares a second line of data with a first line and just the difference therebetween is transmitted. In a first embodiment every Nth line is transmitted without modification by the delta encoding apparatus. A second embodiment arbitrarily divides the line into N segments and send raw data for successive N segments of subsequent scan lines. These embodiments limit the noise propagation to the maximum of N lines of information.

3,524,927
ELECTRONIC AID FOR PRODUCING VISUAL CONTOUR
Clyde E. Le Fevre, North Hollywood, Clarence R. Linsley, La Crescenta, Phil M. Salomon, Sunland, and Melvin I. Smokler, Van Nuys, Calif., assignors to Singer-General Precision, Inc., a corporation of Delaware
Filed Jan. 15, 1964, Ser. No. 337,939
Int. Cl. H04n *7/18*
U.S. Cl. 178—6.8 **13 Claims**

A contour plotting apparatus in which a stereo contour model projected against the screen of a first CRT is traced by the cathode ray beam which is manually controlled by a joy stick control which, when released, will not affect the last position of the cathode ray beam. A second CRT operating in synchronism with the first CRT reproduces the cathode ray tracing of the first CRT and is photographed to produce a permanent record.



3,524,928
HIGH SPEED OPTICAL SCANNING SYSTEM
Thomas A. Hoskins, Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Aug. 6, 1968, Ser. No. 750,599
Int. Cl. H04n *1/04*
U.S. Cl. 178—7.6 **7 Claims**

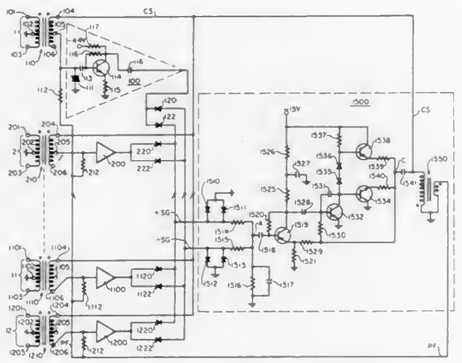


A document scanning system is described which allows successive scans to occur in rapid succession. This is accomplished by having two image projectors for scanning the document surface and a selecting means to determine which of the two optical paths will be focused upon the image recording surface. While one image projector is performing a line by line scan operation, the second image projector is returning to a start position so as to be ready for the next scanning operation. Successive scan operations alternately select the optical path of one of the two image projectors.

3,524,929
TELEPHONE CONFERENCE CIRCUIT
Robert V. Burns, Tinley Park, and Robert T. Cleary, Lockport, Ill., assignors to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed June 29, 1967, Ser. No. 649,956
Int. Cl. H04m *3/56*
U.S. Cl. 179—1 **5 Claims**

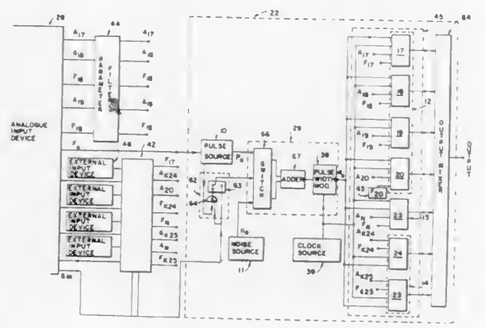
A circuit for interconnecting a plurality of telephone lines includes an amplifier common to the lines for amplifying signals incoming from a transmitting line and

for returning the amplified signals to the other lines. A plurality of diode gate circuits, each individual to one of the lines and connected between the corresponding line and the common amplifier input, separate the positive from the negative portions of the signals on each line and then pass only the signals incoming from the lines to the



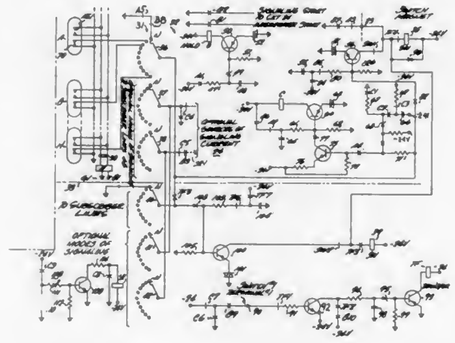
common amplifier input where the signals are reassembled. A feedback technique is used to permit discrimination between a signal incoming from or outgoing to one of the lines by causing the signal at the input of the gate connected to the transmitting line to be of greater amplitude than, but of the same phase as, the signal at the input of the gates connected to the receiving lines.

3,524,930
RESONANCE SYNTHESIZER FOR SPEECH RESEARCH
Donald A. Glace, Laurel, Md., and Ignatius G. Mattingly, Storrs, Conn., assignors to the United States of America as represented by the Secretary of the Army
Filed July 8, 1968, Ser. No. 743,138
Int. Cl. G10l *1/00*
U.S. Cl. 179—1 **30 Claims**



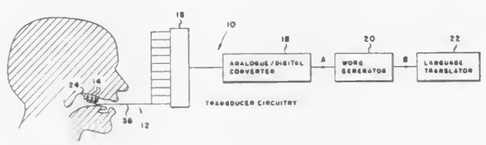
In a resonance synthesizer for speech research, an input is fed to the speech synthesizer means from an analog input device wherein the selected parameters, those essential to all speech, are fed directly to the synthesizer means after filtering out generation transients and those other parameters which are generated are fed to a parameter switch which selects those parameters which are necessary for the speech output desired so that less than all the parameters generated are passed to the synthesizer means. The synthesizer means has two excitation circuits and three spectrum-shaping circuits, commonly referred to as resonance circuits.

3,524,931
MINIATURE INTERCOMMUNICATION KEY TELEPHONE SYSTEM
Delmar G. Cartwright, Edmonton, Alberta, and Edouard Pinede, Montreal, Quebec, Canada, assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 23, 1967, Ser. No. 617,891
Int. Cl. H04m *9/00*
U.S. Cl. 179—1 **4 Claims**



A miniature dial intercommunication system for use with key telephone systems features lamp flashing and repeated ringing. Electronically driven relays operate a miniature stepping switch. Circuitry is provided to enable use of the 1 digit as a station signal.

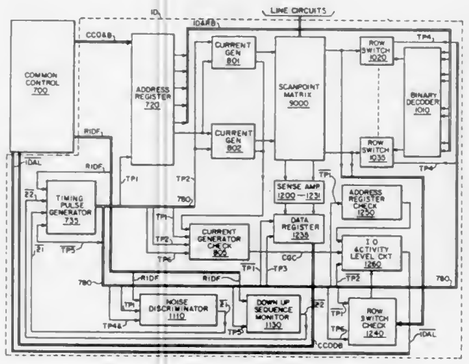
3,524,932
PHYSIOLOGICAL COMMUNICATIONS SYSTEM
Frank F. Stucki, Palo Alto, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Sept. 10, 1968, Ser. No. 758,791
Int. Cl. G10l *1/08*
U.S. Cl. 179—1 **10 Claims**



A communications system including transducers in the mouth connecting with analog-digital circuitry for accurate low noise communications without acoustic or manual components. Verbal signals are electronically transmitted by detecting the tongue-palate pressure of the speaking person at a plurality of spaced analog pressure transducers in the mouth and then converting and weighting these analog signals into a digital signal in an analog-digital converter. This digital output signal may be directly applied to a letter generator or command signal generator. Further, the letter generator may be connected to a language translator or voice synthesizer.

3,524,933
LINE CIRCUIT SCANNER FOR ELECTRONIC TELEPHONE SYSTEMS
Frank A. Risky, Cicero, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Sept. 14, 1967, Ser. No. 667,791
Int. Cl. H04q *3/42*
U.S. Cl. 179—18 **9 Claims**

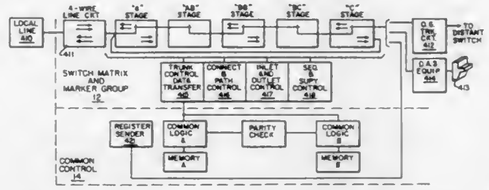
A subsystem for monitoring a plurality of line circuits in a telephone switching comprises a plurality of magnetic



sensing elements arranged in a matrix array and each individually connected to one of the circuits being monitored; matrix access circuits including an address register, a plurality of current generators and a plurality of row switches, combinations of which permit the application of interrogate pulses to each row of elements in the matrix; and a timing pulse generator. In response to the receipt of a distinct read command or start signal from the common control the timing pulse generator latches up and generates a number of separate timing pulses which are chronologically related to each other and to the start signal. Once the start signal has been received these pulses precisely sequence the operation of the subsystem and, in particular, control the accessing and the readout of the matrix during an interrogate cycle, the results of the interrogation being returned to the common control. The subsystem further includes circuits which, under the control of the aforementioned timing pulses, monitor the cable by which the common control read command is received and determine the duration of the read command and the interval between successive read commands to provide noise immunity for the subsystem. In addition, subsystem circuits monitor, again under the control of the above timing pulses, the address register, the current generators and the row switches to provide an indication to the common control that they are functioning properly.

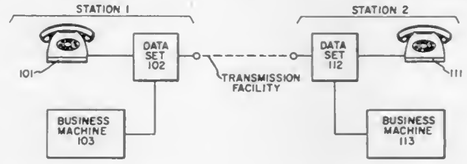
3,524,934
PRIORITY CALLING COMMUNICATION SYSTEM TRUNK CIRCUIT
Lester L. Smith, McHenry, and William C. Miller, Glenn Ellyn, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Sept. 25, 1967, Ser. No. 670,032
Int. Cl. H04m *3/38*
U.S. Cl. 179—18 **8 Claims**

A communication switching system having a plurality of exchanges of the common control type interconnected by trunk lines terminated at each exchange in the trunk circuit. The trunk circuit includes facilities for recognizing and for forwarding particular types of supervisory signals constituting an indication of the preemption of the facilities for a higher priority message, forwarding this signal to tandem connected exchanges and then drop-



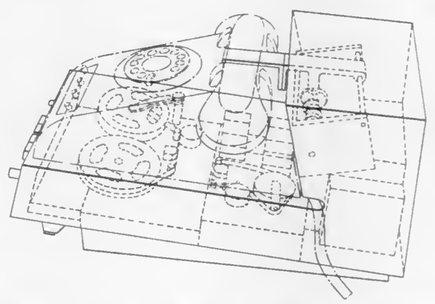
ping the switching matrix path and connector itself to the common control equipment for further processing.

3,524,935
DATA TRANSMISSION SUBSET WITH MODE INDICATING AND SELECTION MEANS
Leonard E. Gonsewski, Morton Grove, and Richard A. Morstadt, Elmhurst, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Dec. 19, 1967, Ser. No. 691,857
Int. Cl. H04m *1/00*
U.S. Cl. 179—81 **4 Claims**



Apparatus for connecting data processing equipment to switched voice frequency communication channels, including equipment for transmission and reception of frequency shift keyed signals and conversion to serial binary signals for use with data processing systems, and equipment for transmission and reception of voice signals, with provision for visual indication of data mode operation.

3,524,936
AUTOMATIC TELEPHONE ANSWERING DEVICE HAVING REMOTE CONTROL AND CONFERENCE CALL CAPABILITY
James J. Hill, Miami, Fla., assignor, by mesne assignments, to World-Wide Electronics, Inc., Miami, Fla., a corporation of Florida
Filed Nov. 10, 1964, Ser. No. 410,112
Int. Cl. H04m *1/00, 1/20, 1/64*
U.S. Cl. 179—6 **16 Claims**



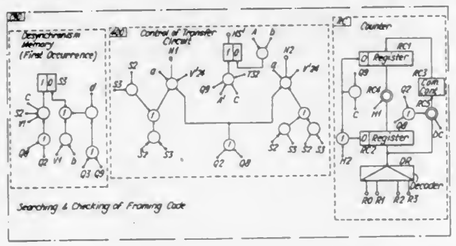
A telephone answering and automatic callback system arranged to be associated with a telephone and to be inductively coupled with the telephone receiver and transmitter, the system being constructed to transmit a prerecorded message to callers and to record messages left

by the callers, and being further constructed to automatically play back the recorded received messages to a caller at a distant telephone upon receipt of a call back code message from that distant telephone and to automatically terminate play back of the recorded messages when all of the messages thus far recorded have been played.

3,524,937
SYNCHRONIZATION CIRCUITS IN A PCM CENTRAL EXCHANGE

Michel Jean Herry, Aulnay-sous-Bois, and Jean Leon Roger Jamet, Paris, France, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 8, 1967, Ser. No. 621,691
Claims priority, application France, Mar. 9, 1966, 52,687
Int. Cl. H04j *3/06*
U.S. Cl. 179—15 **8 Claims**

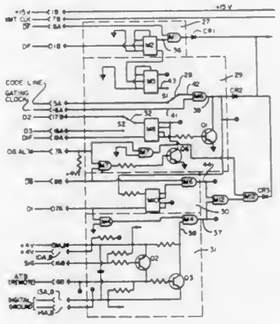


A circuit for restoring synchronism to a PCM telecommunication system performs, in sequence: (1) a frame code check to find desynchronism, (2) a frame search to identify the source of trouble, and (3) a frame correction for modifying the storage of data to cause a lead or lag correction for restoring synchronism. This allows (1) binary word messages to be transmitted in parallel through the switching stages, (2) synchronism of pulse and frame independently of each other, and (3) normal operation under conditions of ambiguous synchronism test results.

3,524,938
OUTPUT CIRCUIT FOR PULSE CODE MODULATION TIME SHARING SYSTEM

Frank Stuart Boxall, Menlo Park, Calif., assignor to Vicom Corporation, Mountain View, Calif., a corporation of California

Filed Nov. 21, 1966, Ser. No. 595,773
Int. Cl. H04j *3/14*
U.S. Cl. 179—15 **8 Claims**

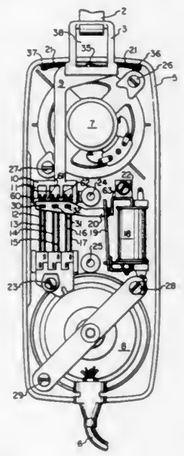


A PCM output circuit provides a test pattern which replaces the normal seven bit speech code by a code containing all 1's for two frames and all 0's for the next two frames. A blocking circuit removes the eighth bit of a word to provide a time slot for signalling. A zero code suppressor prevents the generation of a seven 0 code by placing a 1 in the seventh bit of a speech word. Zero code suppression is also used during terminal line up to set the coder reference voltage.

3,524,939
INTERCOMMUNICATING TELEPHONE WITH SECRECY ARRANGEMENT

Leopold G. Vlaminck, Antwerp, Belgium, assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed Sept. 6, 1968, Ser. No. 757,892
Int. Cl. H04m *1/08*
U.S. Cl. 179—17 **6 Claims**



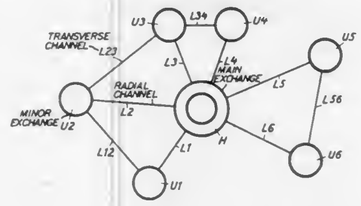
A common talking circuit intercommunicating telephone system, wherein each telephone instrument includes a wall-mounted base and a handset. The handset comprises a receiver, transmitter, switchhook linkage, individual handset relay and a contact group. On a call from the main station to a desired telephone, the handset relay and a single relay common to the entire system are operated, with the handset relay locking itself operated and partially operating the associated contact group, and the common relay momentarily operating to open all other handset relay locking circuits to insure that none of these relays are operated. Removal of the handset of the called telephone allows the hook-switch linkage to completely operate the contact group for connecting the called telephone with the common talking circuit. Since none of the other handset relays are operated, removal of any of the other handsets only partially operates the contact group, and thus does not connect the handset circuit to the common talking circuit, thereby providing secrecy of the existing conversation.

3,524,940
TELEPHONE PLANT WITH SATELLITE EXCHANGES CONNECTED BY RADIAL AND TRANSVERSE CHANNELS

Nils Herbert Edstrom, Vallingby, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed Oct. 17, 1966, Ser. No. 587,094
Claims priority, application Sweden, Nov. 2, 1965, 14,115/65
Int. Cl. H04m *3/54, 3/60*
U.S. Cl. 179—18 **3 Claims**

A telephone plant or system includes a main or central exchange and a plurality of minor or satellite exchanges. Radial channels connect the central exchange to each of the satellite exchanges. In addition, there are transverse channels between pairs of satellite exchanges. A data machine or computer at the central exchange controls switching between the central exchange and each of the satellite exchanges by the use of address information associated with each of the satellite exchanges. Synchronizing signals between the central and satellite exchanges are used by

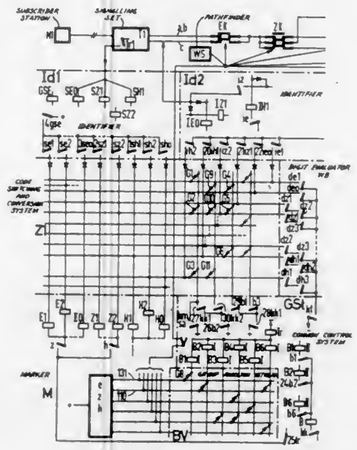


the latter to indicate to the latter that there is a fault-free connection to the central exchange. When such a connection opens, the associated satellite exchange establishes a connection via a transverse channel to another satellite exchange so that the satellite exchange is now connected to the central exchange via the transverse channel and the radial channel of the other satellite exchange.

3,524,941
TELEPHONE EXCHANGE SYSTEM WITH FACILITY FOR SHORT IDENTIFICATION CODE DIALING

André Friese, Gauting, near Munich, and Artur Nagel, Germering, near Munich, Germany, assignors to Siemens Aktiengesellschaft, Berlin and Munich, Germany

Filed Dec. 27, 1966, Ser. No. 604,761
Claims priority, application Germany, Dec. 29, 1965, S 101,238
Int. Cl. H04m *3/44*
U.S. Cl. 179—18 **9 Claims**

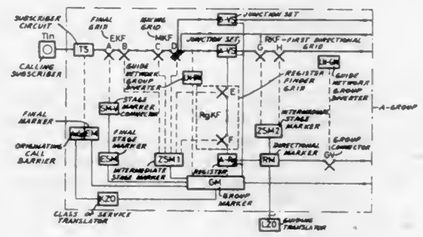


An improved telephone installation with extension subscriber stations and including a central control system for completing connections to called subscribers in response to a dialed short identification code in accordance with the group characteristic identification of the calling subscriber. Identification and conversion means establish a code identification of the calling subscriber and under the control of a common control system in response to receipt of a dialed short identification code representing a called subscriber, effect conversion of the short identification code in accordance with the identification code of the calling subscriber for marking and completion of the connection to the called subscriber.

3,524,942
CONTROL FOR CENTRALLY CONTROLLED SWITCHING GRIDS IN TELECOMMUNICATION EXCHANGE SYSTEMS

Hilmar Schonemeyer, Ditzingen, Walter Hackenberg, Hirschlanden, and Herbert Siegel, Munchingen, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 20, 1966, Ser. No. 580,689
Claims priority, application Germany, Sept. 30, 1965, St 24,448
Int. Cl. H04q *3/48*
U.S. Cl. 179—18 **4 Claims**

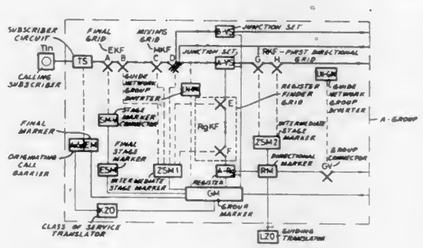


Switching control in a telephone system for originating and terminating internal traffic, for terminating external traffic, and for outgoing external traffic is provided by a single control group combined via a common directional grid with a common directional marker. Destination controls for internal traffic and for outgoing external traffic are actuated by a common group marker.

3,524,943
CONTROL FOR CENTRALLY CONTROLLED SWITCHING GRIDS IN TELECOMMUNICATION EXCHANGE SYSTEMS

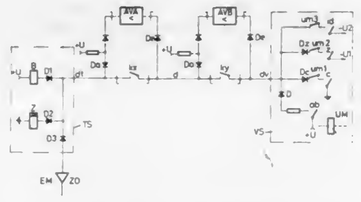
Hilmar Schonemeyer, Ditzingen, Walter Hackenberg, Hirschlanden, and Herbert Siegel, Munchingen, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 20, 1966, Ser. No. 580,690
Claims priority, application Germany, Sept. 30, 1965, St 24,447
Int. Cl. H04q *3/48*
U.S. Cl. 179—18 **2 Claims**



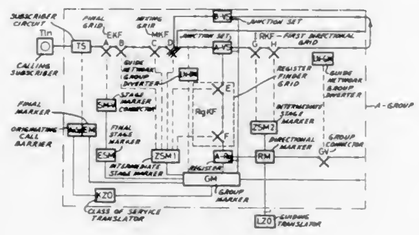
Switching control in a telephone system for originating and terminating internal traffic as well as for terminating external traffic is provided by a common directional switching grid.

3,524,944
ROUTE AND RE-ROUTE SEARCH, BUSY SIGNAL AND SIGNAL TRANSMISSION IN A MULTI-STAGE SWITCHING NETWORK
Heinz Schluter, Kornwestheim, and Hilmar Schonemeyer, Ditzingen, Germany, assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware
Filed June 16, 1967, Ser. No. 646,626
Claims priority, application Germany, June 28, 1966, St 25,588, St 25,590
Int. Cl. H04q *1/38*
U.S. Cl. 179—18 **10 Claims**



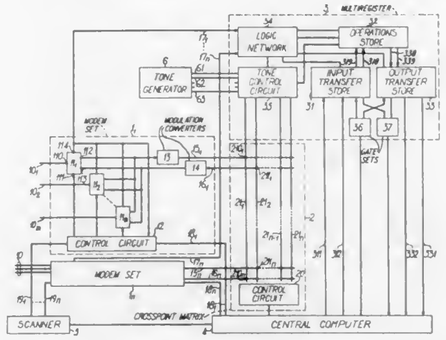
A switching network is equipped with a guide wire network wherein single wires are used during the route search for the busy marking and signal transmission. The offering signal regenerators used during route search depend on the current direction. These regenerators are coupled, via gate circuits, to the guide wire network. After through-connection, the busy potential on the guide wires inhibit the gate circuits. The signal potential has a polarity which is opposite to the polarity of the offering potential. During re-routing, the busy and signal potentials are removed without releasing the established path to allow selection of parts of the established path for use in the re-routed path.

3,524,945
CONTROL FOR CENTRALLY CONTROLLED SWITCHING GRIDS IN TELECOMMUNICATION EXCHANGE SYSTEMS
Hilmar Schönemeyer, Ditzingen, Walter Hackenberg, Hirschlanden, and Herbert Siegel, Munchingen, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 20, 1966, Ser. No. 580,691
Claims priority, application Germany, Sept. 30, 1965, St 24,446
Int. Cl. H04q *3/48*
U.S. Cl. 179—18 **2 Claims**



A common control in the form of a directional switching grid is provided in a telephone system for switching originating and terminating internal traffic as well as outgoing external traffic. A common group marker activates the subscriber circuit or a junction set at the outgoing line.

3,524,946
MULTIREGISTER FOR TIME DIVISION TELEPHONE SWITCHING SYSTEMS
André E. Pinet, 22 Rue Emile Le Gac, and Jean-Baptiste Jacob, 4 Rue des Freres Lumiere, both of Perros-Guirec, and Ernest P. Esclangon, Le Clapotis, Ploumanach, France
Filed Aug. 1, 1966, Ser. No. 569,142
Claims priority, application France, July 30, 1965, 26,706
Int. Cl. H04j *3/04;* **H04m** *3/54*
U.S. Cl. 179—18 **4 Claims**

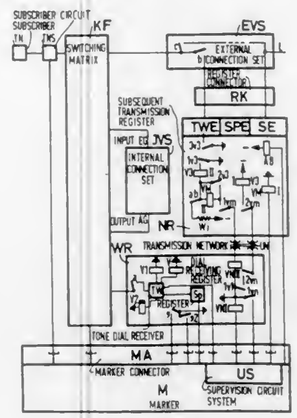


Pulse code modulated time division switching system comprising subscribers' line modem sets for sampling the analog telephone signals and converting the resulting samples into PCM signals, a crosspoint matrix, send-and-receive group highways respectively issuing from and entering into said modem sets and intermediate highways for selectively connecting the send-and-receive group highways. A computer is provided for searching and calling subscribers' lines, selecting idle intermediate highways and selectively activating the crosspoint matrix. A multiregister is provided for detecting the signals in the highways, receiving the dialled digits, sending on the lines adequate tones, identifying the calling and called subscribers' lines and processing the establishment and release of communications. The multiregister is principally formed of a circulated store divided into two synchronous circulating stores, one for the data and the other for addresses, connected to (i) registers and circuits for searching and marking the modem sets and the intermediate highways and detecting and checking the dialled digits and to (ii) the computer by a "from computer to multiregister" circulating store and a "from multiregister to computer" circulating store, said two last circulating stores being also divided into two synchronous circulating stores, one for data and the other for addresses.

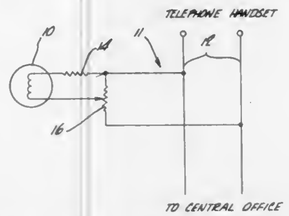
3,524,947
CIRCUIT ARRANGEMENT FOR LONG DISTANCE TELEPHONE EXCHANGE WITH CENTRAL CONTROL INSTALLATIONS
Siegfried Zahlhaas, Schuckertstrasse 13; Heinz Kochel, Passauerstrasse 50; and Peter Gerke, Forstenrieder Allee 60, all of Munich, Germany; Karl Rutkowski, Bernerstrasse 5, Pullach, near Munich, Germany; and Hans Baur, Oberbrunnerstrasse 24; and Ulrich Korber, Wurzelseppstrasse 14, both of Munich, Germany
Filed May 5, 1966, Ser. No. 547,929
Claims priority, application Germany, May 13, 1965, S 97,085; Aug. 23, 1965, S 98,987
Int. Cl. H04q *3/04*
U.S. Cl. 179—18 **21 Claims**

A telephone exchange system in which a first received set of dial signals is evaluated as route determining digits in a first circuit system such as a register or dial receiver, the subsequent signals are evaluated as call connection digits and are switched over to a second circuit system

such as a connection set. A supervision system insures that the switchover occurs only following the route determining digits and only in the interval between dial signals.



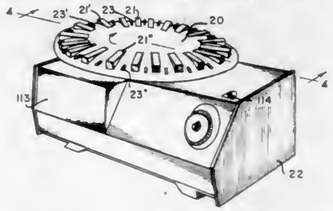
3,524,948
METHOD FOR INDICATING THE DIALING OF TOLL TELEPHONE CALLS
Charles C. Lewin, Studio City, Calif., assignor to Albert E. Lewin, Studio City, Calif.
Filed June 29, 1967, Ser. No. 650,009
Int. Cl. H04m *1/00*
U.S. Cl. 179—81 **11 Claims**



A method for visually determining the placement of a toll telephone call while dialing the called number. The method contemplates the connection of a high resistance signalling indicator across a pair of wires connecting a subscriber's telephone to a telephone company central office with a suitable voltage dropping resistance inserted into the circuit. When dialing a local call the indicator provides a signal (e.g. flashing light) during each return of the telephone hand set dial. When dialing a toll call the signals from the device cease after a predetermined number of operations of the dial giving the user an immediate indication that a long distance "toll" call is being placed.

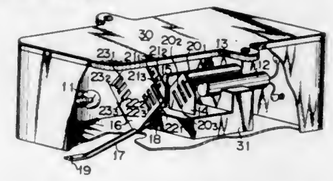
3,524,949
RECORDING OR REPRODUCING APPARATUS WITH A PLURALITY OF TAPE CARTRIDGES MOUNTED ON A TURRET
Robert E. Kleve, 1103 24th Ave. S., Grand Forks, N. Dak. 58201
Continuation of application Ser. No. 307,747, Sept. 9, 1963, which is a continuation of application Ser. No. 820,141, June 15, 1959. This application Apr. 17, 1967, Ser. No. 651,076
Int. Cl. G03b *1/56;* **G11b** *15/66;* **G65h** *17/48*
U.S. Cl. 179—100.2 **26 Claims**

The invention comprises a multiple tape apparatus which has a take-up reel, transfer means and a plurality of supply reels, with the transfer means transferring the tape from one of the supply reels to the take-up reel. Cam means are provided and rewind means are provided with



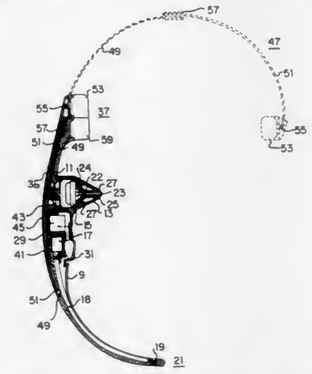
the cam means actuating the transfer means, take-up reel, and rewind means.

3,524,950
STEREOPHONIC PHOTOELECTRIC PICKUP DEVICE
Yoshiro Konagaya, Shizuoka-ken, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Jan. 6, 1969, Ser. No. 789,333
Claims priority, application Japan, Jan. 16, 1968, 43/1,967
Int. Cl. G11b *3/00*
U.S. Cl. 179—100.41 **2 Claims**



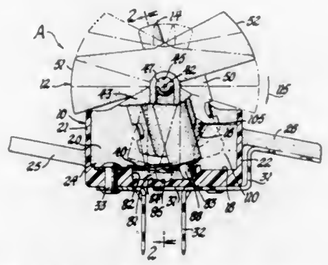
This photoelectric pickup device comprises a light source, two light control members for controlling the amount of light beams from said source, a means connected to one of the light control members to pick up recorded signals by tracing the sound groove formed on the surface of a phonographic disk and a means actuated in accordance with the recorded signals thus picked up thereby to detect the two light beams whose amounts have been controlled by said light control members.

3,524,951
ELECTROACOUSTIC APPARATUS
Robert J. Bernardi, Soquel, and Robert E. Collier, Santa Cruz, Calif., assignors to Pacific Plantronics, Inc., Santa Cruz, Calif., a corporation of California
Filed Apr. 19, 1968, Ser. No. 722,670
Int. Cl. H04m *1/05*
U.S. Cl. 179—156 **6 Claims**



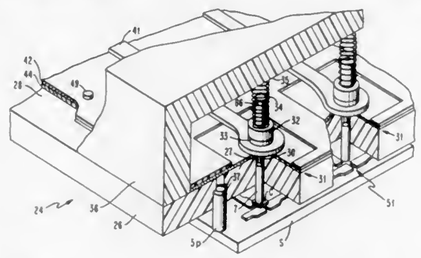
A mounting structure for microphone and receiver transducers is readily convertible from a rigid hand-held device to an adjustable head-mounted device using elements which are captivated on the structure.

3,524,952
COMBINED PIVOTAL AND LINEAR SWITCH ACTUATOR
Willis H. Anderson, Anderson, Daniel W. Hyden, New Castle, and Frank Frier, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 25, 1968, Ser. No. 762,485
Int. Cl. H01h *19/00*
U.S. Cl. 200—6 **4 Claims**



In a preferred form, this disclosure relates to electric switch mechanisms for controlling energization and de-energization of a wiper unit and a washer unit of a windshield cleaning apparatus for an automotive vehicle. The switch mechanisms include a rocker type wiper switch actuator pivotally supported by a switch housing for movement between an off position and either a low or high speed position for effecting low and high speed wiper operation, respectively. The electric switch mechanisms also include a washer switch actuator slidably supported by the wiper switch actuator for linear movement relative thereto along an axis extending normal to the pivot axis of the wiper switch actuator. When the wiper switch actuator is in its off position and the washer switch actuator is depressed to initiate washer unit operation, it engages a cam on the switch housing to cause the wiper switch actuator to be simultaneously rocked or rotated to its low speed position so that joint operation of the wiper and washer unit is simultaneously effected.

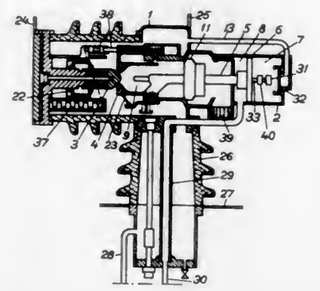
3,524,953
OBJECT PRESENCE SENSOR
Charles P. Coughlin, Chelsea, Gunther H. Luhrs, Hopewell Junction, and Richard W. Thorpe, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Mar. 18, 1968, Ser. No. 713,929
Int. Cl. B32b *31/14;* **H01h** *3/16*
U.S. Cl. 200—61.42 **19 Claims**



A presence sensor in which a projecting probe is operatively disposed to position the end thereof opposite and below the top of an object to be sensed, and whose presence depresses the probe which, in turn, opens normally closed contacts of a sensing circuit. The switch contacts employed are of a planar laminated construction in which two planar contacts of conductive spring stock are separated by a sheet of insulating material. The laminate is contained in the head of a sensor together with sensing pins or probes which are biased into projection from the head, and to normally force the free ends of the spaced apart portions of the contacts yieldingly closed against each other.

As the head is brought down, the ends of the probes are disposed at a level which normally would be below the top of an object to be sensed. When the object is present, the probe is depressed to open the normally closed contacts of the laminate to provide an appropriate signal thereof. Contacts which remain closed indicate the absence of the object.

3,524,954
OPERATING MECHANISM FOR THE MOVABLE CONTACT OF AN AIR BLAST CIRCUIT BREAKER INCLUDING MEANS FOR SLOWING DOWN THE MOTION OF THE CONTACT
Olof Eliasson, Ludvika, and Karl Gustav Sindahl, Sollentuna, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed May 15, 1967, Ser. No. 638,294
Claims priority, application Sweden, May 27, 1966, 7,268/66
Int. Cl. H01h *33/82*
U.S. Cl. 200—148 **10 Claims**

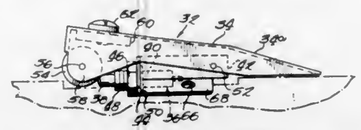


An air blast circuit breaker has a container for air under pressure and a movable contact in the container driven by an operating piston moving in a cylinder; air under pressure can be admitted to one side of the cylinder to move the contact towards open position; a conduit connects the space on the other side of the cylinder to the container; to damp the movement of the contact, one of the piston and cylinder walls has a plate with an opening leading to the conduit while the other has a damping piston which moves into the hole to retard the flow of air through the conduit as the contact reaches a predetermined point, there is a second damping piston which enters the hole as the contact approaches fully open position; the plate is movable and has holes in its peripheral portion to allow freer flow of air during the return movement of the movable contact.

3,524,955
LATCHABLE ROLLER ACTUATED PLUNGER SWITCH MOUNTED IN A WELDING TORCH HANDLE
Eugene Karpinski, New Berlin, Wis., assignor to Machinery and Welder Manufacturing Corporation, Greendale, Wis., a corporation of Wisconsin
Filed Dec. 21, 1967, Ser. No. 692,548
Int. Cl. H01h *9/06*
U.S. Cl. 200—157 **4 Claims**

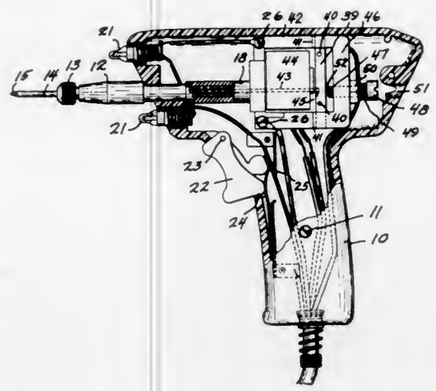
A switch housing has a resiliently biased, reciprocally movable plunger mounted therein which closes a circuit,

in the retracted or "in" position. A depressible, finger-actuatable lever or switch actuator is pivotally mounted on said housing and has a roller or the like mounted on one end portion thereof which is adapted to engage the



plunger distal end and axially move the same inwardly in the course of lever depression. An abutment is adjustably positionable between said lever and housing, limiting the extent of pivotal movement of said lever and the resulting contact between the roller and plunger.

3,524,956
ELECTRONIC MATERIAL DEPOSITING APPARATUS
Isadore J. Rocklin, 3240 Douglas St., Sioux City, Iowa 51104
Continuation of application Ser. No. 472,532, July 16, 1965. This application Sept. 8, 1969, Ser. No. 864,923
Int. Cl. B23k *9/04*
U.S. Cl. 219—76 **3 Claims**

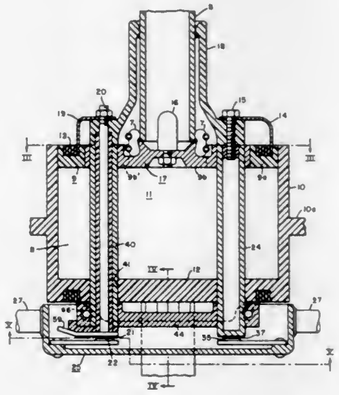


A device for depositing a thin layer of tungsten carbide or similar material onto a metal surface including a vibrating unit adapted rapidly to move an electrode formed of the material to be deposited into and out of contact with the surface to be covered. A circuit including a bank of capacitances in parallel and selectively used provides the necessary electronic and metallurgical action to cause the deposition. A means of providing for interchangeability of electrode sizes, types and materials is also included. The device may also be used as a percussive welder by clamping the vibrator and utilizing a single discharge to cause the welding.

3,524,957
FLUID-BLAST CIRCUIT INTERRUPTER WITH IMPROVED ELECTROMAGNETIC DRIVING MEANS AND LOST MOTION MEANS
Russell E. Frink, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 1, 1966, Ser. No. 576,615
Int. Cl. H01n *33/91, 33/42*
U.S. Cl. 200—148 **7 Claims**

A fluid-blast type of circuit interrupter is provided having a movable piston reciprocating within an operating cylinder and carrying a moving driving or accelerating coil therewith. The movable contact structure and a fluid-directing hollow orifice member additionally move with the moving piston to thereby compress fluid, such as sulfur hexafluoride (SF_6) gas, within the operating cylinder and force such compressed fluid through the hollow insulating orifice member and into engagement with the established arc to effect the latter's extinction.

A stationary accelerating coil, embedded in the insulating head of the stationary operating cylinder, is electromagnetically attracted to the movable driving coil carried by the fluid-driving piston, so that during the interruption of heavy fault currents, the operating mechanism, driving said piston mechanically, is assisted in its mechanical effort.



An auxiliary contact structure, responsive to the initial movement of the fluid-driving piston, switches the two accelerating coils electrically into the series circuit, so that they are electromagnetically attracted together. The auxiliary contact structure includes a movable actuating member (**25**) with movable auxiliary contacts having a lost-motion connection with a movable conducting bridging member (**44**) also carrying movable auxiliary contacts. The bridging member (**44**) drives the movable piston.

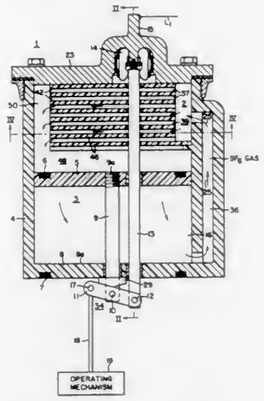
The arrangement is such that during the closing operation, one of the accelerating coils is not connected serially into the circuit even though the other accelerating coil may be so connected. Thus, the attractive electromagnetic force acting in the opening direction is eliminated during the closing stroke of the interrupter to prevent its stalling during such closing motion due to prestriking of the arc during closing.

3,524,958
FLUID-BLAST CIRCUIT INTERRUPTERS HAVING ELECTROMAGNETIC PISTON-DRIVING MEANS
Russell E. Frink, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 1, 1966, Ser. No. 576,616
Int. Cl. H01h *33/90*
U.S. Cl. 200—148 **11 Claims**

A fluid-blast circuit interrupter is provided having piston means for generating pressurized fluid flow into the established arc. An accelerating coil is carried by the movable piston, and is magnetically repelled, or attracted to a stationary accelerating coil located at one end or the other of the operating cylinder accommodating the reciprocally-movable piston.

The two accelerating coils are inserted electrically into the circuit upon separation of the main contact

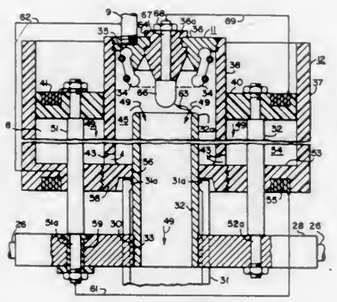
structure, and they carry the main line current at this time. The magnetic repulsion or attraction between the accelerating coils augments the driving force of the operating mechanism, which initially moves the piston mechanically, and additionally takes care of low-current interruption. The interruption of fault currents, however, is particularly assisted in this electromagnetic action, when otherwise the back pressure forces would be excessive to thereby impair the interruption effort.



The accelerating coils are out of the circuit on the closing stroke, at which time initial contact is made at the main contacts.

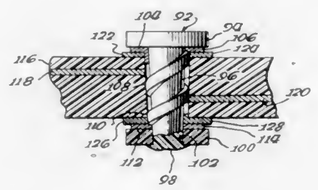
An interrupting structure is provided by spaced apertured plates with intervening laterally spaced flow plates, so that a transverse cross blast of fluid flow at spaced points is achieved through the established arc to effect its interruption. The outlet side of the interrupting structure is pneumatically connected to the back side of the driving piston so that advantage may be taken of cavitation effects.

3,524,959
FLUID-BLAST CIRCUIT INTERRUPTER WITH ARC TRANSFER TO ENERGIZE ELECTRO-MAGNETIC PUMPING MEANS
Russell E. Frink, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 1, 1966, Ser. No. 576,739
Int. Cl. H01h *33/91*
U.S. Cl. 200—148 **10 Claims**



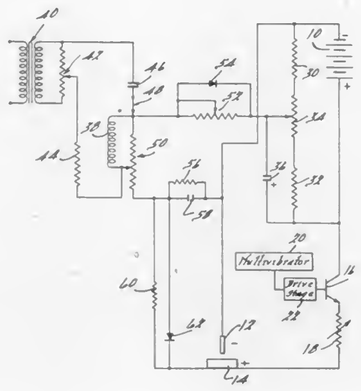
A fluid-blast circuit interrupter is provided having a movable piston carrying an accelerating coil. Another accelerating coil is disposed at the lower end of the operating cylinder and is inserted serially into the circuit during the opening operaton. The two acceleratng coils are attracted magnetically to each other, and thereby assist the operating mechanism during the pumping action in the interruption of high-amperage currents.

3,524,960
METAL COATED PLASTIC PLUG AS ELECTRICAL CONNECTOR AND SWITCH
William Lohff, Naperville, Ill., assignor to The Richardson Company, Melrose Park, Ill., a corporation of Ohio
Filed Nov. 4, 1968, Ser. No. 773,103
Int. Cl. H01h *19/28;* **H05k** *1/04*
U.S. Cl. 200—155 **8 Claims**



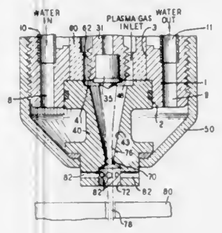
As an electrical connector, a plastic plug having a metal coating over a portion of its external surface and a fusible plastic tip. After insertion of the plug in an aperture of a circuit board, the tip is fused and forms a rigid mechanical bond which does not conduct electricity to short adjacent circuits and also holds the metal coating in place to form the electrical connection.

3,524,961
SERVOCONTROL CIRCUIT OF VARIABLE SENSITIVITY FOR ELECTRICAL DISCHARGE MACHINING APPARATUS
Kurt H. Sennowitz, Royal Oak, Mich., assignor to Elox Inc., Troy, Mich., a corporation of Delaware
Filed Jan. 22, 1968, Ser. No. 699,444
Int. Cl. B23p *1/14*
U.S. Cl. 219—69 **10 Claims**



A circuit for maintaining relatively constant gap spacing between an EDM electrode and a workpiece wherein provision is made for controlling the servo sensitivity of the circuit conjointly with changes made to machining pulse on-off time by ganging various parameter controllers. Servostability is further improved by coupling the servo coil to the gap through a capacitor bridged by a resistor of relatively high magnitude to provide delayed backup on gap short-circuit and to improve stability on downfeed.

3,524,962
ASPIRATING PLASMA TORCH NOZZLE
Joseph F. Kiernan, Dunellen, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed June 2, 1967, Ser. No. 643,151
Int. Cl. B23k *9/16*
U.S. Cl. 219—75 **4 Claims**

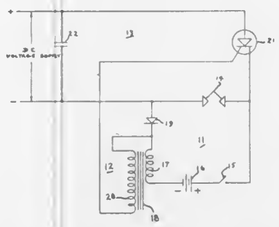


Air or other gas is supplied at atmospheric or slightly higher pressure to a space within the body of the nozzle, near the orifice end of the nozzle and adjacent to the plasma steam of the torch, from which space the air or other gas is aspirated by the plasma stream to form a protective sheath around the plasma stream issuing from the orifice.

ERRATUM

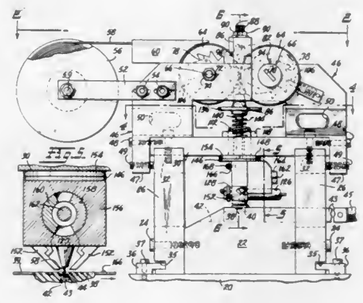
For Class 219—76 see:
Patent No. 3,524,956

3,524,963
METHOD AND MEANS FOR STRIKING AN ARC, AND FOR STRIKING AN ARC FOR WELDING OR HEATING
Robert Charles Swengel, Hellam, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Feb. 17, 1965, Ser. No. 433,350
Int. Cl. B23k *9/00*
U.S. Cl. 219—100 **15 Claims**



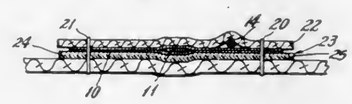
An arc is struck for the purpose of welding two pieces together by bringing the pieces into engagement with each other to complete a circuit through a low energy circuit, the parts are moved away from each other so that the low energy circuit initiates an arc across the pieces as they are being moved away from each other and creates a trigger voltage which triggers a triggering means to discharge a capacitor across the pieces to enhance the arc.

3,524,964
ELECTRICAL CONTACT WELDER
Roger Duane Milliman, Waterbury, Conn., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed July 20, 1966, Ser. No. 566,636
Int. Cl. B23k *11/02*
U.S. Cl. 219—103 **12 Claims**



A welding apparatus for handling a continuous length of metallic contact material wherein the strand of material is fed, welded and severed to provide welded contact areas on a related strip of metallic terminal material.

3,524,965
ELECTRIC HEATING ELEMENT FOR APPAREL
Stanley Arron, 3323 Old Town Road, Bridgeport, Conn. 06606
Continuation-in-part of application Ser. No. 597,634, Nov. 29, 1966. This application Mar. 4, 1969, Ser. No. 804,148
Int. Cl. H05b *3/36*
U.S. Cl. 219—211 **10 Claims**

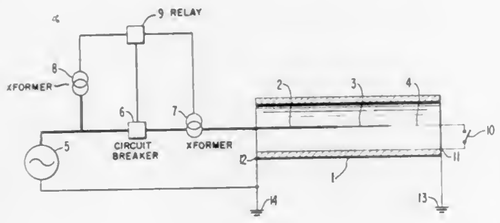


A heating element for use with a body garment having a length of resistance ribbon that is adhesively secured between a pair of flexible strips with the strips being wider than the ribbon and with a row of stitching securing only the outer edge portions of the strips to a garment. The stitching may also secure a tape covering for the strips and an insulating layer underlying the strips to the garment. The heating element may also be part of an insulated heating pad of larger size with the heating element being secured to the pad and the pad being secured along its edges to a garment.

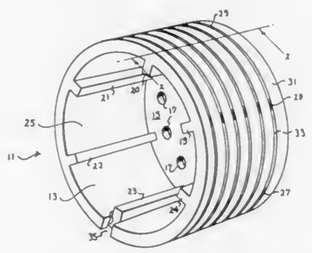
3,524,966
HEAT-GENERATING PIPE UTILIZING SKIN EFFECT OF A.C. HAVING IMPROVED INSULATION IN CONDUCTOR LINE
Masao Ando, Kanagawaken, Japan, assignor to Chisso Corporation, Osaka, Japan
Filed Mar. 28, 1968, Ser. No. 716,714
Claims priority, application Japan, Mar. 30, 1967, 42/20,242
Int. Cl. H05b *3/00*
U.S. Cl. 219—300 **3 Claims**

Heat generating pipe utilizing the skin effect of A.C. which is supported on a liquid transporting pipe in sub-

stantially axially parallel relation with said transportation pipe so as to conduct heat generated in said heat-generating pipe to the liquid in said transporting pipe which comprises at least one pipe of ferromagnetic material and an inner electric conductor line connected to a source of A.C. supply, supported within said heat-generating pipe in its longitudinal direction in electrically insulated relation from the inner wall portion of said heat-generating pipe, electrically connected at the end thereof remote from the A.C. supply source, in such a way that alternating current from the supply source flows through said electric conductor line, reaches said remote end of said heat-generating pipe and returns to the source through the inner wall portion of said heat-generating pipe, whereby said heat-generating pipe is heated by the skin effect of the alternating current flow through the inner wall portion thereof and the outer surface portion of said heat-generating pipe receives solely the heat so generated without any electric current flow therethrough, the insulation grade of said conductor line being characterized by stepwise reduction from the A.C. supply source to the point connected to the end of said heat-generating pipe.

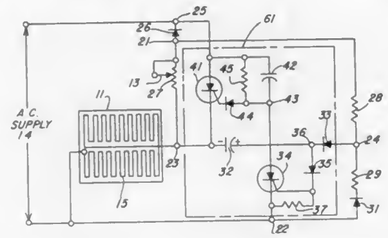


3,524,967
STRIP BONDED ROLL HEATER
Walton A. Orr, Roanoke, Va., assignor to General Electric Company, a corporation of New York
Filed June 14, 1968, Ser. No. 737,031
Int. Cl. H05b *3/64*
U.S. Cl. 219—469 **3 Claims**



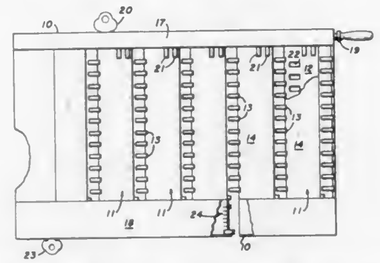
A heater element for heating synthetic fibers having a ceramic body containing a continuous helical groove about its exterior cylindrical surface. An electrical heating element attached at both ends to power supply terminals is wound within the helical groove and is retained therein by a series of equally spaced strips of heat resistant cement traversing the helical groove and embedding the heating element therein.

3,524,968
THERMAL CONTROL FOR ELECTRICAL HEATING DEVICE
William J. Walsh, Dubuque, Iowa, assignor to Thermolyne Corporation, Dubuque, Iowa, a corporation of Illinois
Filed Aug. 2, 1968, Ser. No. 749,652
Int. Cl. H05b *1/02*
U.S. Cl. 219—499 **10 Claims**



An electrical heating device, such as a hot plate, having a heating element of predictable positive thermal coefficient of resistivity connected in a bridge circuit that is part of a control which energizes the heating element in varying degrees in accordance with changes in its resistivity, affording accurate thermal control with no thermostat.

3,524,969
VOTING MACHINE WITH CARD PUNCH ATTACHMENT
Cothburn M. O'Neal, 404 S. College St., Arlington, Tex. 76010
Filed May 27, 1968, Ser. No. 740,415
Int. Cl. G07c *13/00*
U.S. Cl. 235—50 **5 Claims**

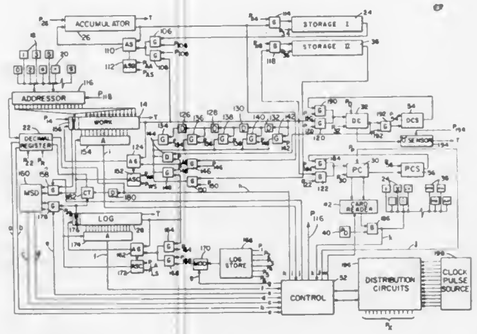


A compact, lightweight, manually operated voting machine with provisions for straight ticket, selective and write-in voting, and for choosing two or more candidates from a list of several running at large; with provision for recording each voter's choice on a punch card for computor counting, and including a mechanical counter automatically totalling the votes for each candidate for confirmation of the punch card count.

3,524,970
AUTOMATICALLY CONTROLLED CALCULATING APPARATUS
An Wang, Lincoln, Mass., assignor to Wang Laboratories, Inc., Tewksbury, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 536,428, Mar. 22, 1966, which is a continuation-in-part of application Ser. No. 398,254, Sept. 22, 1964. This application Aug. 21, 1968, Ser. No. 754,274
Int. Cl. G06k *17/00;* **G06f** *3/00*
U.S. Cl. 235—61.6 **15 Claims**

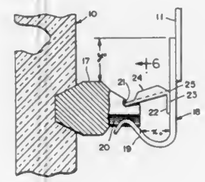
An electronic calculator system includes an arithmetic unit, an input register that receives signals from a keyboard and optionally from one or more card readers for transmission to the arithmetic unit. The card readers

are pluggably connected in series and each includes interlock control which cooperates with a program counter to



channel instruction and numerical data to the arithmetic unit from the card readers through the input register.

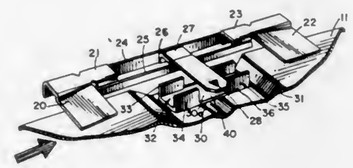
3,524,971
SHADOW MASK MOUNTING BRACKETS MOVING MASK TOWARD SCREEN WITH RADIAL MASK EXPANSION
James W. Schwartz, Western Springs, and Laslo J. Javorik, Chicago, Ill., assignors to National Video Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 11, 1967, Ser. No. 608,562
Int. Cl. H01j *29/46, 31/20*
U.S. Cl. 313—85 **2 Claims**



A color television tube mask mounting adapted to substantially compensate for the mechanical shift of the mask openings during operation. The mask mounting is constructed to move the mask axially so as to maintain register of the mask openings with the electron paths which extend from the guns to the phosphor dots.

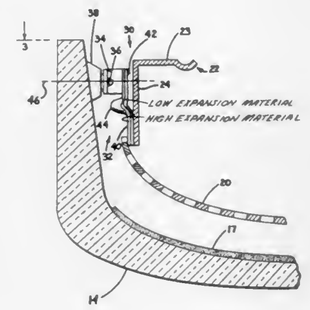
3,524,972
SHADOW MASK BIMETAL STRIP MEANS WITH MOTION-LIMITING BUMPER
Joseph W. Cooper, Hinsdale, and Laszlo Javorik, Chicago, Ill., assignors to National Video Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 5, 1967, Ser. No. 673,096
Int. Cl. H01j *29/46, 1/18*
U.S. Cl. 313—85 **3 Claims**

In a three-point suspension system for an apertured shadow mask in a color kinescope, the top mounting spring is cantilevered axially of the tube from a bimetal supporting bridge which is bracketed to the frame of the mask. The top spring defines an aperture for receiving a mounting stud embedded in the peripheral flange of the faceplate panel, and the bases of two U-shaped bumpers are attached to the mask on either side of the aperture of the top spring so that the upwardly-projecting legs of the bumpers extend alongside of the spring. The bumpers prevent deformation of the bimetal support when the faceplate receives a shock by limiting the lateral displacement



of the mounting spring relative to the mask while permitting longitudinal bending and translation of the spring.

3,524,973
SHADOW MASK SUPPORTING STRUCTURE HAVING THERMAL EXPANSION CORRECTION MEANS
David J. Rigdon, Syracuse, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Aug. 13, 1968, Ser. No. 752,279
Int. Cl. H01j *19/46, 29/46*
U.S. Cl. 313—85 **3 Claims**

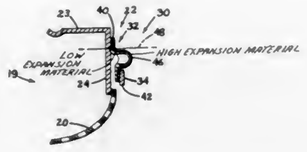


Deleterious thermal expansion in the shadow mask of a color cathode ray tube is translated into advantageous, alignment maintaining movement toward the screen of the mask through utilization of an intermediate spring mounting member formed by a bi-metallic material provided with a movement amplifying, contracting hinge. The movement is derived from the shape of the hinge, the direction from which the free end of the spring projects therefrom, the lever arm effect of the spring, and by mounting the base of the spring on the plane of the supporting studs.

3,524,974
SHADOW MASK SUPPORTING STRUCTURE HAVING THERMAL EXPANSION CORRECTION MEANS
George R. Kautz, Seneca Falls, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Aug. 13, 1968, Ser. No. 752,280
Int. Cl. H01j *19/46, 29/46*
U.S. Cl. 313—85 **4 Claims**

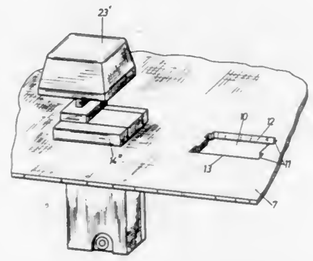
Deleterious thermal expansion in the shadow mask of a color cathode ray tube is translated into advantageous, alignment maintaining movement of the mask toward the screen through utilization of an intermediate spring mounting member formed by a bi-metallic material provided with a movement amplifying, contracting hinge. The

movement is derived from the shape of the hinge, and the lever arm effect of the free end of the spring. The



spring may be mounted below or substantially on the plane of the frame supporting studs.

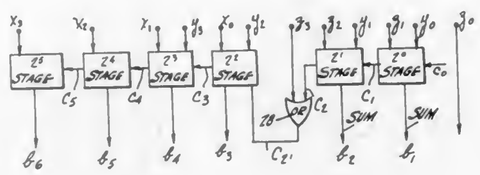
3,524,975
ELECTRIC SWITCH KEY MOUNTING
Helmut Langenberger and Hans Kruse, Niederstotzingen, Germany, assignors to Walther-Buromaschinen G.m.b.H., Gerstetten-Wurttemburg, Germany, a limited-liability company of Germany
Original application Dec. 12, 1966, Ser. No. 600,969, now Patent No. 3,430,012, dated Feb. 25, 1969. Divided and this application Nov. 19, 1968, Ser. No. 776,975
Claims priority, application Germany, Dec. 27, 1965, W 40,597
Int. Cl. G06c *7/02*
U.S. Cl. 235—145 **6 Claims**



A spring switch key assembly for the keyboard of an electric calculating machine having a key shaft slidably mounted in an elongated housing. Contacts are disposed in the bottom of the housing. A snap spring mechanism is arranged to engage a contact arm with the contacts. An angular lever is pivotally mounted in the housing and connected to the lever and mechanism wherein depression of the key closes a circuit and the return of the key to its normal position closes a second circuit. The keyboard opening has spaced notches in opposed edges thereof. The switch key housing is provided with ribs which cooperate with the notches when the housing is mounted within the opening. A resilient member is wedged between the housing and an edge of the opening to retain the housing in position.

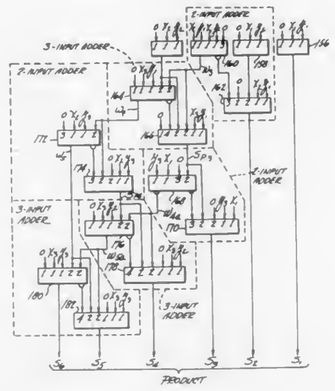
3,524,976
BINARY CODED DECIMAL TO BINARY CONVERSION
Mao Chang Wang, Westmont, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Apr. 21, 1965, Ser. No. 449,826
Int. Cl. G06f *5/00*
U.S. Cl. 235—155 **4 Claims**

The ten multiple of the most significant binary coded decimal (BCD) character is obtained by means adding the four multiple to the one multiple and means for shifting or by means adding the two multiple to the eight multiple. The ten multiple (consisting of two characters) may be added to the next most significant BCD character



in a straight binary, two-character adder in one addition step to obtain the binary character corresponding to the two BCD characters.

3,524,977
BINARY MULTIPLIER EMPLOYING MULTIPLE INPUT THRESHOLD GATE ADDERS
Mao C. Wang, Westmont, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Jan. 17, 1967, Ser. No. 609,949
Int. Cl. G06f *7/52*
U.S. Cl. 235—164 **1 Claim**

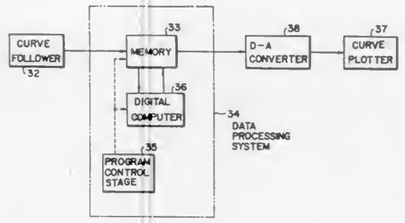


This disclosure relates to binary arithmetic circuits and particularly to multipliers. Some important features of these multipliers are their exceptionally high speed and their capability of being implemented with threshold gates. These multipliers employ multiple input (2, 3 and higher numbers of input) adders.

3,524,978
CURVE-PLOTTING SYSTEM WITH INTERPOLATION
Takeo Miura, Kokubunji-shi, Junzo Iwata, Kodaira-shi, and Junji Tsuda, Hachioji-shi, Japan, assignors to Hitachi, Ltd., Chiyoda-ku, Tokyo-to, and Hitachi Electronics Company, Ltd., Kodaira-shi, Japan
Filed Aug. 25, 1967, Ser. No. 663,313
Claims priority, application Japan, Sept. 9, 1966, 41/59,168, 41/59,169, 41/59,170; Apr. 19, 1967, 42/24,515
Int. Cl. G06g *7/30*
U.S. Cl. 235—193 **17 Claims**

The intermediate figure between two given figures is interpolated by defining the midway points thereon corresponding to the predetermined midway points on the two

given figures, by means of a data-processing system. The coordinate values of these midway points and the predetermined specific points on the intermediate figures are time-sequentially supplied to an analog operation system



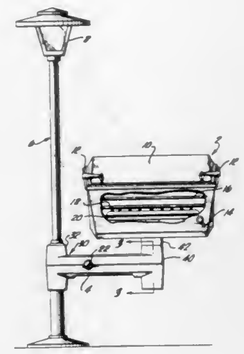
including circuits having a predetermined transfer lag, such as first or second order lag circuits, after digital to analog conversion, and the output analog signals for driving a curve indicator is produced by this analog operation system.

3,524,979
ILLUMINATED GEARSHIFT SELECTOR
Seymour Cohen, Wantagh, N.Y., assignor of one-third each to Richard Schott, Scarsdale, and Arthur Wachtel, Brooklyn, N.Y.
Filed Aug. 11, 1969, Ser. No. 848,983
Int. Cl. F21v *33/00*
U.S. Cl. 240—2 **11 Claims**

An illuminated gearshift selector, for a bicycle, having a movable stick shift. The stick shift is in engagement with both a gear cable and an opaque movable panel positioned over a fixed transparent panel having indicator markings thereon. There is an opening in the movable panel which discloses a section of the fixed panel. The movement of the stick shift simultaneously shifts gears and discloses which gear is in operation through the movable panel on the fixed panel. Illumination is provided within the housing to direct light from within the housing through the fixed panel. The light is controlled by manipulation of the stick shift.

3,524,980
GAS LIGHT-GAS GRILL COMBINATION
Wade O. Meloan, Centralia, Ill., assignor to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Sept. 3, 1968, Ser. No. 756,786
Int. Cl. A47j *37/00;* **F21v** *33/00;* **F24b** *3/00*
U.S. Cl. 240—2 **7 Claims**

An outdoor gas grill combined with a gas light by means of a single, horizontally extending support arm attached to the supporting post of the gas light. The gas grill is rotatably mounted at the unattached end of the support arm and is capable of 360° rotation thereon such that it can be operated in the most advantageous position relative to the wind. The support arm is rotatably

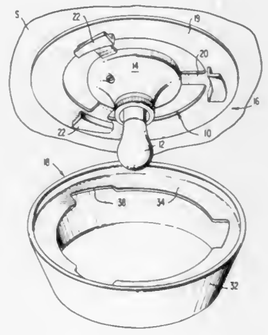


mounted on the post such that the grill can also be rotated around the post.

ERRATUM

For Class 240—103 see:
Patent No. 3,525,088

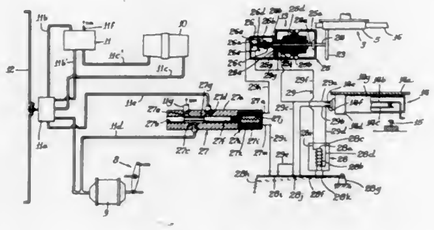
3,524,981
LIGHTING FIXTURE DIFFUSER ASSEMBLY
Seymour Auerbach, 115 Hesketh St., Chevy Chase, Md. 20015
Continuation-in-part of application Ser. No. 568,236, July 27, 1966, now Patent No. 3,388,248. This application June 3, 1968, Ser. No. 734,097
Int. Cl. F21v *17/06*
U.S. Cl. 240—128 **17 Claims**



The lighting fixture diffuser assembly includes an annular support member adapted for adhesive securement to a wall or ceiling surface about and independently of a light fixture. Radially inwardly extending fingers are carried by the support member to center the latter about the light fixture. A plurality of lugs depend from the support member and have inclined cam surfaces. A diffuser has an inwardly directed flange adjacent its open end with a plurality of openings formed therethrough. To releasably secure the diffuser to the support member, the diffuser is located in juxtaposition with the support member such that the lugs are received through the openings. The diffuser is then rotated with the marginal portions of the

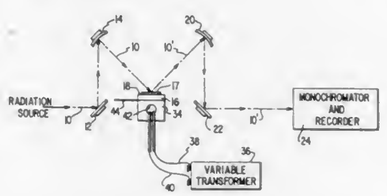
flange adjacent the openings bearing on the inclined cam surfaces to draw the diffuser toward the support member and final securement in surrounding or enveloping relation about the support member and the light fixture.

3,524,982
VEHICLE SPEED CONTROL DEVICE
William H. Peterson, Homewood, Ill., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Dec. 29, 1967, Ser. No. 694,447
Int. Cl. B61l *3/12*
U.S. Cl. 246—182 **33 Claims**



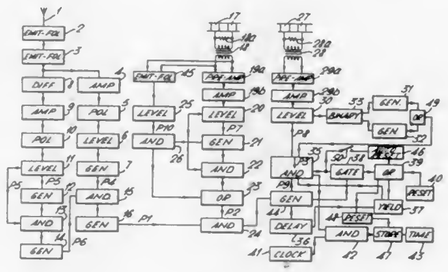
Apparatus for controlling the coupling speed of a railroad car within the ladder track of a classification yard so as not to exceed a predetermined maximum speed, comprising an on-car speed control device including a generator and speed responsive switch driven by the car wheel means, a ground-mounted magnetic element mounted on the track ahead of and on the vehicle and a magnetic switch mounted on the vehicle and operated by the element as the vehicle passes over the element for closing an electrical circuit relay means whereby when the vehicle speed exceeds the predetermined speed the responsive switch completes and maintains an in-circuit solenoid operated pressurized air supply valve which is energized by the generator to supply braking pressure to the car braking system for applying brakes to the car wheel means whereby when the speed of the vehicle falls below the predetermined speed, the speed responsive switch opens the circuit for releasing the vehicle brakes.

3,524,983
PROCESS AND APPARATUS FOR DETERMINING THE CURE CHARACTERISTICS OF MATERIALS
Frederick L. Voelz, Orland Park, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 28, 1966, Ser. No. 582,753
Int. Cl. H01j *37/00*
U.S. Cl. 250—43.5 **8 Claims**



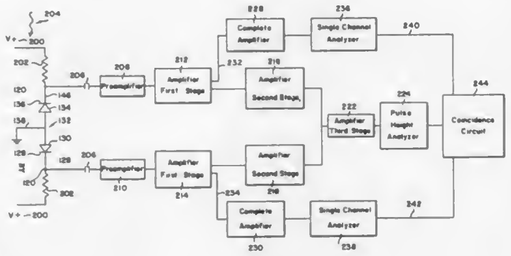
A new method and apparatus for determining the cure characteristics of curable materials are disclosed. Infrared radiation is passed through a sample of the material and reflected back through the sample by the reflective surface of the sample support means to sensing means which senses changes in the intensity of the beam. The absorption of the radiation is dependent on the nature and amount of material in the sample. The cure characteristics are determined by the absorption changes. Heating means are provided to heat the sample.

3,524,984
NUCLEAR EXPLOSION DETECTION SYSTEMS
Reginald Allan Fothergill and Gordon Graham Hicks, Basingstoke, England, Alan John MacGovern, Waltham, Mass., and Kenneth George Norman, Basingstoke, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Apr. 25, 1967, Ser. No. 633,568
Claims priority, application Great Britain, May 6, 1966, 20,289/66
Int. Cl. G01t *1/16*
U.S. Cl. 250—83.3 **13 Claims**



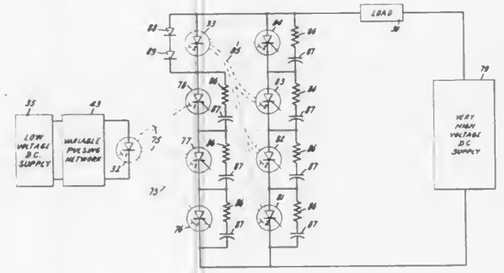
The system receives the transient radiofrequency signal and the fast- and slow-rising portions of the transient optical signal radiated from a nuclear explosion, and generates three corresponding output pulses only if these signals meet specified rate-of-rise, duration and amplitude criteria. These pulses, if generated, are combined to give an output only if they occur in a specified time-sequence. The occurrence of this output indicates a nuclear explosion and not, for example, a lightning flash. Additionally, the yield of the explosion may be measured as the time between the fast- and slow-rising portions.

3,524,985
COMPOSITE SOLID STATE RADIATION DETECTOR
Alden R. Sayres, Jersey City, N.J., assignor to Princeton Gamma-Tech, Inc., Newark, N.J., a corporation of New Jersey
Filed Aug. 8, 1967, Ser. No. 659,121
Int. Cl. G01t *1/24*
U.S. Cl. 250—83.3 **18 Claims**



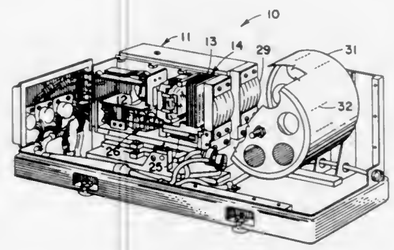
Apparatus, system and method comprising or utilizing a physical plurality of solid state radiation detectors variously electronically connected in coincidence mode and a single crystal solid state radiation detector itself electronically sub-divided into a plurality of solid state radiation detectors in coincidence mode.

3,524,986
SEMICONDUCTOR LIGHT GATING OF LIGHT ACTIVATED SEMICONDUCTOR POWER CONTROL CIRCUITS
John D. Harnden, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Feb. 6, 1967, Ser. No. 614,076
Int. Cl. G02f *1/28;* **H01j** *39/12;* **H03k** *3/42*
U.S. Cl. 250—211 **8 Claims**



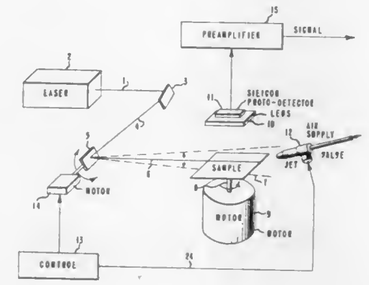
Light activated semiconductor control circuits are described which use variably controlled, low voltage, injection electroluminescent p-n junction light emitting diodes to control larger, power rated, light activated semiconductor devices such as light activated silicon controlled rectifiers connected in a variety of power circuit configurations. By reason of this construction, isolation between the low voltage, control gating signals (supplied to the light emitting diodes) and the larger power rated current flowing in the circuits, is inherently provided by the fundamental difference in the physical nature of the light signals employed for gating and the electric power currents derived at the output from the circuits.

3,524,987
SYMBOL GENERATOR USING APERTURE CARDS
Richard R. Councilman, O'Fallon, Mo., and Robert N. Miller, Dallas, Tex., assignors to LTV Electrosystems, Inc., Greenville, Tex., a corporation of Delaware
Filed Sept. 5, 1967, Ser. No. 665,431
Int. Cl. G06k *7/10*
U.S. Cl. 250—219 **11 Claims**



Apparatus for generating appropriately spaced electrical pulses, including a plurality of cards having suitably arranged apertures, said cards being stored in a stack, solenoid-controlled means for moving a selected card to a display position, a light source which causes beams of light to shine through the card apertures toward a set of photocells, and an opaque screen having windows which serve to pass light intermittently to the photocells upon rotation of the screen, to produce pulsed signals in a sequence corresponding to the arrangement of the card apertures.

3,524,988
PROCESS AND APPARATUS FOR EVALUATING FABRIC APPEARANCE
Paul H. Gaither IV, New Castle County, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 16, 1967, Ser. No. 683,633
Int. Cl. G01n *21/30*
U.S. Cl. 250—219 **10 Claims**

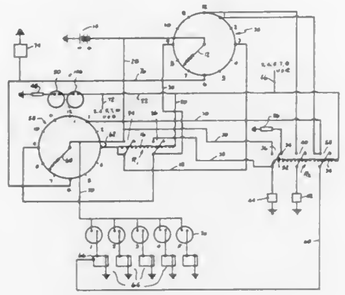


A method for optically measuring the surface characteristics of fabric comprising illuminating the fabric, successively modifying the surface thereof to randomize it and transducing the light reflected from the randomized surface into electrical signals. An apparatus for optically scanning such a fabric having surface distortion of a relatively mobile character (e.g., pills) comprising (1) light source means to illuminate the fabric with a beam of light at substantially parallel incidence to the surface of the fabric, (2) means for positioning the beam at various vertical positions within the fabric, (3) fabric surface scanning means, (4) surface distortion orientation means for successively effecting topographical changes on the fabric surface and (5) wide angle lens photoelectric means for observing the fabric at normal incidence to the fabric surface and transducing the observed illumination to electrical signals. The electrical signals obtained are separated into "features" which may be determined by use of a learning-recognition system, which provides a correlation between measured values with subjective evaluations made by trained human judges.

3,524,989
AUTOMOBILE IGNITION PROTECTION SYSTEM
Clyde Pecott, 68 Edwards St., Wethersfield, Conn. 06109
Filed Mar. 18, 1968, Ser. No. 713,708
Int. Cl. B60r *25/00*
U.S. Cl. 307—10 **6 Claims**

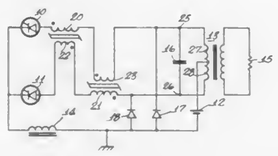
A protective system for controlling the starting and, if desired, the admission to an automobile without the requirement of the utilization of ignition keys or the like. The system includes a pair of relays that are controlled through a push type selector switch having a relatively large number of stations. The actuation of one relay is

dependent upon the prior actuation of the other relay with each being activated only at a particular and a different station of the selector switch. Once energized each of the relays has a self-holding feature or contact. After



energization of the relay the automobile may be started by the selector switch through its manipulation at another station. There are many stations of the switch where if the contacts of the switch are engaged both relays will become de-energized.

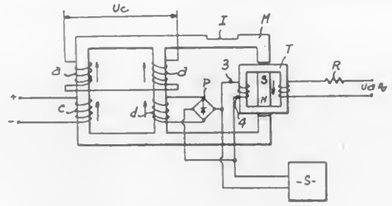
3,524,990
INVERTER CIRCUIT WITH SATURABLE REACTOR CURRENT LIMITING
Chandra K. Bajpai and Rabindra N. Basu, Ottawa, Ontario, Canada, assignors to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Feb. 8, 1967, Ser. No. 614,735
Int. Cl. H01f *37/02;* **H03k** *3/30;* **H02k** *19/16*
U.S. Cl. 307—88 **2 Claims**



A parallel inverter circuit having silicon controlled rectifiers in each leg and a saturable reactor in series with each rectifier to limit the current at the instant of switching is modified by magnetically coupling the saturable reactors to ensure that when one of the rectifiers is biased in its reverse direction the corresponding saturable reactor is fully saturated.

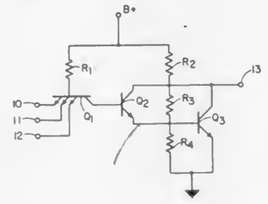
3,524,991
STATIC ELEMENTS HAVING LOGICAL FUNCTIONS
Jacques Peslier, Saint-Ouen, France, assignor to Societe de Constructions Electromecaniques, Paris, France
Filed July 3, 1967, Ser. No. 651,031
Claims priority, application France, July 6, 1966, 68,307; Oct. 28, 1966, 81,878
Int. Cl. G11c *11/08;* **H03k** *17/82, 19/166*
U.S. Cl. 307—88 **10 Claims**

A static element having a logical function characterized by a magnetic inducting C-shaped member whose winding receives the input signals and between the poles of which is located a saturable magnetic circuit of a monophase transformer whose primary winding is connected to an alternative voltage supply and the secondary winding of which provides the output signals of the logical function,



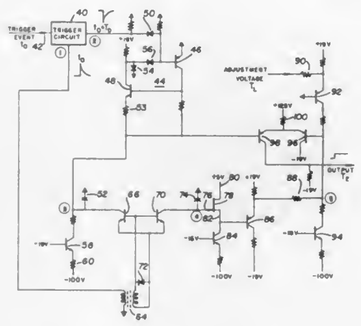
the said primary and secondary windings being located on both sides of the axis joining the poles of the C-member.

3,524,992
TRANSISTOR LOGIC CIRCUIT
John J. Kardash, Acton, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Aug. 17, 1967, Ser. No. 661,452
Int. Cl. H03k *19/36*
U.S. Cl. 307—215 **9 Claims**



Non-saturating NAND logic circuit employing a voltage divider to bias an output transistor in a low conducting condition. A coupling transistor, which is connected across portions of the voltage divider and the output transistor, biases the output transistor to high conduction while preventing it from saturating in response to appropriate signal conditions at the input to the circuit.

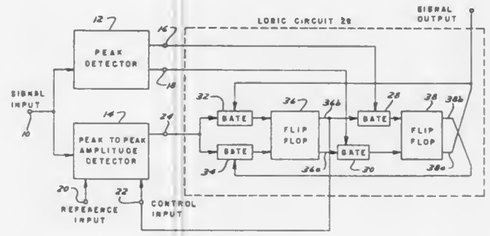
3,524,993
TRIGGERING METHOD AND APPARATUS WHEREIN THE TRIGGERING PERIOD IS DETERMINED
George J. Frye, Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon
Filed Feb. 17, 1967, Ser. No. 616,895
Int. Cl. H03k *4/00*
U.S. Cl. 307—228 **13 Claims**



A triggering method and apparatus for oscilloscopes and the like wherein a triggering signal, derived from

portions of a recurrent input signal, is in effect delayed for a time slightly less than the period between recurring input signals. In this manner a triggering signal, derived from one input signal, is used to trigger the oscilloscope sweep for the next occurrence of the input signal such that the portion of the input signal causing triggering and other selected portions will not be omitted from the oscilloscope presentation.

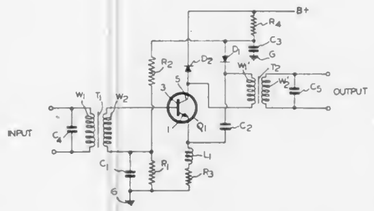
3,524,994
SIGNAL RECOVERING APPARATUS
Rolland R. Ritter, St. Paul, Minn., assignor to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Aug. 21, 1967, Ser. No. 661,878
Int. Cl. H03k *5/00*
U.S. Cl. 307—235 **10 Claims**



An electronic circuit is disclosed which is adapted for recovering the time information in degraded noise modulated logic type signals from magnetic tape by providing a logic type output whenever a signal peak occurs after the instantaneous peak to peak amplitude of an input signal exceeds a given threshold level. The circuit includes a logic circuit which accepts the signal output from a peak to peak amplitude detecting circuit and a peak detecting circuit and provides the recovered logic type signal when the presence of the outputs from each circuit indicates that the input signal has exceeded the peak to peak difference desired and an input signal peak has occurred.

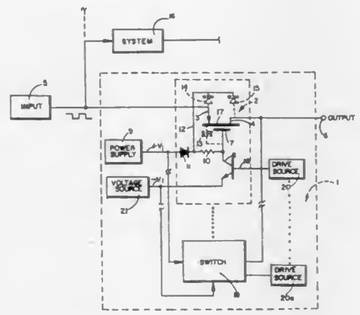
An electronic circuit for performing the peak to peak amplitude detection is also disclosed.

3,524,995
LIMITER APPARATUS
Daniel R. von Recklinghausen, Arlington, Mass., assignor to H. H. Scott, Inc., Maynard, Mass., a corporation of Massachusetts
Filed July 12, 1967, Ser. No. 652,910
Int. Cl. H03g *3/30;* **H03k** *5/08*
U.S. Cl. 307—237 **8 Claims**



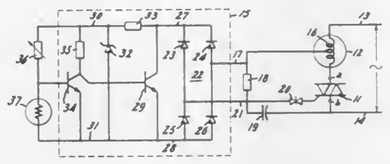
Transistor amplifier limiting circuits are disclosed in which use is made of the inherent saturation characteristics of the transistor itself to effect negative voltage limiting, and diode means is connected in different select paths to oppose the operating direct-current components with positive instantaneous voltage components in a manner such as to enable the presenting of a high impedance to the emitter of the transistor in the presence of excessive positive voltage limits.

3,524,996
MULTIPLEXER SWITCH USING AN ISOLATION DEVICE
Hubert L. Raper, La Habra, and John J. Mielke, Huntington Beach, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Mar. 29, 1967, Ser. No. 626,890
Int. Cl. H03k *17/00*
U.S. Cl. 307—251 **1 Claim**



A diode switch inserted between the substrate in which the multiplexer switching device is formed and the power supply connected to the substrate and the control electrode of said multiplexer switch.

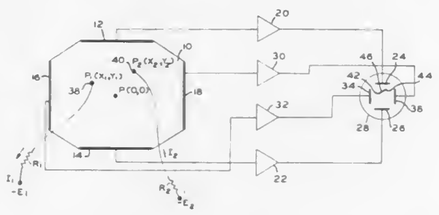
3,524,997
MONOLITHIC INTEGRATED PHASE CONTROL CIRCUITS
John D. Harnden, Jr., and Jerry L. Stratton, Schenectady, and Donald L. Watrous, Scotia, N.Y., assignors to General Electric Company, a corporation of New York
Filed Sept. 8, 1967, Ser. No. 666,378
Int. Cl. H03k *1/12, 17/00*
U.S. Cl. 307—252 **26 Claims**



In a monolithic phase control circuit, a transistor or SCR shunts the D-C output of a full wave diode bridge, and the phase retard for turning on the shunting device is derived from an RC circuit coupled to the gate of an insulated gate field-effect transistor. The charging element in the timing circuit is a photoconductor, photodiode or light, or magnetic sensitive field-effect transistor having external input to vary the phase angle. To develop a thyristor gating signal, the diode bridge is coupled across two terminals of the thyristor; and for an inductive load another full wave diode bridge for the timing circuit

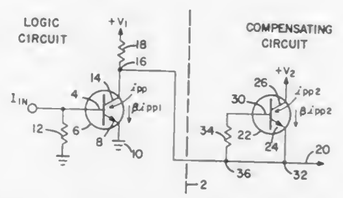
commences timing at voltage zero. In a hybrid circuit, an intermediate voltage is tapped for the first diode bridge, and a conventional RC circuit coupled across the thyristor has its time constant shortened by the conductivity of the shunting device as determined by resistive sensors.

3,524,998
RESISTIVE CONVERSION DEVICE
Barrie Gilbert, Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon
Filed Jan. 26, 1968, Ser. No. 700,885
Int. Cl. H03k *3/26, 19/08*
U.S. Cl. 307—299 **39 Claims**



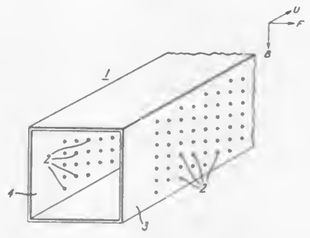
A resistive medium, suitably in the form of a semiconductive layer, is provided with input connection means as well as output connection means which are geometrically related in a predetermined manner. Either the physical location of an input means determines the proportion of an applied input value which reaches plural output means, or electrical values applied to plural input means determine the geometric position of a particular output value. In one instance, the device is employed as a character generator wherein plural input means define points along the character and provide coordinate outputs for operating an X–Y scanning device reproducing such character. In another instance, input values steer current to a particular output by means of a predetermined voltage distribution upon a resistive medium. Several examples of each type of device are disclosed.

3,524,999
RADIATION HARDENED TRANSISTOR CIRCUIT
Larry L. Fletcher, West St. Paul, and Morris E. Papenfuss, St. Paul, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 1, 1965, Ser. No. 491,998
Int. Cl. H03k *1/10*
U.S. Cl. 307—308 **6 Claims**



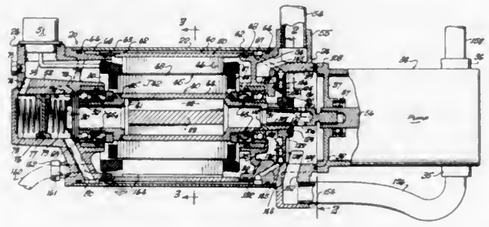
A method and apparatus for rendering a transistor circuit less subject to the effects of transient ionizing radiation. A compensating transistor is connected to the transistor to be compensated such that the photo-currents produced when the compensating transistor is subjected to radiation provides the photo-current requirements of the transistor to be compensated. As such, the photo-currents do not flow through the load to effect the output signal.

3,525,000
ELECTRODE CONFIGURATION IN A LINEAR MHD GENERATOR
Bert Zauderer, Bala Cynwyd, Pa., assignor to General Electric Company, a corporation of New York
Filed Oct. 24, 1967, Ser. No. 677,621
Int. Cl. H02n *4/02*
U.S. Cl. 310—11 **5 Claims**



Relatively efficient generation of electrical power in a non-equilibrium MHD generator is attained by an electrode configuration comprising flush mounted, axially and transversely segmented electrodes.

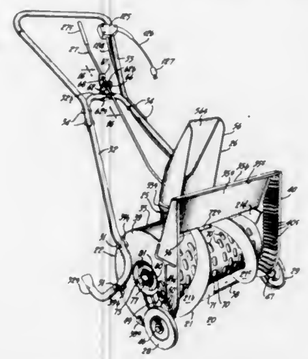
3,525,001
LIQUID COOLED ELECTRIC MOTOR
John W. Erickson, Huntington Beach, Calif., assignor to Preco, Inc., Los Angeles, Calif., a corporation of California
Filed Sept. 23, 1968, Ser. No. 761,769
Int. Cl. H02k *9/19*
U.S. Cl. 310—54 **5 Claims**



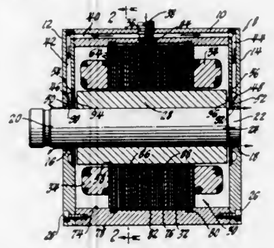
An electric motor for driving a hydraulic pump or the like is cooled by passing the entire flow of liquid through cooling passages in the motor. The input liquid is initially pressurized by a forepump, eliminating vaporization from local heating and delivering the liquid to the main pump at a pressure that reduces cavitation problems. The rotor and stator are immersed in a trapped liquid of low viscosity with pressure equalization to reduce leakage at the live seals. Vane structure is described for the forepump with an axial ramp at the inlet which allows hot liquids to be pumped at very low inlet pressures without loss of flow or capacity due to cavitation.

3,525,002
ELECTRIC MOTOR STRUCTURE
Charles A. Mattson, Oak Park, and Alvin Romin, Jr., Oak Lawn, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Original application Apr. 4, 1966, Ser. No. 539,706. Divided and this application Oct. 16, 1968, Ser. No. 768,032
Int. Cl. H02k *5/10*
U.S. Cl. 310—88 **5 Claims**

A drive unit for an electrical appliance wherein an electric motor is enclosed in a sealed casing which also encloses a gear chamber. The motor includes a brush assembly which is adapted so that a conductor can be electrically connected to the brush assembly by inserting the conductor into an aperture in the assembly.



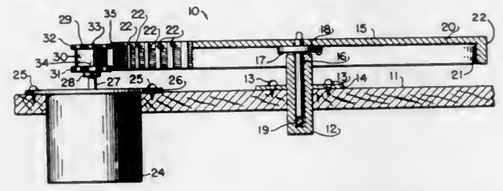
3,525,003
DYNAMOELECTRIC MACHINE AIR BEARING
Angelo J. Misenti, Simsbury, Conn., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 3, 1968, Ser. No. 742,454
Int. Cl. H02k *1/20, 5/16, 5/20*
U.S. Cl. 310—90 **8 Claims**



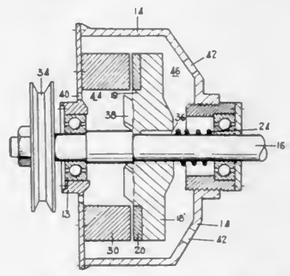
A dynamoelectric machine including inductively associated rotor and stator members wherein the stator member comprises a laminated portion having radial passages therethrough for supplying pressurized air to the magnetic gap therebetween. These radial passages being formed by either machining the laminate plates or by deforming the plates such that stacking them together forms the desired radial passages. Pressurized air discharging from the magnetic gap air bearing is also utilized to form air bearings at the ends of rotor drive shaft where they are respectively supported in the machine housing. The dynamoelectric machine housing and end plates also include passages disposed to direct pressurized air against the opposite ends of the rotor forming thrust air bearing pads automatically axially centering the rotor within the housing.

3,525,004
MAGNETIC DRIVE
David B. Hancock, 127 W. 88th St., New York, N.Y. 10024
Filed Jan. 24, 1968, Ser. No. 700,290
Int. Cl. H02k *49/10*
U.S. Cl. 310—103 **8 Claims**

The particular embodiment described herein as illustrative of one form of the invention utilizes a non-contacting, cylindrical, permanent magnet having radially extending projections forming pole pieces on each end of the cylinder, as a rotating non-contacting driving member for a phonograph turntable. The turntable has a plurality of corresponding projections radially disposed about the outer periphery thereof. The cylindrical magnet is disposed in very close proximity to the turntable projections and has its major axis parallel to the turntable axis so that positive rotation of the magnet causes the turntable to rotate in synchronism therewith.

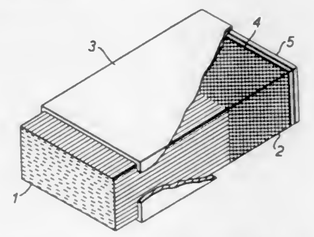


3,525,005
AXIAL AIR GAP ALTERNATORS WITH MOVABLE P-M DISC ROTOR
Edward Stanley Beyers, 199 Prince George Ave., Brakpan, Transvaal, Republic of South Africa
Filed Aug. 26, 1968, Ser. No. 755,215
Claims priority, application Republic of South Africa, Aug. 29, 1967, 5,165
Int. Cl. H02k *21/24, 35/02;* **H02p** *9/40*
U.S. Cl. 310—156 **3 Claims**



An electric generator comprising a stator and a rotor, the rotor having magnets thereon and being separated from the stator by an air gap, a shaft floatably mounted in bearings in the generator casing and carrying the rotor, and vanes provided on the rotor and adapted, on rotation of the rotor, to create a thrust away from the stator proportional to the rate of rotation of the rotor.

3,525,006
CARBON FIBRE BRUSH
Norman Lawrence Parr, Wareham, Dorset, Sam Bolshaw, Bath, Somerset, and Edwin Richard Wells May, Moordown, Bournemouth, England, assignors to National Research Development Corporation, London, England, a British corporation
Filed Feb. 29, 1968, Ser. No. 709,444
Int. Cl. H01r *39/26*
U.S. Cl. 310—251 **4 Claims**



A carbon brush comprising an aligned array of juxtaposed carbon or graphite fibres wherein the contact sur-

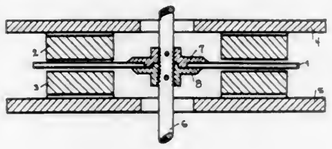
face of said brush is formed by the ends of said fibres. The fibres may be bonded to each other for a part of their length either by means of an epoxy resin or by electroplating the ends of said fibres.

3,525,007

AXIAL AIR-GAP MACHINES HAVING MEANS TO REDUCE EDDY CURRENT LOSSES IN THE ARMATURE WINDINGS

Jacques Henry-Baudot, Antony, France, assignor, by mesne assignments, to Photocircuits Corporation, Glen Cove, N.Y., a corporation of New York

Filed Aug. 15, 1968, Ser. No. 752,839
Claims priority, application France, Aug. 25, 1967, 119,128
Int. Cl. H02k *1/06*
U.S. Cl. 310—268 **10 Claims**



Electrical rotating machines having a lamellar conductor armature within an air-gap comprised of magnetic field zones of alternate denominations as generated by two sets of lumped magnetic pieces ensuring a spreading of the magnetic fringes at locations of said zones whereat the lamellar conductors come in and out during rotation, consequently importantly reducing the generation of eddy currents in said lamellar conductors.

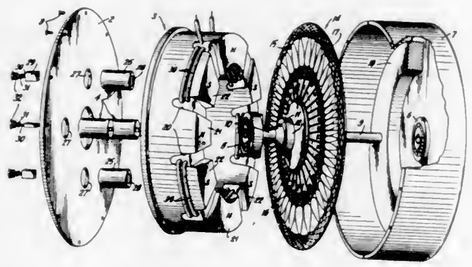
3,525,008

ELECTRICAL WIRE WOUND AXIAL AIR-GAP MACHINES

Robert P. Burr, R.D. 3, Lloyd Lane, Lloyd Harbor, Huntington, N.Y. 11743

Filed Dec. 6, 1965, Ser. No. 511,709
Int. Cl. H02k *1/22*
U.S. Cl. 310—268 **10 Claims**

Electric motors with insulated wire wound disc armatures and a commutator connected thereto. The armature is shown including generally radially extending segments traversing the working air gap, crossover



connections located outside the air gap and commutator pull out connections at regular intervals throughout the winding for connecting the winding to the commutator segments.

ERRATA

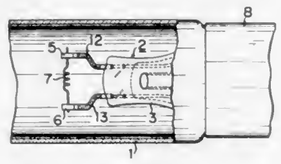
For Class 313—85 see:
Patent Nos. 3,524,971 thru 3,524,974

3,525,009

LOW PRESSURE MERCURY VAPOUR DISCHARGE LAMP INCLUDING AN ALLOY TYPE GETTER COATING

Akira Someya, Yokohama-shi, Teizo Hanada, Saitama-ken, Tadaaki Watanabe, Hyogo-ken, and Shunji Kikuchi and Kenji Enokida, Yokohama-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed Feb. 3, 1969, Ser. No. 796,233
Claims priority, application Japan, Feb. 5, 1968, 43/6,714, 43/6,846; Feb. 7, 1968, 43/7,185
Int. Cl. H01j *61/20, 61/26, 61/35*
U.S. Cl. 313—178 **14 Claims**



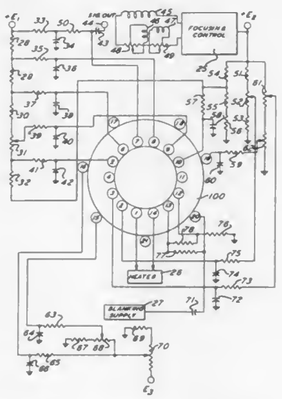
A low pressure mercury vapour discharge lamp is disposed with a getter on the electrode mounts except those portions thereof which are coated with activated electron-emitting materials, said getter including an alloy of at least one selected from a first group consisting of the metals of Groups III, IV and V and tungsten and at least one selected from a second group consisting of the metals of Group VIII, aluminum and copper, the proportion of the metal of the first group accounting for at least 5 percent by weight on the basis of the alloy, said alloy being coated in the form of powder in an amount equal to 1 to 20 times by weight that of the activated electron-emitting materials, said alloy powders having an average particle size of 1 to 50 microns, the melting point of said alloy being 1250° C. max.

3,525,010

IMAGE ORTHICON BEAM CONTROL CIRCUIT

Chester L. Heflin, Schwenksville, and Arthur H. Mengel, Pottstown, Pa., assignors to Teltron, Inc., Boyertown, Pa., a corporation of Pennsylvania

Filed Apr. 1, 1968, Ser. No. 717,833
Int. Cl. H01j *31/48*
U.S. Cl. 315—11 **7 Claims**



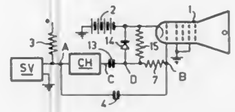
Television camera circuitry for use in conjunction with an image orthicon tube wherein improved beam and target control circuitry is provided to balance the beam and target voltage, and wherein voltage regulating means is connected between the target and a generating means and voltage regulating means is provided between the generating means and a grid for controlling the current of the beam.

3,525,011

CIRCUIT ARRANGEMENT FOR CONTROLLING THE BEAM OF A CATHODE-RAY TUBE

Gerhard Willem Broekema, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 24, 1968, Ser. No. 770,334
Claims priority, application Netherlands, Nov. 16, 1967, 6715629
Int. Cl. H01j *29/52*
U.S. Cl. 315—30 **11 Claims**



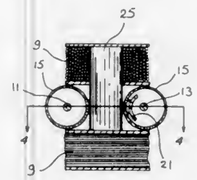
A CRT control circuit comprising a first capacitor coupled between the output of a source of control voltage and the control grid of the CRT. A chopper has its input coupled to the output of the control voltage source and supplies to the control grid, via a second capacitor and a first resistor in series, amplitude modulated voltage pulses. A clamping diode shunted by a second resistor is connected at one end to the cathode circuit of the CRT and at the other end to the junction between said second capacitor and first resistor. The second capacitor and second resistor are chosen to have an RC time constant that is large relative to the recurrence period of the chopper voltage pulses.

3,525,012

SELF-CONTAINED TRANSFORMER AND LOW VOLTAGE LAMP

Panayotis C. Dimitracopoulos, P.O. Box 458, Outremont, Montreal 154, Quebec, Canada, and Constantine D. Pezaris, 9 Little Nahant Road, Nahant, Mass. 01908

Filed Sept. 25, 1967, Ser. No. 670,036
Int. Cl. H01f *31/06;* **H01k** *11/00*
U.S. Cl. 315—70 **1 Claim**



An illumination source converting electric energy to light. A combination of a power transformer and an electric lamp, the secondary winding of the transformer being a part of the light-emitting filament and lying wholly within the lamp, thereby eliminating the leads and contacts which usually connect an electric lamp to its source of electric energy.

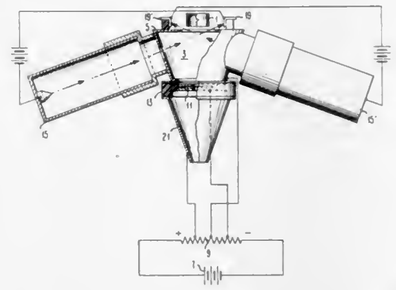
3,525,013

METALLIC ION SOURCE INCLUDING PLURALITY OF ELECTRON GUNS

Jay C. Pelton, Jr., Endicott, and Richard C. Senger, Binghamton, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 26, 1968, Ser. No. 747,916
Int. Cl. H01j *3/18, 37/08*
U.S. Cl. 315—111 **5 Claims**

A metallic ion source including a metal vaporizer which produces uncharged metal atoms, which are directed into an ionization chamber, where two or more electron guns are positioned to direct streams of electrons into the chamber to ionize the metal atoms. The charged atoms are subjected to voltage differentials which propel them toward an ion capture chamber. Once the ions are within



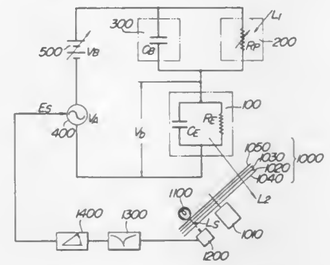
the ion capture chamber, they are accelerated by another voltage field. Non-ionized atoms are captured on screens provided for that purpose.

3,525,014

ENERGY-RESPONSIVE LUMINESCENT DEVICE

Tadao Kohashi, Yokohama, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan

Filed Jan. 25, 1968, Ser. No. 700,454
Claims priority, application Japan, Jan. 30, 1967, 42/6,849
Int. Cl. H05b *37/00, 39/00*
U.S. Cl. 315—169 **3 Claims**



An energy-responsive luminescent device comprising an electro-luminescent element which is excited by an alternating voltage supplied through a capacitor; and an energy-responsive element (for example, a photo-electro-conductive element) connected in series to said electro-luminescent element so that said energy-responsive element controls the bias voltage to said electro-luminescent element in response to an input energy, thereby controlling the luminescent output from said device; thus providing a very high luminescent output, an extremely high sensitivity and controllability.

3,525,015

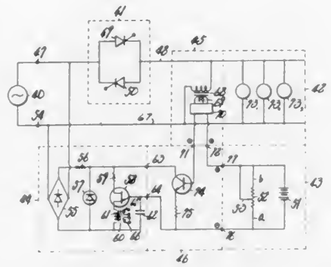
LAMP DIMMER WITH CONDUCTION ANGLE CONTROL MEANS IN SUPPLYING POWER TO THE LAMP LOAD

Hiroshi Kita, Otu-shi, Japan, assignor to New Nippon Electric Company, Osaka-fu, Japan

Filed June 28, 1967, Ser. No. 649,576
Claims priority, application Japan, June 29, 1966, 41/45,230
Int. Cl. G05f *1/00;* **H05b** *37/02*
U.S. Cl. 315—194 **8 Claims**

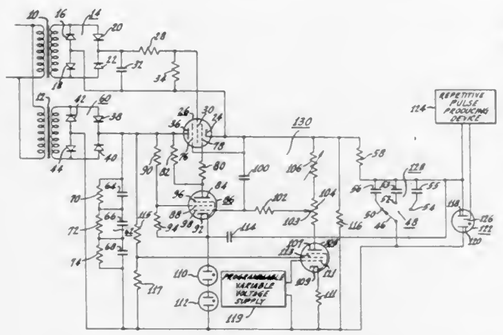
A lamp dimmer circuit having an electric valve controlling the conduction angle in supplying power to a lamp load for illumination. An AC-DC converter for a

feed-back signal in correspondence with power flowing through the lamp load is connected between an amplifier and a signal generator in reverse polarity thereto. A control signal, produced by the feed-back signal and a signal from the signal generator, is applied to a pulse gen-



erator through the amplifier for controlling the conduction angle in a manner highly sensitive to momentary overload (surges of current) and voltage transients. Undesired illuminant variations caused by variations of the power supply are thereby automatically controlled.

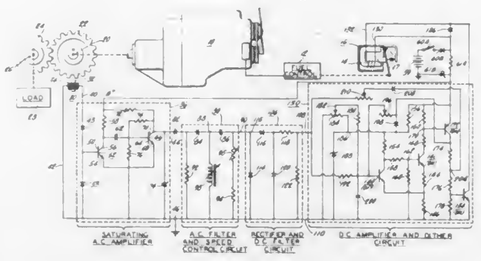
3,525,016
APPARATUS FOR REGULATING THE LIGHT OUTPUT OF A FLASH LAMP
Fausto Caprari, Jersey City, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Oct. 23, 1967, Ser. No. 677,323
Int. Cl. H05b *37/00*
U.S. Cl. 315—241 **4 Claims**



For certain purposes it is necessary to take a series of pictures using a flashing light to illuminate the object with the same intensity of light for all pictures of the series. It also may be necessary to take the several pictures of a series at short intervals. A low impedance voltage regulated power supply for charging a storage capacitor is described which is useable with a light source to provide closely spaced, short flashes of light of the same intensity.

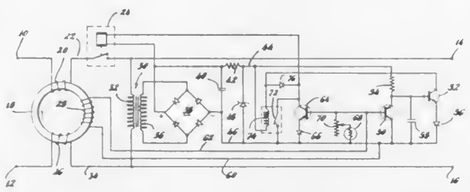
3,525,017
ELECTRIC GOVERNOR APPARATUS
Merton I. Rosenberg and Walter G. Bohaker, Springfield, Mass., assignors to AMBAC Industries Incorporated, Columbus, Miss., a corporation of New York
Filed Jan. 8, 1968, Ser. No. 696,444
Int. Cl. G05b *11/26*
U.S. Cl. 317—5 **6 Claims**

An electrical engine-speed governor suitable for variable speed or constant speed use, in which the fuel control for the engine is kept in substantially continuous oscillating motion about the desired average position to provide a "dither" action, whereby static friction is eliminated from the fuel-control actuating apparatus and linkages so that better stability, control and transient response are provided. Preferably the "dither" action is provided by utilizing a solenoid actuator for the fuel control and supplying the solenoid with a current which alternates between a higher and a lower value; control of



the average position of the solenoid actuator is achieved by varying the relative durations of the high current and the low current intervals in response to electrical signals indicative of engine speed. In the preferred embodiment the "dither" control circuit comprises a transistorized Schmitt trigger circuit provided with a feedback connection such that the relative durations of the on and off intervals of conduction in each of the transistors of the Schmitt circuit can be controlled in response to a varying DC control voltage indicative of engine speed.

3,525,018
GROUND LEAKAGE CURRENT INTERRUPTER
Robert M. Murphy, Fairfield, and Alton R. Morris, Trumbull, Conn., assignors to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed June 27, 1968, Ser. No. 740,662
Int. Cl. H02h *3/28*
U.S. Cl. 317—18 **10 Claims**

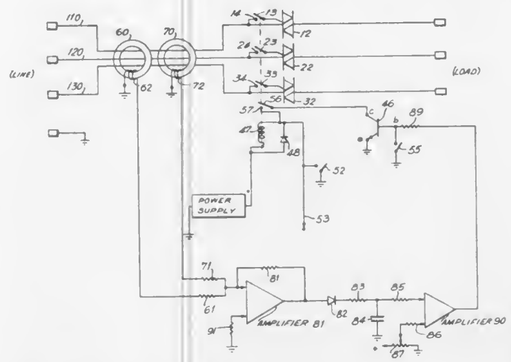


A ground leakage current interrupter of the differential transformer type is disclosed which has safeguards against high leakage currents. A solid state circuit is provided in which high voltage on the transformer secondary is shorted during both halves of the power cycle. Voltage buildup on the secondary is amplified by the solid state circuit which closes and latches a reed relay. The reed relay operates the main circuit breaker.

3,525,019
POWER PROTECTION APPARATUS
John Lansch, Elm St., Upper Nyack, N.Y.
Filed July 20, 1967, Ser. No. 654,799
Int. Cl. H02h *3/28, 7/00*
U.S. Cl. 317—27 **3 Claims**

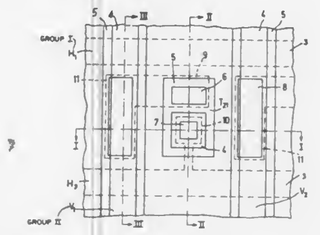
A power protection circuit for use with single or polyphase AC power lines for reliably connecting and dis-

connecting a load from the lines including semiconductor switching devices connected in series with each of the lines and made responsive to unbalances in voltage or current in the line. The semi-conductor devices are triacs which



have their control gates selectively connected or disconnected from their respective lines in response to a voltage phase balance bridge circuit or a toroidal current balance network coupled to the lines.

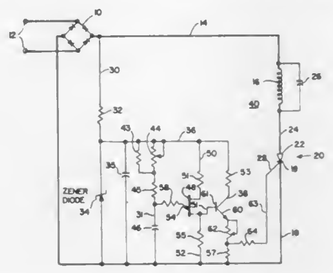
3,525,020
INTEGRATED CIRCUIT ARRANGEMENT HAVING GROUPS OF CROSSING CONNECTIONS
Albert Schmitz, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed May 15, 1967, Ser. No. 638,339
Claims priority, application Netherlands, May 19, 1966, 6606912
Int. Cl. H01l *19/00*
U.S. Cl. 317—101 **8 Claims**



A semiconductor matrix is constructed with two groups of crossing conductors on one side of a semiconductor wafer, the second group of conductors being continuous through the use of uninterrupted conducting surface regions. The conductors interconnect circuit elements of different nature such as diodes, transistors, capacitors, pnpn-devices etc.

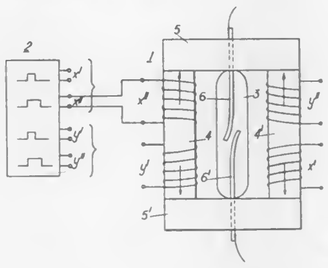
3,525,021
PRECIPITATOR RAPPER CONTROL
Robert G. Engman, Huntington Beach, Calif., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 491,599, Sept. 30, 1965. This application Oct. 7, 1968, Ser. No. 779,289
Int. Cl. H01h *47/18*
U.S. Cl. 317—142 **9 Claims**

A control circuit for a precipitator rapper having a controlled switching device connected in series with the rapper operating coil, a capacitor connected across the coil and a pulse generating means for supplying gating pulses to the switching device at a selected time which pulses have an amplitude exceeding a predetermined value for a predetermined time to cause the switching device to be



rendered conductive for as long as the gating pulses exceed such predetermined value and which switching device is non-conductive at the end of the half cycle in which the gating pulse falls below such predetermined value until the next succeeding gating pulse is supplied to the switching device.

3,525,022
MAGNETIC MEMORY SWITCH
Albert Regnier, Issy-les-Moulineaux, and Fernand Silerme, Creteil, France, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 12, 1965, Ser. No. 425,010
Claims priority, application France, Jan. 17, 1964, 960,728
Int. Cl. H01h *47/00*
U.S. Cl. 317—155.5 **1 Claim**

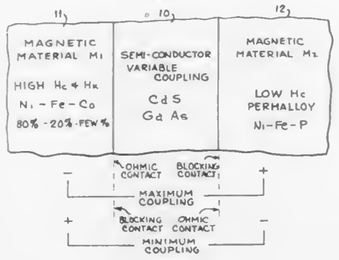


A glass reed matrix includes a yoke structure which uses crosspoint contacts controlled by two pair of coils, each pair being individually associated with either an X or a Y coordiate, respectively. The contacts release if they are associated with a pair of coils which are energized in a single coordinate direction. But, the contacts operate if they are associated with coils at the intersection of two energized coordinate directions.

3,525,023
MULTILAYER THIN FILM MAGNETIC MEMORY ELEMENT
Solomon R. Pollack, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 477,436, Aug. 5, 1965. This application July 22, 1969, Ser. No. 846,651
Int. Cl. H01l *9/00*
U.S. Cl. 317—234 **6 Claims**

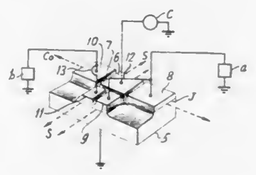
A memory element made up of a semiconductor film sandwiched between two magnetic films. The two magnetic films differ from each other in their characteristic

coercive force and have their easy axis of magnetization at a 90° angle to each other. When an electric potential is applied between the magnetic films such that the semiconductor film is made electrically conductive, the direction of the magnetization in the film having the lower value of characteristic coercive force tends to align itself with the direction of magnetization of the film having the higher value of characteristic coercive force and is thus rotated away from its original direction and away from



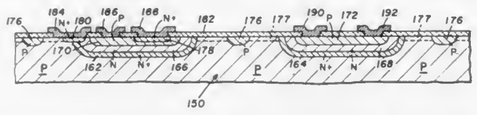
the easy axis of magnetization. The electrical potential applied is such that the rotation is kept to about 60° from the original direction. When the electrical potential between the magnetic films is changed such that the semiconductor film is not electrically conductive, the direction of magnetization in the film having the lower value of characteristic coercive force returns to the easy axis of magnetization. This return induces an electromotive force in a sensor.

3,525,024
INJECTION LASER ADDER ELEMENT
Akira Kawaji, % Nippon Electric Company, Limited, 7–15 Shiba Gochome, Minato-ku, Tokyo, Japan
Filed May 16, 1968, Ser. No. 731,360
Claims priority, application Japan, May 23, 1967, 42/32,710
Int. Cl. H01l *15/00*
U.S. Cl. 317—234 **11 Claims**



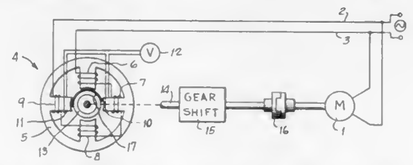
A device is described for providing a logical half adder function using few optical injection laser elements (as low as five) by incorporating the quenching effect that quenches a laser produced between elements by subjecting the latter elements to a laser action that is transverse thereto. The regions of an injection laser semiconductor junction are arranged in parallel rows with selected regions between rows in lasing relationship and the regions of one row in lasing relationship with one another. Currents representative of signals to be added are selectively applied to the regions and a biasing current is applied to set the operating threshold in such manner that lasing in one direction occurs representative of the sum and lasing in the other direction occurs representative of the carry ouptut of the optical half adder.

3,525,025
ELECTRICALLY ISOLATED SEMICONDUCTOR DEVICES IN INTEGRATED CIRCUITS
Carl J. Lowery, Plano, and Billy B. Williams, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Original application Aug. 2, 1965, Ser. No. 476,538, now Patent No. 3,370,995. Divided and this application Jan. 4, 1968, Ser. No. 719,805
Int. Cl. H01l *19/00*
U.S. Cl. 317—235 **3 Claims**



Disclosed is an integrated circuit including a high resistivity monocrystalline substrate of one conductivity type having formed into one of its planar surfaces a semiconductor component having a first low resistivity semiconductor layer of opposite conductivity type than the substrate, epitaxially grown in a pocket formed in the substrate with its edge coplanar with the surface of the substrate to enable connections to be made to the layer, and forming a P-N junction with the substrate to electrically isolate the component from others formed in the substrate; a second higher resistivity semiconductor layer epitaxially grown to the first semiconductor layer; and regions diffused into the second layer of conductivity type appropriate to form the desired semiconductor component.

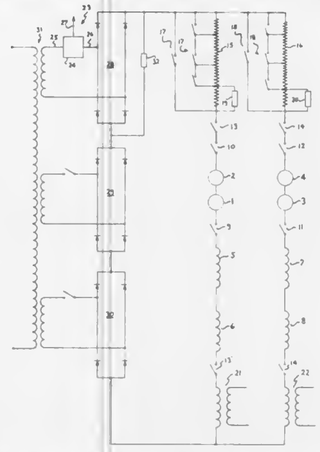
3,525,026
APPARATUS RESPONSIVE TO THE SLIP OF AN ELECTRICAL MACHINE
Syed V. Ahamed, Morris Plains, N.J., assignor to Research Corporation, New York, N.Y., a nonprofit corporation of New York
Filed Aug. 5, 1968, Ser. No. 750,219
Int. Cl. H02p *1/42*
U.S. Cl. 318—232 **9 Claims**



Apparatus responsive to the slip of an electrical machine, e.g., an induction motor. Apparatus includes a rotor adapted for mechanical connection to rotor of machine whose slip is to be measured, and a stator having a primary winding with terminals adapted for electrical connection to terminals of machine whose slip is to be measured. The rotor has electrical characteristics which vary cyclically n times around its periphery. The primary winding has P poles. The stator also has a secondary winding with $P \pm 2n$ poles. The voltage across the secondary winding is a substantially linear function of slip over a substantial range, and may be applied to a voltage sensitive device to effect a measurement or control operation as a function of slip.

3,525,027
REGULATED DYNAMIC BRAKING CIRCUIT
Earnest F. Weiser, Erie, Pa., assignor to General Electric Company, a corporation of New York
Filed July 29, 1968, Ser. No. 748,491
Int. Cl. H02p *3/12*
U.S. Cl. 318—367 **14 Claims**

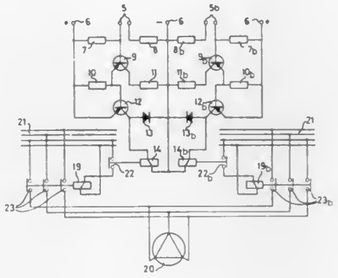
A dynamic braking circuit for series connected D-C motors including a controlled voltage conversion means comprising a phase-controlled impedance in combination with a full-wave rectifier for adding controlled amounts of voltage from a source to the motor and a braking resistance connected in series with the motor armature. The system for controlling the output of the conversion means includes a regulator circuit which, during the intervals of time when the braking resistance is constant in magnitude, controls a voltage level used to vary the firing angle of the phase controlled impedance in accordance with the difference between the instantaneous and programmed or desired braking current and such additional factors as wheel slip. During the mode of operation when the braking effort and hence the flow of current through the motor is to be increased, a first pulse producing circuit is activated when the voltage output of the conversion means exceeds the voltage on the braking resistance. This, in turn, activates a circuit which causes a relay to shunt out a discrete increment of the braking resistance which circuit simultaneously provides an output pulse having a duration equal to the delay in



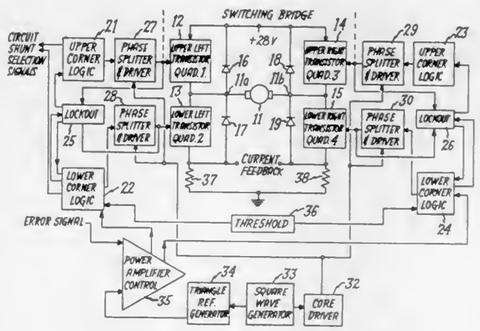
closing of the relay contactor. This output pulse is transmitted to the regulator circuit and to a circuit for providing a variable voltage level to decrease, for a predetermined time after the disappearance of the pulse, the firing angle of the phase controlled impedance and, hence, the output of the conversion means. When the braking effort is to be decreased, a second pulse producing circuit provides a signal when the output of the conversion means is zero, which signal is also transmitted to the aforementioned circuit which this time causes a relay to increase the magnitude of the braking resistance by a discrete increment and which circuit provides a similar output pulse having a duration equal to the delay in the opening of the relay contactor. This pulse is transmitted to the regulator circuit and to a command circuit with the ultimate result that the voltage output of the conversion means is instantaneously increased for a predetermined time and by an amount dependent upon the voltage on the braking resistance.

3,525,028
ELECTRONIC CONTROL FOR THE MOVEMENT OF LARGE OBJECTS, PARTICULARLY MOVABLE BLACKBOARDS
Walter Ruoss, Siebnen, and Hans Jenny, Berlingen, Switzerland
Filed Apr. 17, 1967, Ser. No. 631,252
Claims priority, application Switzerland, Apr. 15, 1966, 5,521/66
Int. Cl. H02p *1/02*
U.S. Cl. 318—446 **1 Claim**

An electronic control system for large objects which uses linear contact units instead of spot contacts. The contact unit consists of a high-grade insulator carrying two conductors consisting of non-oxidizable metal bands and corresponds to the length of the object to be moved. Contact can be established by bridging the two conductors with a finger at any desired spot, whereby due to the resistance inherent in the human skin, but slight current flow is effected. The latter then is amplified and actuates a relay which effects a switching operation. The device is particularly useful, but not limited, to the actuation of movable blackboards.



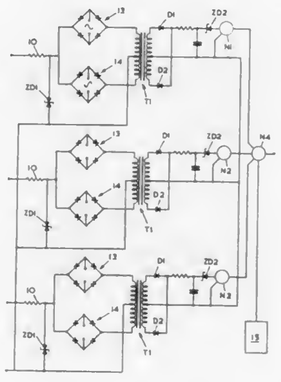
3,525,029
PULSE WIDTH MODULATION POWER SWITCHING SERVO AMPLIFIER AND MECHANISM
John A. Joslyn and David A. Citrin, Dalton, Mass., assignors to General Electric Company, a corporation of New York
Filed Jan. 3, 1967, Ser. No. 606,806
Int. Cl. G05b *9/02*
U.S. Cl. 318—599 **14 Claims**



A bridge power amplifier including a protection circuit for preventing misconduction of the active power switching element of the bridge and short circuit conditions. The protection circuit comprises corner logic circuit means for each of the power semiconductor switching means to be turned on and off including lockout circuit means operatively intercoupling the corner logic circuit means of the upper and lower power semiconductor switching means on the same side of the bridge for positively preventing conduction of one while the other is conducting and vice versa. Lockout is achieved through suitable feedback inhibiting signals applied to and developed by the lockout circuit means whereby turn-on of a power semiconductor switching means on one side of the bridge is delayed until the other power semiconductor switching means on the same side of the bridge is fully off. In a preferred embodiment, compensation circuit means are

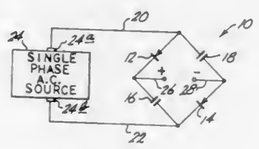
operatively associated with the lockout circuit means to compensate for voltage drop in the switching semiconductors thereby reducing power dissipation losses. A shunt feedback network for the bridge is not subject to common mode switching current flow in the load which tends to obscure the feedback signal value.

3,525,030
CONTROL CIRCUIT FOR STATIC CONVERTERS
Royston Alfred Hammond and George Tilstone, Stafford, England, assignor to The English Electric Company Limited, London, England, a British company
Filed Mar. 29, 1968, Ser. No. 717,210
Claims priority, application Great Britain, Mar. 31, 1967, 14,976/67
Int. Cl. H02m *7/00;* **H02n** *7/14*
U.S. Cl. 321—5 **10 Claims**



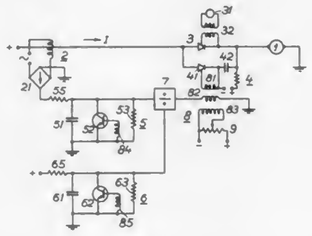
This invention relates to a control circuit for a static converter which is operable to detect the occurrence of "zero current" in the controlled devices of the converter. The control circuit comprises diode bridge networks for separately monitoring the voltage appearing across a controlled device in each phase arm of the converter and a network of logical elements operable to develop an output to withdraw the firing pulses from all the devices in that converter in response to the detection by the bridge networks of a voltage appearing across all the monitored devices simultaneously.

3,525,031
VOLTAGE RECTIFIER AND MULTIPLIER
William L. King, Springfield, Oreg., assignor, by mesne assignments, to Nathan E. Knecht, Springfield, Oreg.
Filed July 26, 1968, Ser. No. 748,093
Int. Cl. H02m *7/00*
U.S. Cl. 321—15 **6 Claims**



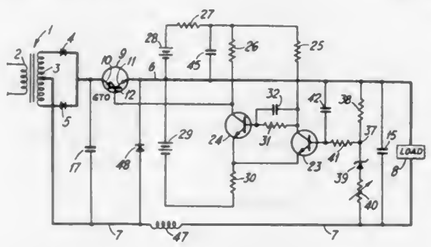
A voltage rectifier and multiplier including a pair of AC input terminals and a pair of DC output terminals. The input and output terminals are interconnected by a bridge circuit including two pairs of opposing branches. The branches in one pair each contain a diode, and the branches in the other pair each contain a capacitor. The circuit is adaptable for use in both single-phase and plural-phase applications.

3,525,032
REGULATING SYSTEM
Vilmos Török, Vasteras, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed June 17, 1968, Ser. No. 737,736
Claims priority, application Sweden, June 22, 1967, 8,961/67
Int. Cl. G05f *5/00;* **H02m** *1/08, 7/52*
U.S. Cl. 321—18 **4 Claims**



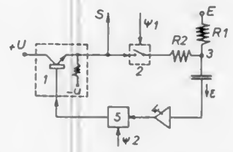
A regulating system for regulating the mean value of an electrical magnitude which varies periodically at a certain frequency, such as an alternating current, has at least one controlled current rectifier which determines such mean value, which can be preset. The actual value of the magnitude is measured by the combination of the integrating circuit fed by the magnitude to be regulated and a division circuit which derives the actual mean value as the ratio between the outputs of the integrating circuit and a time measuring circuit. The integrating and time measuring circuits are cancelled to neutralize both circuits at zero.

3,525,033
REGULATED POWER SUPPLY UTILIZING A GATE TURN OFF SWITCH
Sol Greenberg, 23 Ridge Drive, Port Washington, N.Y. 11050, and Irving Forrest, 21 Evelyn Road, Plainview, N.Y. 13137
Filed Feb. 18, 1965, Ser. No. 433,594
Int. Cl. G05f *1/44*
U.S. Cl. 323—22 **4 Claims**



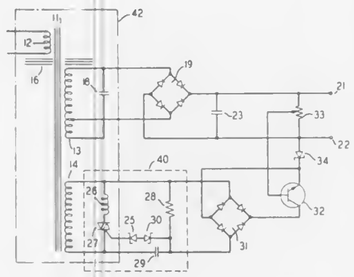
A regulated power supply including a gate turn-off switch (GTO) as a main regulating element. A positive pulse is applied to the GTO to render it conductive when the output falls below a predetermined level and a negative pulse is applied to the GTO to render it nonconductive when the output level exceeds a predetermined value, so that regulation is achieved by controlling the periods of both the conductive and nonconductive states of the GTO.

3,525,034
ELECTRONIC SYNCHRONOUS RECTIFIER CIRCUIT
Julien L. Gilliotunier, Fresnes, Yves Jacquet, Paris, and Jean-Claude Pascal Kamiski, Marseille, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France
Filed July 13, 1967, Ser. No. 653,105
Claims priority, application France, July 26, 1966, 70,952
Int. Cl. G05f *1/64;* **G02p** *13/24*
U.S. Cl. 323—31 **7 Claims**



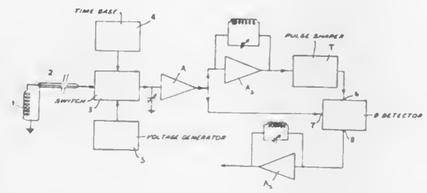
An electronic synchronous rectifying circuit for producing a direct current output signal proportional to the amplitude of a square waveform input signal, the sign of the direct current signal is dependent upon the phase of the input signal relative to the phase of a reference signal by chopping the direct current signal into square waveform signal which is in phase opposition with the square waveform input signal. The opposed square waveform signals are added to derive a resultant error signal which is amplified and demodulated by a demodulator, the demodulated signal controlling the magnitude direct current output signal.

3,525,035
CLOSED LOOP FERRORESONANT VOLTAGE REGULATOR WHICH SIMULATES CORE SATURATION
Robert J. Kakalec, Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Sept. 30, 1968, Ser. No. 763,881
Int. Cl. G05f *3/06;* **H02m** *7/12*
U.S. Cl. 323—61 **8 Claims**



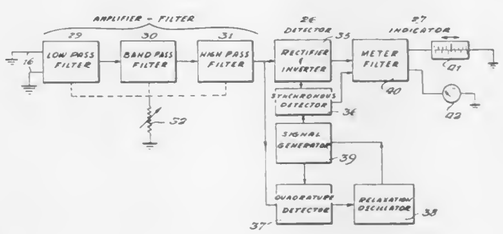
In a ferroresonant voltage regulator of either the two core or the one core type, the function of the saturating core is replaced by an integrating circuit, a switch, and an inductor. The integrating circuit is coupled to the normally saturating winding to develop an integrating capacitor voltage proportional to the volt-time integral of the ferrocapacitor voltage. The switch couples the inductor to the normally saturating winding in response to the voltage across the integrating capacitor to reverse the charge on the ferrocapacitor and provide ferroresonant type regulation without the disadvantages that accompany core saturation. A feedback network which varies the charging rate of the integrating capacitor in response to load voltage may be added to provide good closed loop regulation simply, inexpensively and efficiently.

3,525,036
PROCESS FOR THE DETECTION OF HYDROCARBONS AND APPARATUS FOR CARRYING IT OUT
Georges Béné, Saint-Jeoire-Faucigny, France, assignor to Institut Francais du Petrole des Carburants et Lubrifiants, Rueil-Malmaison, Hauts-de-Seine, France
Filed Sept. 5, 1968, Ser. No. 757,712
Claims priority, application France, Sept. 15, 1967, 121,276
Int. Cl. G01n *27/78*
U.S. Cl. 324—.5 **2 Claims**



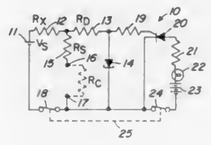
Process based on the analysis of the free magnetic procession signal of the protons of the studied geological formation, this signal including a central peak at the frequency of the protons not bound to C^{13} atoms and satellite peaks, wherein this signal is subjected to a synchronous detection with frequency change, using as a reference frequency the frequency of the central peak.

3,525,037
METHOD AND APPARATUS FOR MEASURING SUBSURFACE ELECTRICAL IMPEDANCE UTILIZING FIRST AND SECOND SUCCESSIVELY TRANSMITTED SIGNALS AT DIFFERENT FREQUENCIES
Theodore R. Madden, Weston, George H. Hopkins, Jr., Boston, and Michael Chessman, Watertown, Mass., assignors, by mesne assignments, to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Nov. 14, 1967, Ser. No. 682,803
Int. Cl. G01v *3/12*
U.S. Cl. 324—7 **2 Claims**



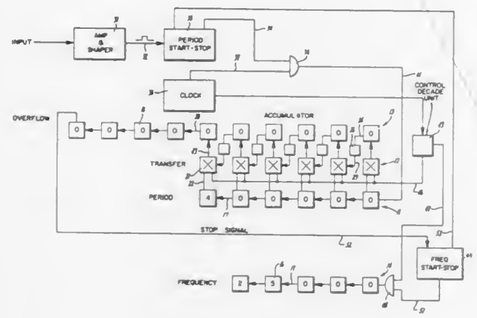
A receiver for measuring the subsurface electrical impedance of the earth as indicated by the frequency dependent attenuation of low frequency transmitted signals. The receiver has a gain control for establishing a reference gain level at one frequency and an indicator for the signal amplitude deviation at a second frequency. A synchronous detector controlled by the output of a local oscillator synchronized with the received signal permits operation under poor signal-to-noise conditions.

3,525,038
HIGH SPEED CIRCUIT DISCONTINUITY DETECTOR INCLUDING TUNNEL DIODE AND SILICON CONTROLLED RECTIFIER MEANS
James W. Felt, Cedar Rapids, and William H. Kirn II, Palo Alto, Calif., assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Feb. 16, 1968, Ser. No. 705,971
Int. Cl. G01r 31/02
U.S. Cl. 324—51 11 Claims



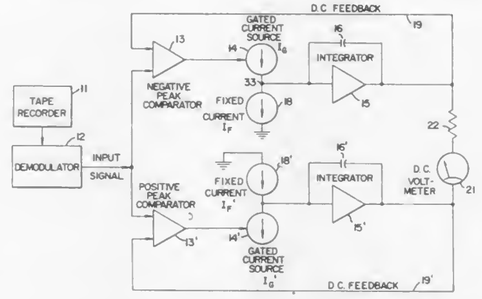
A high speed short interval circuit discontinuity sensor dependent on current steering as controlled by impedance changes in a parallel impedance path resulting in threshold of a tunnel diode being exceeded with switching from a low voltage state to a high voltage state through an unstable negative resistance region. The increased voltage across the tunnel diode in the high voltage state results in a trigger gate current flow to a silicon controlled rectifier and closing of a light and battery circuit for visual indication that a discontinuity existed in circuitry being tested.

3,525,039
DIGITAL APPARATUS AND METHOD FOR COMPUTING RECIPROCALS AND QUOTIENTS
Daniel J. Mindheim, San Jose, Calif., assignor to Time Systems Corporation, Mountain View, Calif., a corporation of California
Filed June 12, 1968, Ser. No. 736,326
Int. Cl. G01r 23/02
U.S. Cl. 324—78 12 Claims



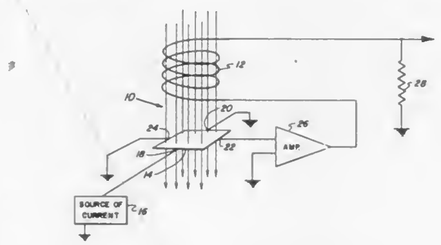
Apparatus and method for digitally measuring an input quantity and computing the reciprocal of or dividing by that quantity. The quantity is stored in digital form in an input register from which it is repeatedly transferred into an accumulator until an overflow occurs in the accumulator. The number of transfers before the overflow occurs is counted into an output register, the count registered in the output register indicates the reciprocal of the input quantity. When a number corresponding to a predetermined quantity is preset into the accumulator, the output register shows the quotient of the predetermined quantity divided by the input quantity.

3,525,040
STATISTICAL VOLTMETER FOR ANALYZING SIGNAL AMPLITUDE DISTRIBUTION
Joseph J. Rolfe, Palo Alto, Calif., assignor to Data Measurements Corporation, Palo Alto, Calif., a corporation of California
Filed Oct. 23, 1967, Ser. No. 677,282
Int. Cl. G01r 19/16
U.S. Cl. 324—103 5 Claims



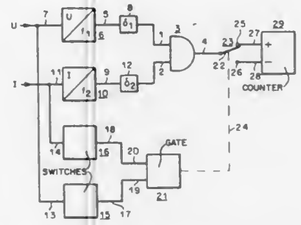
A statistical voltmeter for analyzing noise-like waveforms such as a waveform modulated by flutter, where a demodulated tape signal includes frequency deviations due to recording and reproducing abnormalities. The input signal is coupled into a peak comparator which gates a constant current source which in turn feeds a Miller integrator. The other input to the integrator is a fixed current source of opposite polarity which tends to maintain the input to the integrator at a zero level. The output of the integrator is fed back to a second input of the comparator. The comparator produces an output signal only when the input signal exceeds such feedback level. The ratio of the peak or instantaneous values of the two current sources determines the time for which the input signal exceeds the feedback level relative to the total measurement time. Thus, the feedback level is a direct measure of flutter.

3,525,041
MAGNETIC FIELD MEASURING METHOD AND DEVICE EFFECTIVE OVER A WIDE FREQUENCY RANGE
Willem B. Velsink, Beaverton, Oreg., assignor to Tektronix Inc., Beaverton, Oreg., a corporation of Oregon
Filed Aug. 8, 1966, Ser. No. 570,810
Int. Cl. G01r 33/00, 33/06
U.S. Cl. 324—117 15 Claims



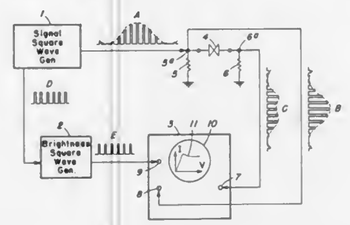
A current probe for measuring current in a conductor is provided with a winding for producing an output in an alternating current frequency range and a Hall device for producing an output at zero and low frequencies. The Hall device output is applied to the winding in a sense for opposing the measured flux. Means combine the outputs from the winding and from the Hall device.

3,525,042
METHOD AND APPARATUS FOR STATISTICALLY MEASURING ELECTRICAL POWER CONSUMPTION
Hans Nunlist, Baar, Zug, and Werner Jose Luthi, Cham, Zug, Switzerland, assignors to Landis & Gyr, Zug, Switzerland, a corporation of Switzerland
Filed Nov. 8, 1968, Ser. No. 774,348
Claims priority, application Switzerland, Nov. 13, 1967, 15,838/67
Int. Cl. G01r 21/00
U.S. Cl. 324—142 13 Claims



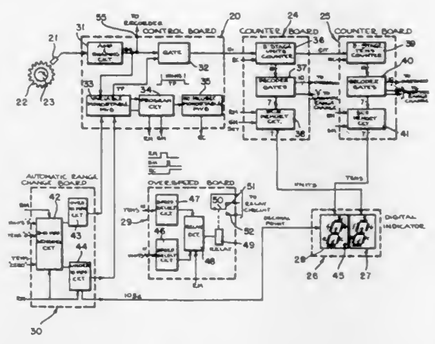
A method and circuitry for statistically measuring electrical power consumption for the parameters of voltage and current whereby one parameter is converted to a first train of pulses wherein the product of frequency and pulse width is proportional to that parameter, the second parameter is converted to a second train of pulses wherein the frequency is proportional to the second parameter and the width of the pulses is constant and much smaller than the width of the pulses in the first pulse train, both pulse trains are inputs to a coincidence circuit the output of which is a third train of pulses the average frequency of which is a measure of the power, and the output of the coincidence circuit is counted to measure the power consumed.

3,525,043
APPARATUS FOR DIRECTLY VIEWING CURRENT-VOLTAGE CHARACTERISTICS OF A SEMICONDUCTOR ELEMENT DRIVEN BY A MODULATED PULSE SUPPLY
Kenji Sekido, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan
Filed Feb. 18, 1969, Ser. No. 800,147
Int. Cl. G01r 31/22
U.S. Cl. 324—158 7 Claims



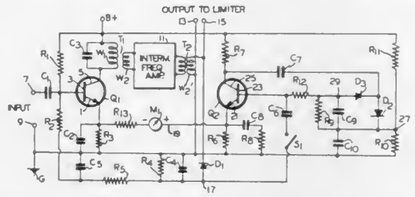
Oscilloscope apparatus for visually displaying a current-voltage characteristic curve of a semiconductor element whose crystal layer has a high power loss density when used in a state of high electric field intensity as a series of bright points, including voltage pulses representing the voltage applied to the element and current pulses representing the current flowing in the element in an in-phase relation, and brightness modulating voltage pulses synchronized with the in-phase voltage and current pulses, and uppermost flat portions of the brightness voltage pulses substantially coextensive with predetermined uppermost flat portions of the voltage and current pulses as applied to oscilloscope apparatus terminals to provide the characteristic curve bright points.

3,525,044
DIGITAL SPEED AND CONTROL SYSTEM
Abraham W. Richmond, Hickory Hills, Ill., assignor to Vapor Corporation, Chicago, Ill., a corporation of Delaware
Filed Feb. 28, 1968, Ser. No. 709,058
Int. Cl. G01p 3/12
U.S. Cl. 324—173 9 Claims



Digital speed and control system for a vehicle, such as a locomotive to indicate digitally the speed of the vehicle, and including a digital indicator capable of indicating the speed in different ranges, a magnetic pick-up coacting with a gear connected directly to the axle of the vehicle, electronic counter means responding to the pulses generated by the pick-up and converting same into a speed reading for the digital indicator, means for detecting the overspeed of a preselected speed, and means for automatically changing the range of speed measured.

3,525,045
APPARATUS FOR INDICATING TUNING OF FREQUENCY-MODULATED SIGNAL TRANSMISSIONS
Daniel R. von Recklinghausen, Arlington, Mass., assignor to H. H. Scott, Inc., Maynard, Mass., a corporation of Massachusetts
Filed July 12, 1967, Ser. No. 652,911
Int. Cl. H03j 3/14
U.S. Cl. 325—363 10 Claims

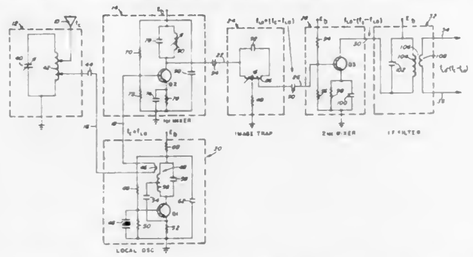


Novel apparatus is disclosed for using simple direct-current meter or similar indicators to indicate incidental amplitude modulation and off-tuning conditions in received FM signals and the like, with the aid of bridge circuits embodying transistors controlled by demodulator and peak-to-peak rectifier circuits with significant time-constants.

3,525,046
SINGLE LOCAL OSCILLATOR FOR DUAL CONVERSION SYSTEM
Joseph A. Bourget, Glencoe, Md., assignor to Chesapeake Systems Corporation, Cockeysville, Md., a corporation of Maryland
Filed Apr. 6, 1966, Ser. No. 540,610
Int. Cl. H04b 1/26
U.S. Cl. 325—434 10 Claims

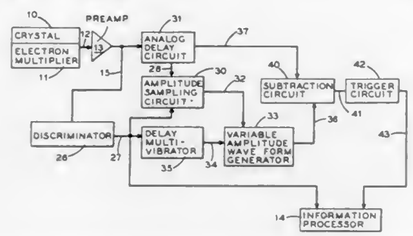
A dual frequency conversion system utilizing a single local oscillator is disclosed. The output of the local oscil-

lator is a fixed frequency which is applied to a mixer together with a received signal. The mixer output contains the signal frequency, the local oscillator frequency and the sum and difference of these two frequencies, as well as certain harmonics and image frequencies, all of



which are applied to a trap which is tuned to pass only the local oscillator frequency and the difference (or sum) frequency. The second mixer then mixes the two preserved signals to produce second sum and difference signals which are filtered to produce the desired output.

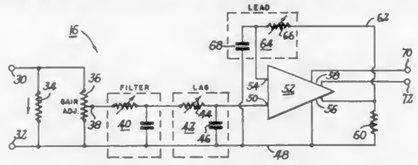
3,525,047
PILE-UP DISCRIMINATION TECHNIQUE
Robert J. Schwartz, Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas
Filed Dec. 5, 1967, Ser. No. 688,141
Int. Cl. H03k *5/20*
U.S. Cl. 328—114 **5 Claims**



An illustrative embodiment of the invention identifies individual radiation detector signals that have merged into one pulse as a result of signal amplification. A circuit samples the amplitude of the pulse, and a variable amplitude wave generator responds at a specific time relative to the sample by producing a facsimile of a single amplified detector signal appropriate to the sampled pulse amplitude. A further circuit then subtracts the facsimile pulse from the amplifier pulse. If the two pulses are identical, as indicated by a negligible difference between them, the sampled pulse represents an individual detector signal and is not a "pile-up" of several amplified detector signals. If the residue is significant, however, the sampled pulse is a composite of several amplified and overlapping detector signals. This residue then enables a counting circuit register to indicate an additional detector signal or signals.

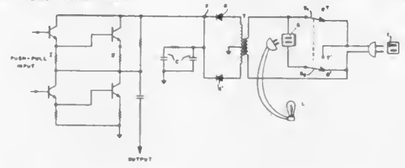
3,525,048
PROCESS INSTRUMENTATION SYSTEM WITH DYNAMIC COMPENSATOR
Neal D. Peterson, Foxboro, Mass., assignor to The Foxboro Company, Foxboro, Mass.
Filed Feb. 1, 1968, Ser. No. 702,386
Int. Cl. H03f *21/00;* **H03g** *3/00*
U.S. Cl. 330—1 **15 Claims**

An industrial process control system including a dynamic compensator comprising a high-gain operational amplifier with two input terminals one of which is supplied with a measurement signal transmitted through an R-C network to provide predetermined frequency-selective characteristics, the amplifier having a negative feedback circuit coupling the output signal to the other input terminal and including a second R-C network to provide further frequency-selective characteristics in the output signal; in another embodiment the second input terminal of the amplifier is coupled to a second input



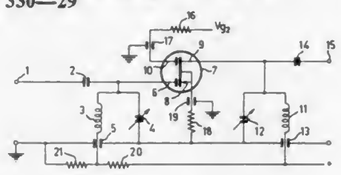
circuit supplying an adjustable-magnitude input signal to produce a controllable ratio signal in the amplifier output, there being provided a bias circuit which introduces an adjustable bias signal into the input of the amplifier, the supply current for such bias signal also being directed through the second input circuit in such a way as to oppose and thereby suppress a corresponding live-zero input current in the second input circuit.

3,525,049
TRANSISTOR AMPLIFIER SIMULTANEOUS CHECKING AND PROTECTING METHOD AND APPARATUS
Dean Bruce Langmuir, Sudbury, Mass., assignor to H. H. Scott, Inc., Maynard, Mass., a corporation of Massachusetts
Continuation of application Ser. No. 467,584, June 28, 1965. This application Dec. 30, 1968, Ser. No. 789,656
Int. Cl. G01r *19/16, 31/02;* **H03f** *3/42*
U.S. Cl. 330—2 **1 Claim**



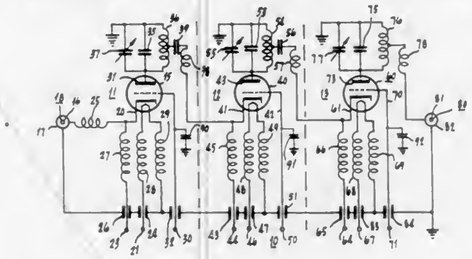
This disclosure deals with a voltage-control variable resistance indicator employed in a novel manner to check and protect transistor amplifier stages and the like, inadvertently mis-wired, from burn out upon application of power; and simultaneously, by distinctly different illumination indications, to make evident proper operational wiring or mis-wiring.

3,525,050
CIRCUIT ARRANGEMENT FOR AMPLIFYING ELECTRIC SIGNALS
Gerrit Wolf and Robbert Carel Thuis, Nijmegen, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 14, 1968, Ser. No. 767,314
Int. Cl. H03g *3/30;* **H03f** *3/16*
U.S. Cl. 330—29 **2 Claims**



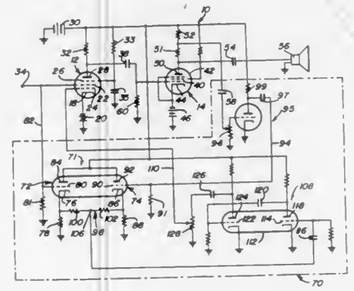
Amplifier utilizing a field effect transistor and employing a high value resistor connected between source and drain and having the effect of compensating the transistor for unwanted voltage variation.

3,525,051
CASCADE CONNECTED REGENERATIVE AMPLIFIERS
Louis John Striednig, Old Bridge, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Apr. 25, 1968, Ser. No. 724,153
Int. Cl. H03f *3/60*
U.S. Cl. 330—56 **8 Claims**



An improved cascade coupled regenerative amplifier circuit is achieved first by adjusting the output gain of the first and third amplifier stages so as to be sharply peaked at the center frequency. Secondly, the center amplifier stage is load mismatched to reduce its feedback and gain sufficiently to provide adequate isolation between stages. Thirdly, the lower center stage gain is peaked slightly off the center frequency.

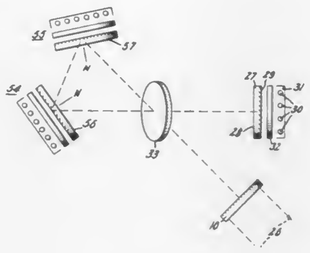
3,525,052
DISTORTION CANCELLING CIRCUIT FOR AMPLIFIERS
Farnsworth D. Clark, 534 N. Chambers, Galesburg, Ill., 61401
Filed May 13, 1968, Ser. No. 728,453
Int. Cl. H03f *1/26*
U.S. Cl. 330—149 **10 Claims**



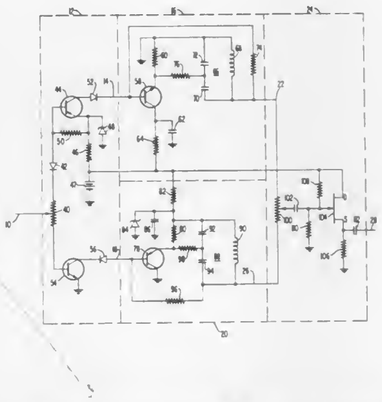
Harmonic distortion in the signal reproduced through a multistage amplifier due to nonlinearity of the amplifier tubes, is reduced by comparing the input signal level with a fraction of the output signal level equal to the reciprocal of the amplifier gain in order to produce a compensating signal added to the amplified signal between the stages of the amplifier.

3,525,053
TRANSVERSE MODE DISCRIMINATOR FOR LASER APPARATUS
Joseph P. Chernoch, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 22, 1965, Ser. No. 501,091
Int. Cl. H01s *3/00*
U.S. Cl. 331—94.5 **3 Claims**

The optical reasonant cavity of a laser oscillator includes a means for discriminating against transverse mode frequencies produced in the cavity. The transverse mode discriminator may be a passive etalon angularly positioned in the resonant cavity or an active type etalon which provides both mode discrimination and regenerative amplification. At least one of the elements in the apparatus comprises a laser disk optically pumped through one of of its end surfaces.



3,525,054
FREQUENCY SHIFT KEYING CIRCUIT
Kenneth C. Denney, Tulsa, Okla., assignor to Sinclair Oil Corporation, a corporation of New York
Filed Aug. 26, 1968, Ser. No. 755,250
Int. Cl. H03b *5/12*
U.S. Cl. 331—49 **7 Claims**

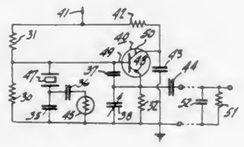


A signalling circuit including first and second oscillators having distinct frequencies. An input signal of one polarity activates one oscillator while holding the other inactive. An input signal of opposite polarity activates the second oscillator while holding the first inactive.

3,525,055
TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR
Pawel Karol Mrozek, Washington, Pa., assignor to RCA Corporation, a corporation of Delaware
Application Aug. 23, 1968, Ser. No. 755,521, which is a continuation of application Ser. No. 591,860, Nov. 3, 1966. Divided and this application July 8, 1969, Ser. No. 839,954
Int. Cl. H03b *5/36*
U.S. Cl. 331—116 **5 Claims**

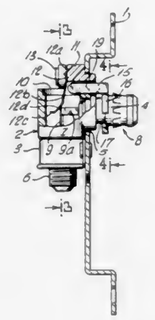
An improved temperature compensating crystal oscillator is provided for maintaining oscillator frequency

within a given frequency tolerance despite changes in temperature and operation over extended periods of time. The compensation means includes a first fixed capacitor in series with the crystal and a variable trimming capacitor and a fixed capacitor in series and in shunt with the series



combination with the first fixed capacitor and the crystal. A temperature compensation network is coupled solely across the first fixed capacitor and is responsive to the temperature changes to provide the correct degree of frequency compensation.

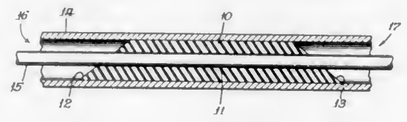
3,525,056
SELF-TERMINATING SIGNAL OUTLET
Maqbool Qurashi, Pennsauken, N.J., assignor to Jerrold Electronics Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Jan. 23, 1969, Ser. No. 793,336
Int. Cl. H01p *1/26;* **H01r** *33/00*
U.S. Cl. 333—22 **8 Claims**



A coaxial self-terminating outlet for a signal carrying coaxial cable such as a drop line from a CATV transmission line. The outlet is comprised of a coaxial jack onto which connects a mating male connector attached to an antenna lead, and a terminating mechanism. The terminating mechanism is comprised of a terminating resistor connected to a spring contact element biased into electrical contact with the center conductor of the signal carrying cable. When the antenna lead is disconnected from the outlet, the center conductor of the signal carrying cable is electrically connected to ground by the spring contact and the resistor, so that the impedance of the terminated outlet matches the impedance of the signal carrying cable.

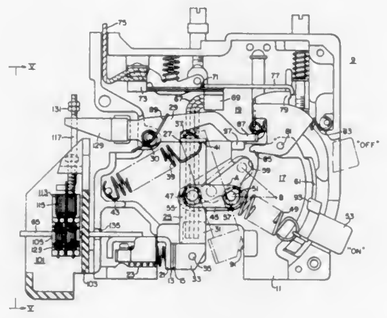
The terminating resistor is disconnected from the center conductor when the mating male connector is plugged into the jack, and after electrical connection of the cables. This disconnection is accomplished by an actuating pin which bends the spring contact away from the center conductor and into ground contact. The actuating pin is attached to an actuating ring which rides around the outlet jack so that as the male connector is moved onto the jack, it displaces the supporting ring and attached actuating pin to break the terminating contact.

3,525,057
IMPEDANCE-MATCHING DEVICE
Robert E. Beeson, Bangor, Maine, assignor to Iowa State University Research Foundation, Inc., Ames, Iowa, a corporation of Iowa
Filed Mar. 30, 1967, Ser. No. 627,222
Int. Cl. H03h *7/38;* **H01p** *1/00*
U.S. Cl. 333—34 **6 Claims**



A broad-band impedance-matching device for coaxial transmission lines defining a beveled interface between the dielectric of the line and the dielectric of the matching device.

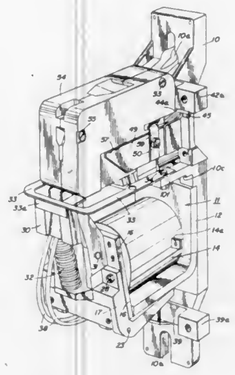
3,525,058
CIRCUIT BREAKER WITH IMPROVED TRIP MEANS
John J. Astleford, Jr., Sharon, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 30, 1968, Ser. No. 725,298
Int. Cl. H01h *75/12*
U.S. Cl. 335—35 **15 Claims**



A circuit breaker is provided with improved trip means comprising a thermal trip operable with a time delay in response to a sustained overload above a first predetermined value to effect automatic opening of the breaker and an electromagnetic trip operable instantaneously upon the occurrence of an overload above a second predetermined value to effect automatic opening of the breaker.

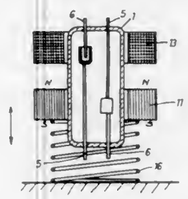
3,525,059
ELECTROMAGNETIC CONTACTOR
Robert M. Schramm, Maple Heights, Charles Allan Schurr, Shaker Heights, and Janez F. Sever, Cleveland, Ohio, assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed May 6, 1968, Ser. No. 726,722
Int. Cl. H01h *50/16*
U.S. Cl. 335—132 **9 Claims**

A clapper-type electromagnetic contactor which may be assembled as either a normally-open or a normally-closed device from substantially the same set of components. Once assembled, the contactor may be converted from normally-open to normally-closed, or vice versa, by



changing the relative positions of certain components and substituting only a few others.

3,525,060
REED CONTACTS OPERABLE BY MAGNETIC FORCES
Rudolf Scheidig, Stuttgart-Feuerbach, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed May 17, 1968, Ser. No. 729,991
Claims priority, application Germany, May 26, 1967, 1,614,728
Int. Cl. H01h *51/28*
U.S. Cl. 335—153 **4 Claims**



At least two sets of contacts are arranged in a common reed tube. The contact elements of the same set each have different lengths. The operating air gap of the individual contact arrangements are provided in different planes intersecting the longitudinal axis of the reed tube, so that the contact sets can be actuated independently of each other by means of coils or permanent magnets.

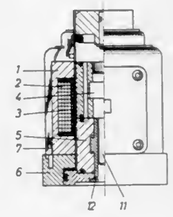
3,525,061
RELAY CONSTRUCTION
Robert L. Martin, Thousand Oaks, Calif., assignor to Charles E. Gutentag, Los Angeles, Calif., a corporation
Continuation-in-part of application Ser. No. 634,144, Apr. 27, 1967. This application Aug. 29, 1968, Ser. No. 756,279
Int. Cl. H01h *51/06*
U.S. Cl. 335—203 **13 Claims**

A relay device usually of miniature proportions in which a core around which wire is wound to form a coil is of non-magnetic metal and attached metal to metal to plate pieces at opposite ends and over which extends a magnetic sleeve. Two armature bars are pivotally mounted in the core and provided at one end of each with a movable contact spring urged in one direction with respect to fixed contacts in a recess formed in a dielectric mount on the outside of the magnetic plate piece. When the two armature bars are to move simultaneously, the spring urging one bar is made intentionally slightly weaker than



the spring urging the other bar and a pick-up element on the bar with the weaker spring which moves first then engages the other bar so that before movement is complete both bars are moving precisely simultaneously.

3,525,062
ALTERNATING-CURRENT MAGNET HAVING RADIALLY DISPOSED LAMINATIONS ALONG THE MAGNET AXIS
Heinz Haug, Schwenningen, Germany, assignor to Binder Magnete K.G., Villingen, Black Forest, Germany, a corporation of Germany
Filed Dec. 12, 1967, Ser. No. 689,878
Claims priority, application Germany, Dec. 16, 1966, B 90,349
Int. Cl. H01f *7/10*
U.S. Cl. 335—249 **9 Claims**

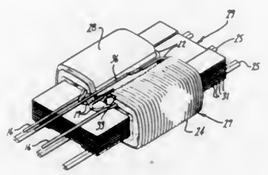


An alternating current electromagnet for actuating a movable member, e.g., the closing member of a valve, within a pressure-tight tube, the pole core and the armature of said magnet being positioned within the tube and each comprising a stock of laminations having a cross section of substantially involuted configuration. The energizing winding and yoke of the electromagnet are positioned outside the tube in operative proximity with the pole core and armature.

3,525,063
DIFFERENTIAL TRANSFORMER
Wallace W. Wahlgren, Oakland, Calif., assignor to The Rucker Company, Oakland, Calif., a corporation of California
Filed Sept. 16, 1968, Ser. No. 760,023
Int. Cl. H01f *27/28*
U.S. Cl. 336—96 **4 Claims**

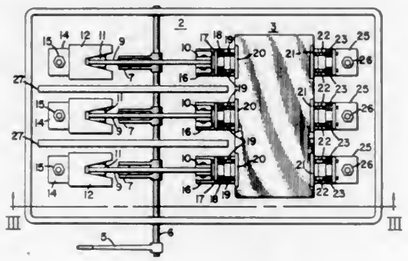
Differential transformer having a magnetic core comprised of a plurality of superposed, generally U-shaped laminations with alternate laminations reversed end for

end to provide a core with a generally four-sided rectangular configuration and having a rectangular opening therein to provide a magnetic core having a substantially uniform cross-sectional area. At least one secondary winding is mounted on the core and at least two substantially



identical primary windings are wound on the core so that they have the same geometrical relationship to the secondary winding whereby the leakage path reluctance between each of the primary windings and the secondary winding is substantially identical. The method is for the steps of making the differential transformer.

3,525,064
POLYPHASE FUSE STRUCTURE FOR CONTROLLING PROTRACTED OVERLOAD CURRENTS AND MAJOR FAULT CURRENTS
Kenneth W. Swain, Hampton Falls, N.H., assignor to The Chase-Shawmut Company, Newburyport, Mass.
Filed Jan. 9, 1968, Ser. No. 696,556
Int. Cl. H01h *71/14, 71/20, 73/22*
U.S. Cl. 337—146 **11 Claims**



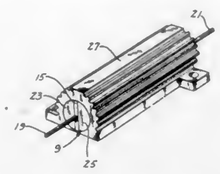
A polyphase fuse, and more particularly a three phase fuse, of utmost compactness for controlling overload currents in addition to major fault currents, or short-circuit currents.

In order to cause all three to form breaks substantially simultaneously on occurrence of small overload currents the outer fuse link means are adapted to have a smaller minimum fusing current than the inner fuse link means arranged between the outer fuse link means.

Further described is a combination of a load-break disconnect switch and a polyphase fuse.

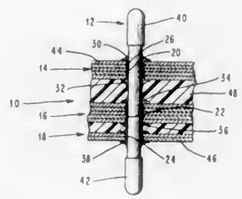
3,525,065
HEAT DISSIPATING RESISTOR
Herman R. Person, Columbus, Nebr., assignor to Dale Electronics, Inc., Columbus, Nebr., a corporation of Nebraska
Continuation of application Ser. No. 614,833, Feb. 2, 1967. This application Feb. 3, 1969, Ser. No. 810,898
Int. Cl. H01c *1/02*
U.S. Cl. 338—243 **8 Claims**

A resistor including a resistance means having opposite sides and ends. First and second insulative heat conductor elements are secured on opposite sides of the resistance means. First and second lead elements are secured to opposite ends of the resistance means and extend therefrom. The resistance means is comprised of a resistance



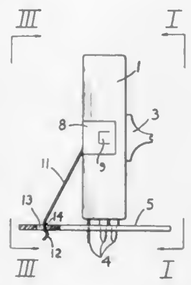
element which is wound or deposited on a substrate sandwiched between the insulative heat conductor elements.

3,525,066
ELECTRICAL CONTACT PINS AND METHOD OF MAKING SAME
Robert A. Magee, Poughkeepsie, and Joseph S. Scioscia, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 12, 1968, Ser. No. 697,379
Int. Cl. H01r *9/16*
U.S. Cl. 339—17 **6 Claims**



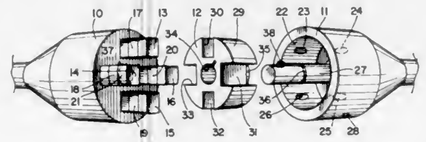
Selectively gold-plated electrical contact pins are mounted in multiple layer printed circuit boards. The gold plating at regions to be soldered to the board is thinner than at contact regions to prevent excessive tin-gold union and resultant solder joint contamination. Also, a process of fabricating the pins including applying a resinous based substance thereon and forming a plating resistive mask at preselected regions, electroplating gold thereon, and thereafter removing the mask and replating.

3,525,067
ELECTRICAL CONTROL MOUNTING DEVICE
Mogens W. Bang, Ridgway, Pa., assignor to Stackpole Carbon Company, St. Marys, Pa., a corporation of Pennsylvania
Filed June 21, 1968, Ser. No. 739,130
Int. Cl. H05k *1/00*
U.S. Cl. 339—17 **3 Claims**



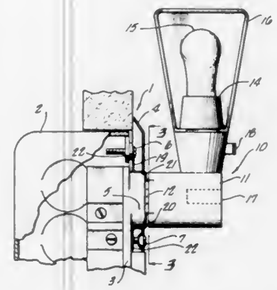
A U-shape spring clip, for clamping onto an electrical control mounted on a printed circuit board, has a back and forwardly extending sides and an open front and open ends. A leg is joined at one end to the clip and extends from it and also lengthwise of it. The free end of the leg has a foot formed for insertion in a hole in the circuit board to help hold the control on the board.

3,525,068
FLUID PROOF CONNECTOR WITH INSULATED CONTACTS
Arthur Lee Nelson, La Jolla, Calif., assignor to Electro Oceanics, Inc., a corporation of California
Filed July 1, 1968, Ser. No. 741,508
Int. Cl. H01r *23/52*
U.S. Cl. 339—41 **8 Claims**



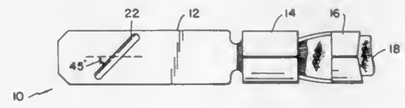
An electrical connector for underwater use is designed in such a manner that connections and disconnections can be effected while the connector is electrically energized. A plug body is provided with a forwardly projecting plug means having an exposed contact surface substantially flush with the plug means. A socket body in turn is provided with a socket having an interior socket contact with an exposed surface portion flush with the inner wall of the socket. A tumbler member of electrically insulating material is rotatably disposed in the socket. This member includes a channel receiving the plug means. The arrangement is such that rotation of the tumbler member and plug means received in the channel therein relative to the socket moves the tumbler member from an initial position in which the socket contact is recovered and insulated to a second position placing the plug contact into electrical engagement with the socket contact. The socket contacts can thus be continuously energized since they are never exposed to the surrounding water and the rotational motion assures a wiping action of the insulating interior surfaces of the socket against the plug contact surface prior to electrical engagement with the socket contact to assure a dry and fluid-tight contact.

3,525,069
THEFTPROOF ELECTRICAL APPLIANCE
Paul Van Deusen, 325 Blythe Road, Pasadena, Calif. 91103
Filed Aug. 5, 1968, Ser. No. 750,234
Int. Cl. H01r *13/54*
U.S. Cl. 339—82 **8 Claims**



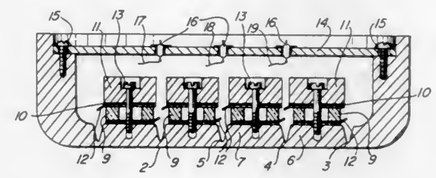
An electrical appliance such as a night light and a plug in a unitary structure that can be locked to a wall outlet. A pair of L-shaped tabs on the plug fit behind the faceplate of the outlet to lock the appliance in place. Preferably, the tabs are attached to the faceplate screw and one of the socket frame screws. The unitary structure includes an auxiliary socket and an on-off switch for the appliance.

3,525,070
CONTACT LUG
Quentin Berg, % Berg Electronics, Inc., York Expressway, New Cumberland, Pa. 17070
Original application Aug. 21, 1967, Ser. No. 662,147. Divided and this application Apr. 17, 1969, Ser. No. 817,011
Int. Cl. H01r *11/08*
U.S. Cl. 339—276 **3 Claims**



A contact lug having a contact ridge formed in one side of the lug so that when two like lugs are positioned in back-to-back relation the ridges cross at an angle to establish a point contact electrical connection between the lugs.

3,525,071
ELECTROACOUSTIC TRANSDUCER
Frank Massa, Jr., Cohasset, Mass., assignor to Dynamics Corporation of America, Hingham, Mass.
Filed Apr. 10, 1968, Ser. No. 720,147
Int. Cl. H04r *17/00, 7/06*
U.S. Cl. 340—9 **13 Claims**

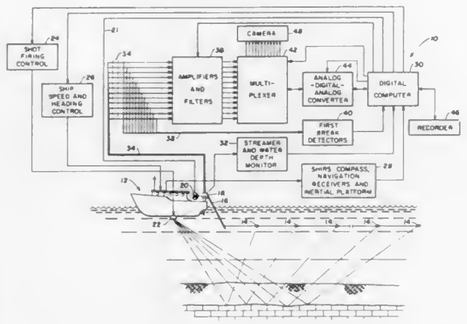


An underwater transducer uses a vibratile plate piston type sonic radiator, wherein the diameter of the plate is greater than the wavelength of the radiated sound. The plate is undercut with grooves which form a number of piston islands interconnected by a thin web. A separate transducer drives each piston island. Phase comparisons from quadrants or halves of the sonic radiator may be used for steering information. Shading may be provided by four symmetrical quadrants having novel series connections.

3,525,072
METHOD AND APPARATUS FOR PROCESSING SEISMIC DATA IN THE FIELD
Roger L. Born, Edwin B. Neitzel, and Ernest F. Vigil, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 11, 1967, Ser. No. 689,448
Int. Cl. G01v *1/28*
U.S. Cl. 340—15.5 **12 Claims**

Analog signals generated in response to seismic disturbances are multiplexed into a single channel and converted into digital signals. A digital computer corrects

and analyzes the digital signals, records data from the digital signals, and controls various physical characteristics of the analog signals in dependence upon the quality

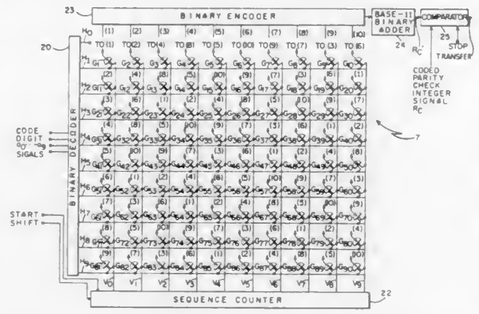


of the digital signals. Data is fed back through the converter and multiplexer systems for a real time analog display during the recording of data.

3,525,073
PARITY-CHECKING APPARATUS FOR CODED-VEHICLE IDENTIFICATION SYSTEMS

Sergio Calderon, Woburn, and Gordon B. Sorli, Burlington, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Dec. 4, 1967, Ser. No. 687,823
Int. Cl. G06f *11/10;* **G06k** *5/00*
U.S. Cl. 340—146.1 **6 Claims**



Parity-checking apparatus for coded-vehicle identification systems. A retroreflective label affixed to a vehicle and coded to represent a plurality of digits $a_0 \ldots a_n$ and a parity check integer R_C is scanned whereby signals representative of the label information are produced. The correctness of the information derived from the label is determined in accordance with a powers-of-two modulo-eleven system of parity expressed by

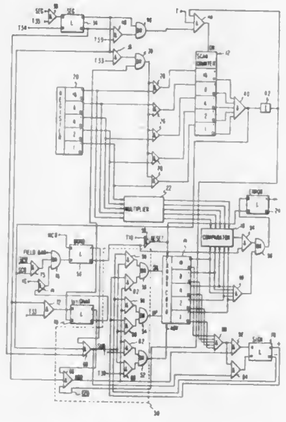
$$\frac{a_0 2^0 + a_1 2^1 + \ldots a_n 2^n}{11} = I + \frac{R}{11}$$

by deriving a value for R and checking the value of R against the value of the parity check integer R_C. To derive a value for R, each of the signals representative of the digits $a_0 \ldots a_n$ are successively decoded and each decoded signal is applied to one of a plurality of AND gates in coincidence with a signal from a sequence counter. The outputs of the AND gates are coded to signals having predetermined values and the coded signals are summed in a base-11 adder. The value of the last sum produced by the adder represents the value for R.

3,525,074
DETECTION OF TOO MANY OR TOO FEW CHARACTERS

Alfred Cutaia, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 15, 1966, Ser. No. 602,016
Int. Cl. G06k *5/00, 9/10*
U.S. Cl. 340—146.3 **6 Claims**

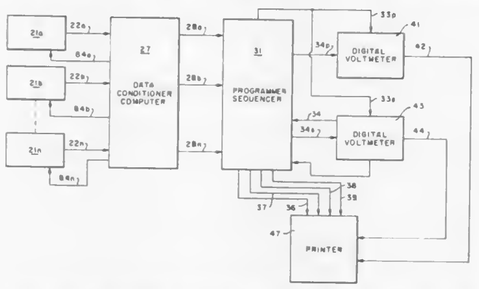


A scan counter and a segmentation (end of character) latch are used to detect deviations per character of the actual scan count from expected scan counts. An up-down counter accumulates the total difference from deviations for all the characters scanned. The total difference is compared with a tolerance factor and if the difference exceeds the tolerance factor an error is indicated. A second implementation counts the number of characters detected and multiplies this number by the character pitch (expected scans per characters). The product is subtracted from the actual scan count. If the difference between actual scan count and the product exceeds the tolerance factor, an error is indicated.

3,525,075
AUTOMATIC DATA REDUCTION SYSTEM

Morton J. Frome, Rockville, Md., and Simon T. Wrynn, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy

Filed Mar. 14, 1967, Ser. No. 623,145
Int. Cl. H04q *9/00*
U.S. Cl. 340—150 **8 Claims**

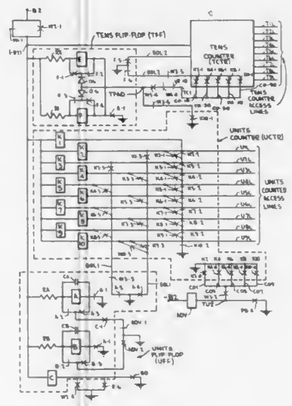


The data processing system is provided with a plurality of transducers for obtaining the desired data. Each one of the transducers is connected to a respective data conditioner. The respective data conditioners are sequentially connected to a digital voltmeter by a program sequencer in a predetermined order. The digitized output of the digital voltmeter is fed to a printer which makes a permanent record of the voltmeter's output.

3,525,076
COUNTER CONTROLLED SYSTEM FOR PROVIDING DUAL MODES OF ACCESS TO A MATRIX CROSSPOINT

James M. Keohane, Lowell, Mass., and Jordan F. Spofford, East Kingston, N.H., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 22, 1966, Ser. No. 574,075
Int. Cl. H04q *3/00*
U.S. Cl. 340—166 **5 Claims**



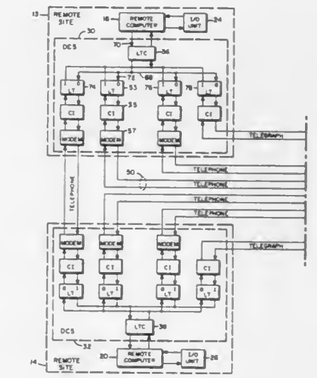
A decade counter-controlled system utilizes common circuitry to provide dual modes of addressing a crosspoint in a coordinate matrix. In the first or preset access mode, plural presettable switches are utilized for obtaining immediate energizing access to preselected counting stages representative of individual matrix coordinates. In the second or random access mode, control circuitry is utilized for routing randomly selected numbers on a highest-order-digits first basis to corresponding individual counting stages. Each counter is driven by a bistable device and facilities are provided for synchronizing each device with its counter by changing the state of the bistable device associated with a particular counter when an odd numbered digit is stored in that counter, to condition the counter for the subsequent selection of the next highest digit therein.

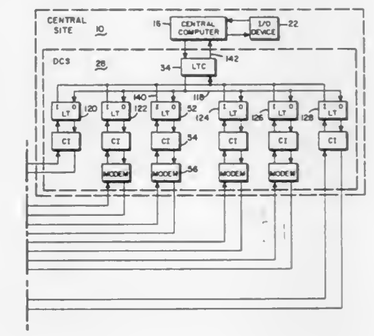
3,525,077
BLOCK PARITY GENERATING AND CHECKING SCHEME FOR MULTI-COMPUTER SYSTEM

Robert C. Jablonski, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed May 31, 1968, Ser. No. 733,544
Int. Cl. G06f *11/10, 15/16*
U.S. Cl. 340—172.5 **2 Claims**

A scheme for generating and checking the block parity of multicharacter messages transmitted between computer sites in a multi-computer data processing system. Each of the computer sites includes a computer, a variety of associated on-site input-output equipment and a plurality of communication systems each of which communication systems intercouples two computer sites. The communication systems at each site are combined in a Data Communication Subsystem (DCS) which includes a Line Terminal Controller (LTC), for communication to the associated computer, and a plurality of input-output Line Terminals (IT) for communicating to the associated transmission line. Generally, intermediate each Line Terminal and the associated transmission line are a Modem and a Communication Interface (CI) for providing the necessary adjustment of the particular message type to the particular associated transmission line type. In the prior art, each Line Terminal included the necessary hardware to separately perform its own message block parity generation and checking. The present invention relates to a scheme and an algorithm for utilizing both the individual Line Terminal and the Line Terminal Controller to achieve





block parity (LRC) generation and checking for both input and output message transfers whereby each character is gated from the Line Terminal to the Line Terminal Controller wherein a half-add is performed in the Line Terminal Controller on the character and whereby the new parity sum is then returned to the Line Terminal during each character time.

3,525,078
APPARATUS FOR TRANSMITTING DATA OVER ELECTRIC POWER SUPPLY NETWORK

Albert Jefferies Baggott, London, England, assignor to Londex Limited, a British company, and London Electricity Board, both of London, England

Filed Dec. 29, 1966, Ser. No. 605,778
Claims priority, application Great Britain, Dec. 30, 1965, 55,197/65
Int. Cl. H04b *3/54*
U.S. Cl. 340—172.5 **2 Claims**

Data handling apparatus is disclosed in which data is transmitted by means of the public electricity supply network. A transmitter is arranged to modify the shape of predetermined portions of the waveform of the voltage or current in the network, the positions of the portions so modified, the number of such portions and the length of time within which they occur being dependent on the

data to be transmitted. A receiver detects the modifications of the shape of the waveform representing the data transmitted, and includes means for rejecting other modifications caused by, for example, noise.

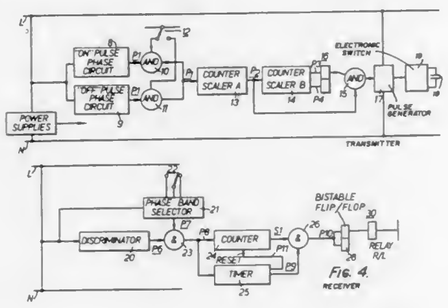
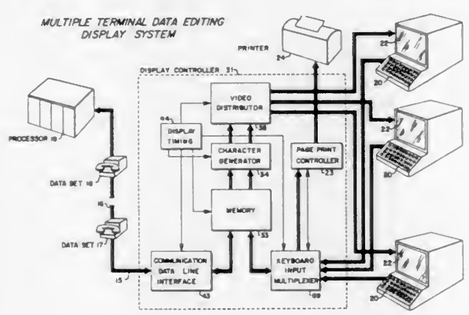


FIG. 4.

3,525,079
MEMORY PARTITIONING FOR MULTIPLE TERMINAL DATA EDITING DISPLAY SYSTEM

Allen B. J. Cuccio, Oklahoma City, Okla., assignor to General Electric Company, a corporation of New York

Filed Aug. 29, 1967, Ser. No. 664,132
Int. Cl. G06f *7/56*
U.S. Cl. 340—172.5 **8 Claims**



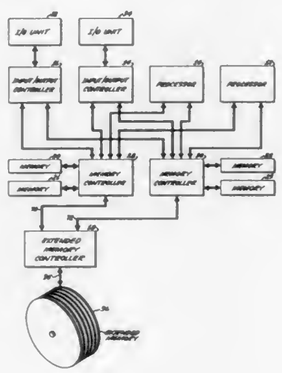
A system for receiving signals in a coded form representing messages from one or more sources and storing the signals from a given source in the same portion of a memory and encoding the signals received from the given portion of the memory into television video signals for utilization by different display members, and means for transmitting the television video signals to particular display members selected in correspondence with the portion of memory from which signals were received.

3,525,080
DATA STORAGE CONTROL APPARATUS FOR A MULTIPROGRAMMED DATA PROCESSING SYSTEM

John F. Couleur, Dallas, Tex., and Edward L. Glaser, South Euclid, Ohio, assignors to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts, and General Electric Company, New York, N.Y., a corporation of New York

Filed Feb. 27, 1968, Ser. No. 708,633
Int. Cl. G06f *15/16*
U.S. Cl. 340—172.5 **10 Claims**

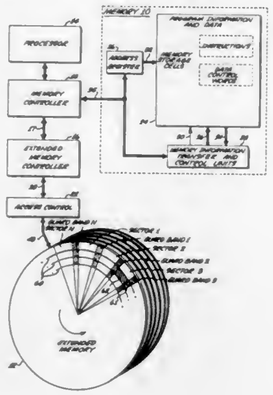
A multiprogrammed data processing system wherein separate control apparatus automatically controls the continuous transfer of information between working and auxiliary stores and wherein the control apparatus further automatically controls the type of information transfer being provided, thereby implementing the flow of data at the speed required by the system.



3,525,081
AUXILIARY STORE ACCESS CONTROL FOR A DATA PROCESSING SYSTEM

Simon P. Flemming, Jr., North Syracuse, N.Y., and George P. Futas, San Diego, Calif., assignors to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts, and General Electric Company, Schenectady, N.Y., a corporation of New York

Filed June 14, 1968, Ser. No. 737,000
Int. Cl. G06f *13/04*
U.S. Cl. 340—172.5 **21 Claims**

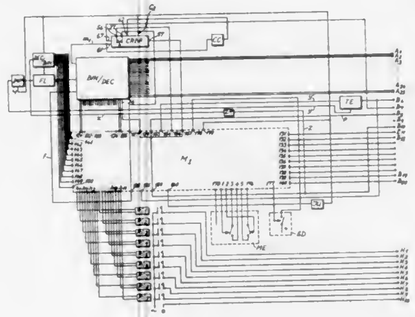


A data processing system wherein apparatus controls the transfer of information between a working store and auxiliary store space provided and utilized for storing a predetermined quantity of information and wherein the apparatus further provides for storing information in normally unutilized space thereby increasing the auxiliary store capacity and provides for separate access to each space for implementing the transfer of the information as required by the system.

3,525,082
CONDITIONAL ALTERNATIVE PROGRAM BRANCHING IN AUTOMATED WORKING MACHINES

Hermann Børge Funck Jensen, 16 Moller Meyersvej, Aarhus-Risskov, Denmark

Continuation-in-part of application Ser. No. 413,918, Nov. 25, 1964. This application Oct. 23, 1967, Ser. No. 677,112
Int. Cl. G06f *9/00, 9/18*
U.S. Cl. 340—172.5 **9 Claims**

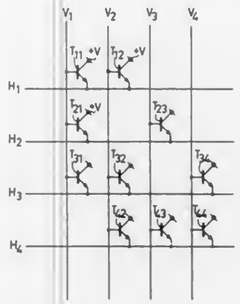


A sequence control in which data signals are produced by feeler devices to indicate the completion of each stage of a normal program, and in which electrically controlled function devices are started and stopped by means of command signals; the data signals are operatively connected with the function devices in response to the coincidence between a completed program step and the conditioning of the sequence control deriving a command signal; a complementary data signal can be produced to initiate an alternative program by jumping from one predetermined stage to another predetermined stage in response to the coincidence of the completion of the program to a predetermined stage and the occurrence of a complementary data signal at such stage.

3,525,083
INTEGRATED CIRCUIT READING STORE MATRICES

Arie Slob and Hendrik Arie van Essen, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed May 4, 1967, Ser. No. 636,082
Claims priority, application Netherlands, May 19, 1966, 6606910
Int. Cl. G11c *11/40, 17/00;* **H01l** *5/00*
U.S. Cl. 340—173 **6 Claims**

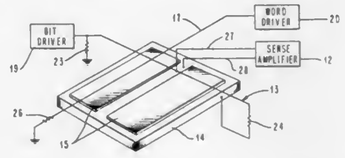


A read only permanent storage matrix using transistors at the crossover points is fabricated, together with conductors, in the form of a plate shaped body having an emitter and base regions of each transistor on one side of the plate and collector regions of each transistor commonly connected on the other side of the plate. The relatively high conductivity of the emitter and base regions is used to form the connecting conductor at coordinate conductor crossover points.

3,525,084
MEMORY SENSE SYSTEM WITH FAST RECOVERY

Lawrence J. Dunlop and Peter Rohr, Burlington, Vt., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 14, 1967, Ser. No. 690,593
Int. Cl. G11c *11/14*
U.S. Cl. 340—174 **7 Claims**

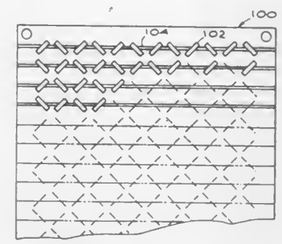


This disclosure teaches an arrangement of a bit driver, a sense amplifier, and a bit-sense wire in a magnetic memory to reduce the recovery time of the bit-sense wire at the end of a write operation. In an embodiment that is described in detail, one end of the bit-sense line is connected to a driver and the other end is connected to a conductive ground plane which forms a return current path. The sense amplifier is connected to sense voltages that occur between a midpoint of the bit-sense wire and a corresponding midpoint on the ground plane. Noise voltages associated with eddy currents in the bit-sense wire and particularly in the ground plane have been founded to be zero at this point.

3,525,085
MAGNETIC CORE MEMORY

Victor J. di Donato, Santa Monica, Calif., assignor to Electronic Memories, Incorporated, Hawthorne, Calif., a corporation of California

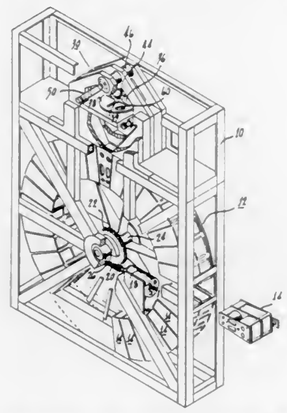
Filed Nov. 29, 1965, Ser. No. 510,171
Int. Cl. G11c *5/04, 11/06*
U.S. Cl. 340—174 **4 Claims**



A magnetic core assembly employing a plurality of stacked aperture plates for orienting and retaining magnetic cores. Each plate has a plurality of slots therein with each slot having substantially straight side walls extending between the top and bottom plate surfaces. The slots are arranged in a matrix of rows and columns with each slot being oriented at a substantially 45° angle with respect to said rows and columns. Each of the plates has a plurality of column channels formed therein, each intersecting each of the matrix rows for receiving a column conductor. Similiarly, the plates each have a plurality of

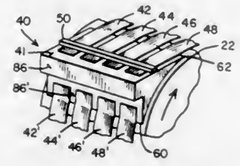
row conductors formed therein, each intersecting each of the matrix columns for receiving a row conductor. The plates are so oriented that the slots of adjacent plates are misaligned to thus enable the top surface of each plate to support the cores in the plate above it.

3,525,086
STORAGE SYSTEM EMPLOYING MAGNETIC TAPE CARTRIDGES
Abraham Lichowsky, Los Angeles, Calif., assignor to RCA Corporation, a corporation of Delaware
Filed May 31, 1966, Ser. No. 554,169
Int. Cl. G11b *5/52, 15/38, 23/04*
U.S. Cl. 340—174.1 **6 Claims**



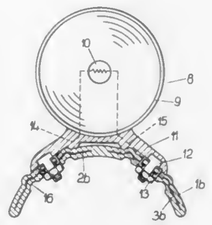
A plurality of tape magazines are located on a ferris wheel like structure. A read-write station adjacent to this structure is common to all magazines and includes transducer means continuously driven along a circular path lying in a plane. In response to an input address, the ferris wheel like structure is rotated until a particular one of the magazines is moved into operative relationship with the read-write station. A vacuum system at the read-write station thereupon removes a loop of tape from the magazine and places a portion of the loop in a plane parallel and immediately adjacent to the plane in which the transducer is driven.

3,525,087
FLEXIBLE MAGNETIC RECORD MEMBER PROFILE CORRECTION MEANS FOR ROTATING HEAD DRUM MEMORY SYSTEM
George D. Bukovich, Minneapolis, Matthias J. Grundtner and Harley W. Schultz, St. Paul, and Gary B. Woehler, Minneapolis, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 3, 1968, Ser. No. 695,502
Int. Cl. G11b *5/60;* **B65h** *17/28*
U.S. Cl. 340—174.1 **10 Claims**



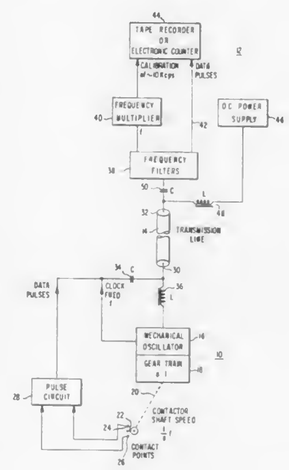
A vacuum system in a rotating-head magnetic memory system for use in correcting a flexible magnetic record member profile is described. The vacuum system described is utilized for bringing a magnetic tape record member into a uniform profile in a cooperative relationship with related magnetic transducers that are mounted in a rotor.

3,525,088
PLASTIC REFLECTIVE ELEMENT
Helmut Thummel, Ehingen (Danube), Germany, assignor to Firma Heinrich Benzing, Ehingen (Danube), Germany, a firm of Germany
Filed Jan. 5, 1968, Ser. No. 695,958
Claims priority, application Germany, Jan. 19, 1967, B 90,794
Int. Cl. F21v *7/00;* **G02b** *5/12*
U.S. Cl. 240—103 **8 Claims**



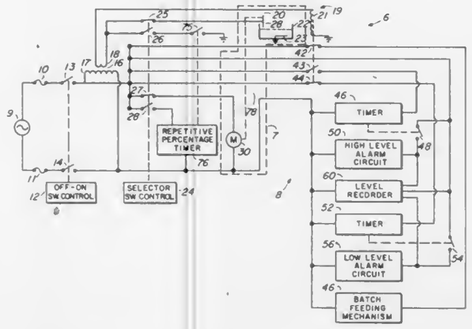
A cycle fender formed from a bowed plastic strip having a smooth outer surface. A metal foil, embossed into prismatic projections, is embedded in the plastic strip. The cycle fender may also be made with several strips of embedded metal foil which may be used simultaneously as reflective surfaces and as electrical conductors.

3,525,089
TELEMETER OF MECHANICAL DISPLACEMENT
Charles R. Bruce, Littleton, Colo., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
Filed Mar. 17, 1966, Ser. No. 535,065
Int. Cl. G08c *19/18*
U.S. Cl. 340—206 **15 Claims**



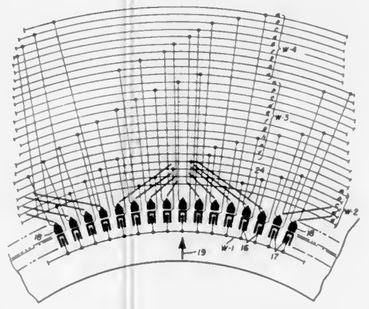
A telemetering system includes a D.C. operable mechanical oscillator at a first location for controlling the generation of clock pulses and for controlling the generation of an electrical signal representing mechanical displacement. A pair of pulses, time separated by an amount proportional to a mechanical displacement, are synchronously related to the clock pulses. The pair of pulses and clock pulses are sent via a transmission line to a second location where the clock pulses are separated from the pair of pulses and used to provide a measure of the mechanical displacement.

3,525,090
ELECTRONIC MONITORING AND CONTROL APPARATUS
Dwight B. Raddatz, Muncie, Ind., assignor to Ball Corporation, Muncie, Ind., a corporation of Indiana
Filed Dec. 19, 1966, Ser. No. 602,679
Int. Cl. G08b *23/00*
U.S. Cl. 340—244 **3 Claims**



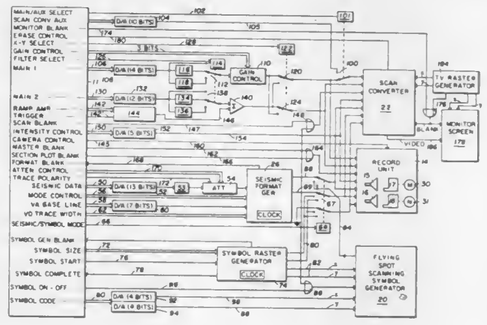
An electronic monitoring and control apparatus having a probe oscillated by a motor for engaging glass in a container to monitor the level of the glass and give an alarm indication if too high or too low and automatically control the rate of feed of glass batch to the container in proportion to deviation of level from a predetermined desired level by means of an electrical unit with a relay energized by contact of said probe with the surface of the glass in the container, a three-stage record of the glass level in the container also being made.

3,525,091
ELECTROLUMINESCENT DISPLAY APPARATUS POSSESSING APPARENT IMAGE MOTION
Kenneth P. Lally, Smithtown, N.Y., assignor, by mesne assignments, to Hartman Systems Co., Inc., Huntington Station, N.Y., a corporation of Ohio
Filed Dec. 22, 1966, Ser. No. 604,010
Int. Cl. G08b *5/00;* **H01j** *1/62*
U.S. Cl. 340—324 **7 Claims**



This display apparatus, which is particularly adaptive to scale type indicating instruments, forms a visual display having apparent image motion or relative movement of the scale and a reference index. The apparatus includes an electro-luminescent device constructed with a multiplicity of electrodes relatively disposed to form the scale of an indicating instrument with an electrical potential being applied to selected electrodes to form an analog display. An electronic switching circuit interconnected with the electrodes and responsive to a digital input signal activates selected electrodes resulting in luminescence of related areas of the scale thereby providing an analog display with a change in the input signal causing a related change in which electrodes are activated which gives the appearance of relative movement of the scale and a reference index. Auxiliary indicia display devices capable of alternatively displaying selected indicia may be incorporated in the apparatus and controlled by the switching circuit to provide reference values for the scale indication.

3,525,092
COMPUTER DRIVEN CRT RECORDING SYSTEM
Edwin B. Neitzel, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 30, 1966, Ser. No. 606,281
Int. Cl. G01v *1/24;* **G05b** *15/00*
U.S. Cl. 340—324 **6 Claims**

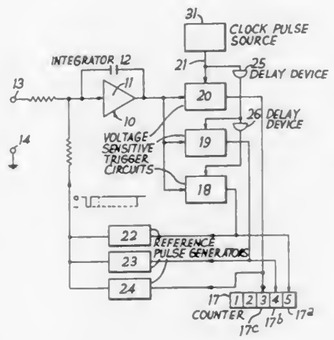


A computer operated controller unit selectively applies analog seismic signals to a high resolution cathode ray tube along with information superimposed thereon from a flying spot scanner with a digitally programmed sub-raster scan to provide multiple symbol annotation. A camera viewing the cathode ray tube provides for a permanent storage of data applied to cathode ray tube.

3,525,093
ELECTRIC SIGNAL INTEGRATING APPARATUS
Richard Carlile Marshall, Harpenden, England, assignor to George Kent Limited, Luton, Bedfordshire, England, a British company
Filed Dec. 21, 1966, Ser. No. 603,629
Claims priority, application Great Britain, Dec. 23, 1965, 54,634/65
Int. Cl. H03k *13/17*
U.S. Cl. 340—347 **17 Claims**

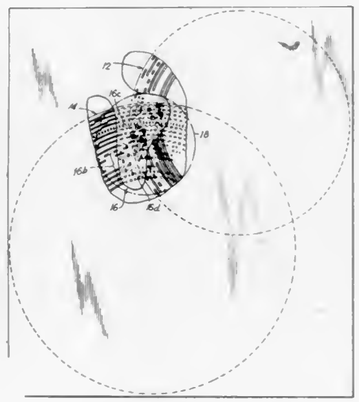
Method and apparatus for providing output signals suitable for operating a digital counter and representing continuous integration of an analogue input, e.g. an electric signal, in which the output of an integrator supplied with the analogue input is interrogated at predetermined time intervals and then reset towards zero by applying one of a number of available reset signals of known but

different integral values, the choice of reset signal being determined by the examined integrator output amplitude



and being accompanied by the release of a related output signal indicative of the integral value of the chosen reset signal.

3,525,094
SHAFT POSITION ENCODERS
George Hamlin Leonard, Riverside, Conn. (327 Hollow Tree Ridge Road, Darien, Conn. 06820)
Filed Oct. 11, 1965, Ser. No. 494,524
Int. Cl. H04l *3/00;* **H03k** *13/00*
U.S. Cl. 340—347 **35 Claims**

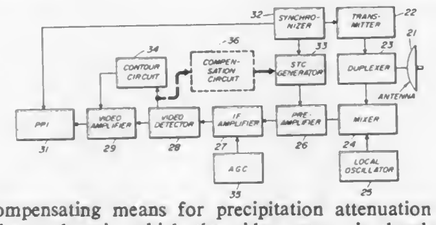


Two code wheels each having multiple tracks of code bits are geared together so as to cause the slow one to advance through a one-bit arc during a whole rotation of the fast wheel. For each code-bit track of the slow wheel, the fast wheel has a gating means including a spiral aperture whose ends are mutually offset so as to abruptly shift from exposing for photoelectric sensing one bit of its related track of the slow wheel to exposing the adjacent bit of that track during a one-bit arcuate extent of rotation of the high speed wheel, for generating composite codes including bits from the tracks of both wheels and thereby achieving high accuracy in a shaft position encoder.

ERRATA

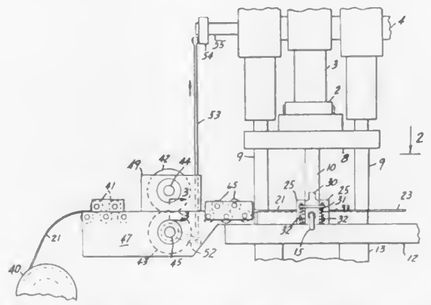
For Classes 140—82 thru 417—364 see:
Patent Nos. 3,525,096 thru 3,525,102

3,525,095
COMPENSATION FOR PRECIPITATION ATTENUATION
Burton L. Cordry, Glenarm, Md., assignor to The Bendix Corporation, a corporation of Delaware
Filed Aug. 6, 1968, Ser. No. 750,602
Int. Cl. G01s *9/02*
U.S. Cl. 343—7 **8 Claims**



Compensating means for precipitation attenuation in weather radars in which the video return is threshold detected, integrated and applied to increase the gain of the radar receiver.

3,525,096
METHOD OF FORMING U-SHAPED CLIPS OF NONCIRCULAR CROSS SECTION
Karl A. Klenz, Oakland, Calif., assignor to Rheem Manufacturing Company, a corporation of California, and Rheem International Inc., a corporation of Delaware, both of New York, N.Y.
Filed Mar. 19, 1969, Ser. No. 808,511
Int. Cl. B21f *23/00, 45/22*
U.S. Cl. 140—82 **3 Claims**

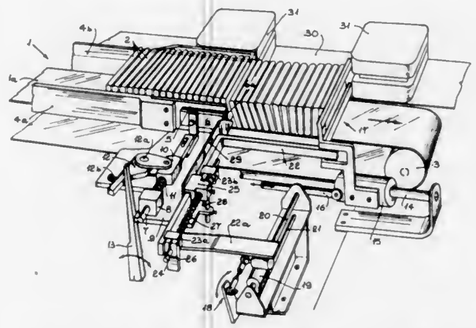


A wire clip of noncircular cross section is formed from a length of wire of conventional circular cross section by rolling the wire to the desired noncircular shape while the same is being fed to the cutting and forming means.

3,525,097
APPARATUS FOR SEPARATING ROWS OF ARTICLES ON A CONVEYOR INTO BATCHES
Maurizio Maulini, Bologna, Italy, assignor to Azionaria Costruzioni Macchine Automatiche, A.C.M.A., S.p.A., Bologna, Italy, a corporation of Italy
Filed Mar. 25, 1968, Ser. No. 715,777
Claims priority, application Italy, Mar. 25, 1967, 1,587/67
Int. Cl. B65g *47/00*
U.S. Cl. 198—24 **4 Claims**

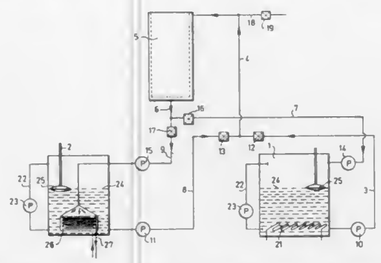
An apparatus for separating in succession groups of articles from a leading end of a travelling row of such articles stacked face to face, particularly thin flat articles such as biscuits standing on edge and for transferring such

articles therefrom, the apparatus including a first conveyor for moving the row of articles in an advancing direction, a movable support member for supporting the leading end of said row of articles abutting thereagainst, a second



conveyor arranged alongside of said first conveyor along at least a length thereof and a transverse pusher member for transferring at least one article at the leading end of said row of articles from said first conveyor onto said second conveyor.

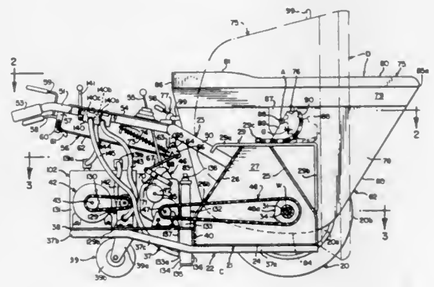
3,525,098
PROCESS AND DEVICE FOR HEATING AND/OR COOLING MOULDS
Anton J. Vox, Ruit, Germany, assignor to Thermovox G.m.b.H. Kunststoffmaschinen, Ruit, Germany
Filed Sept. 20, 1968, Ser. No. 761,222
Int. Cl. F25b *13/00*
U.S. Cl. 165—2 **9 Claims**



A process for heating or cooling moulds for the production of plastic bodies by pumping a heating or a cooling medium respectively through said mould in a circuit, said mould having an interior space having an inlet and an outlet for said medium, comprising the following steps, pumping said medium through said inlet into said interior space with a pumping pressure, and withdrawing said medium at the same time through said outlet with a suction pressure which is at least as high as said pumping pressure applied at said inlet.

3,525,099
HAND GUIDED WALK-BEHIND SELF-PROPELLED MATERIAL CONVEYING CART
John Fuhrmann, late of 1095 Center Road, West Seneca, N.Y. 14224; John Fuhrmann, executor of said John Fuhrmann, deceased
Continuation-in-part of application Ser. No. 621,977, Mar. 9, 1967. This application July 24, 1969, Ser. No. 844,565
Int. Cl. B62b *3/06, 3/08*
U.S. Cl. 298—2 **24 Claims**

A hand guider, walk-behind, self-propelled material conveying cart may be used either as a dump truck or as a lift truck and includes a pair of ground engaging side wheels journalled on a pair of interior side frames connected by upper and lower rear side frames and defining a large open space open at the top, front and bottom for receiving either a dump mechanism or a lift mechanism. The lower rear frame includes a platform supported by a rear swivel wheel and in turn supporting a drive engine, transmission and sprocket-chain drives for propelling the side wheels, and a hydraulic system including a reservoir, a pump driven by the driven engine and driving an upright motor having a piston for raising and lowering the lift mechanism. The upper rear frame includes a manually releasable keeper engageable with a latch on the rear of the dump bucket, and steering handles extending rearwardly beyond the lower rear frame and supporting manually operable throttle, brake and gear shift control mechanisms for controlling the starting, stopping, rate and direction of cart propulsion. As a dump truck, a

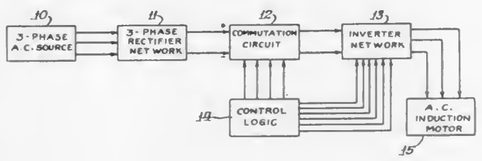


dump bucket is arranged in the aforesaid space with its bottom below the side wheel axis to provide a low center of gravity and is mounted on the upper ends of the side frames to rotate about and reciprocate with its transverse swing axis reciprocable fore and aft between a rear horizontal loading position and a forward vertical unloading position. The bucket mounting mechanisms include gear segment pinions fixed on the bucket sides and rollable fore and aft along chain racks attached thereto and to the upper ends of the side frames, such segments locating the center of gravity of the bucket forwardly of its swing axis in the loading position and rearwardly thereof in the unloading position for automatic movement between such positions, upon release of the keeper. As a lift truck, a lift mechanism including a front load supporting frame and a rear guide frame is arranged in such space with the load supporting frame being raised and lowered by the piston.

3,525,100
COMMUTATION CIRCUIT FOR INVERTER MOTOR CONTROL SYSTEM
David L. A. Duff, Evanston, Ill., assignor, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Aug. 3, 1967, Ser. No. 658,144
Int. Cl. H02p *7/62*
U.S. Cl. 318—227 **4 Claims**

A three-phase, fixed-frequency AC supply is coupled to a rectifier network which produces a DC voltage. A commutation circuit and an inverter, controlled by a logic network, generate a three-phase, variable-frequency voltage for controlling the speed of an induction motor. The commutation circuit includes two series inductors coupling the positive and negative terminals of the rectifier respectively to the positive and negative common terminals of the inverter. The anodes of the regenerating diodes associated with the positive bank of thyristors of the inverter

are clamped to the negative output terminal of the rectifier; and he cathodes of the regenerating diodes associated with the negative bank of thyristors of the inverter are clamped to the positive output terminal of the rectifier. At the time of commutation, means are provided for swiching a capacitor having a reverse charge between the common terminal of the inverter bank being commutated



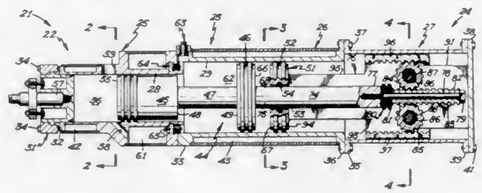
and the complementary terminal of the rectifier. Thus, the load current is transferred from two conducting thyristors to their associated regenerating diodes; the forward voltage is removed from the conducting thyristors to allow them to recover their forward blocking ability; and a reverse potential is applied to the conducting thyristor to remove existing charge and shorten the cutoff time.

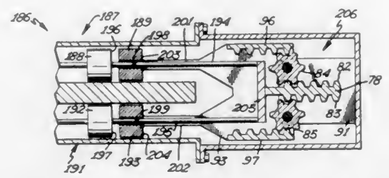
3,525,101
METHOD FOR THE PREPARATION OF NITRILES
Howard S. Young and Jefferson Wayne Reynolds, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Dec. 6, 1967, Ser. No. 688,360
Int. Cl. C07c *121/02, 121/03*
U.S. Cl. 260—465.3 **5 Claims**

Novel catalyst composition comprising molybdenum and at least one of oxidized niobium and oxidized tantalum carried on a solid preformed, microporous, support, such as silica or silica-alumina, which has pores of about 80 to about 280 A. in diameter. Optionally, oxidized arsenic is included as one of the catalyst components. Method for preparing catalyst composition comprising two step impregnation of preformed support having pores of about 80 to about 280 A. in diameter with aqueous solutions of niobium or tantalum and molybdenum compounds. Water is evaporated from the composition at low temperatures and the niobium or tantalum and molybdenum compounds are decomposed by first drying at a temperature of 110–200° C. and then calcining at 250–450° C. Method of oxidatively converting propylene to acrylic acid or acrylonitrile comprising passing propylene (with ammonia to obtain acrylonitrile) over a catalyst composition comprising oxidized molybdenum, niobium or tantalum and optionally arsenic carried on a solid, preformed, microporous support having pores of about 80 to about 280 A. in diameter.

3,525,102
ENGINE
Anton Braun, 6421 Warren Ave., Edina, Minn. 55435
Continuation of application Ser. No. 728,078, May 9, 1968, which is a continuation of Ser. No. 669,353, Sept. 12, 1967, which in turn is a continuation-in-part of application Ser. No. 619,374, Feb, 28, 1967, which in turn is a continuation-in-part of application Ser. No. 584,710, Oct. 6, 1966. This application Dec. 17, 1968, Ser. No. 805,063
Int. Cl. F02b *71/00;* **F16h** *21/44;* **F04b** *31/00*
U.S. Cl. 417—364 **37 Claims**

A lightweight and compact free piston engine which includes a combined power-compressor piston assembly





and a compressor piston that are mounted for reciprocal movement in a cylinder formed in the engine housing. The engine has a combustion chamber at one end of the cylinder and a compressor chamber in the cylinder between the piston assembly and the piston. The movement of the piston assembly and the piston in the cylinder is synchronized by a synchronizer and various mechanical and hydraulic synchronizers are disclosed.

In one embodiment, a counter-balancing, movable weight is utilized instead of the compressor piston. In this engine, balance is achieved by translational movement, with respect to the housing, of the weight oppositely to that of the combined power-compressor piston assembly.

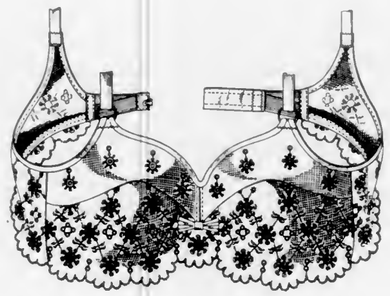
DESIGNS

AUGUST 18, 1970

218,382
PANTY GIRDLE
Olga Erteszek, Los Angeles, Calif., assignor to Olga Company, Van Nuys, Calif., a corporation of California
Filed July 15, 1969, Ser. No. 18,203
Term of patent 14 years
Int. Cl. D2—*02*
U.S. Cl. D2—4



218,383
BRASSIERE
Bette Schonberg, Weston, Conn., assignor to Formfit-Rogers, Inc., New York, N.Y., a corporation of New York
Filed June 24, 1969, Ser. No. 17,853
Term of patent 7 years
Int. Cl. D2—*02*
U.S. Cl. D2—24



218,384
GIRL'S APRON
Kathy D. Lambert, Chicago, Ill., assignor to Marvin Glass & Associates, Chicago, Ill., a partnership
Filed July 17, 1969, Ser. No. 18,238
Term of patent 14 years
Int. Cl. D2—*01*
U.S. Cl. D2—228



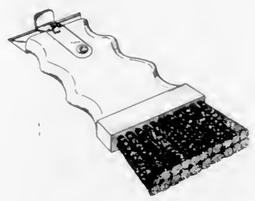
218,385
SAFETY HELMET
William R. Bohner, Reading, and Jack N. Simpson, Wilshire, Pa., assignors to ESB Incorporated, a corporation of Delaware
Filed June 19, 1969, Ser. No. 17,772
Term of patent 14 years
Int. Cl. D2—*05*
U.S. Cl. D2—231



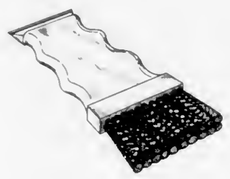
218,386
COMBINED BELT AND POCKET
Flora Elkins, 246 West End Ave., New York, N.Y. 10023
Filed Nov. 14, 1968, Ser. No. 14,467
Term of patent 14 years
Int. Cl. D2—*08*
U.S. Cl. D2—383



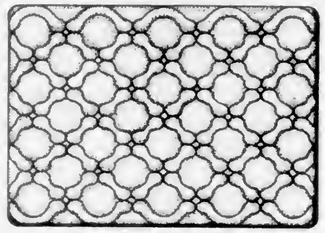
218,387
COMBINATION BRUSH, SCRAPER, BOTTLE OPENER AND PURSE
Wiley M. Whitaker, Asheboro, N.C., assignor to New Broom, Inc., Asheboro, N.C., a corporation of North Carolina
Filed Feb. 16, 1968, Ser. No. 11,039
Term of patent 14 years
Int. Cl. D4—*01*
U.S. Cl. D4—6



218,388
COMBINATION BRUSH AND SCRAPER
Wiley M. Whitaker, Asheboro, N.C., assignor to New Broom, Inc., Asheboro, N.C., a corporation of North Carolina
Continuation-in-part of design application Ser. No. 11,039, Feb. 16, 1968. This application Nov. 27, 1968, Ser. No. 14,685
Term of patent 14 years
Int. Cl. D4—*01*
U.S. Cl. D4—6



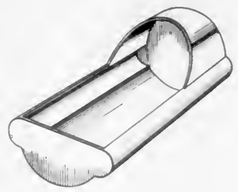
218,389
MATTRESS
Ernest L. Basner, Barrington, Ill., assignor to Sealy, Incorporated, Chicago, Ill., a corporation of Delaware
Filed Mar. 6, 1969, Ser. No. 16,082
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D5—2



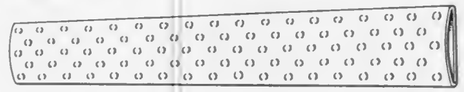
218,390
DOUBLE DECK BED
James C. Bouffard, High Point, N.C., assignor to Mohasco Industries, Inc., Amsterdam, N.Y., a corporation of New York
Filed Jan. 24, 1969, Ser. No. 15,484
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D5—4



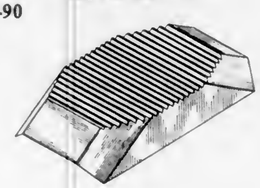
218,391
CRADLE
Arthur W. Hopkins, Stone Bridge Road, Cornwall, N.Y. 12518
Filed Feb. 13, 1969, Ser. No. 15,766
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D5—5



218,392
HOLLOW HALF-ROUND FILE
James A. Coon, 929 Drever St., West Sacramento, Calif. 95691, and Elwin Theobald, 4631 Solano Way, Fair Oaks, Calif. 95628
Filed Aug. 20, 1968, Ser. No. 13,197
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—90



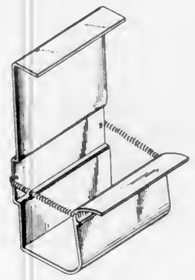
218,393
CHIPPER BLADE
Frank L. Salzmann, Jr., P.O. Box 3885, Birmingham, Ala. 35208
Filed Nov. 6, 1968, Ser. No. 14,358
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—90



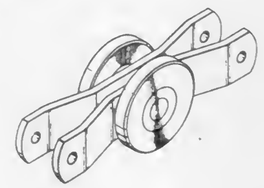
218,394
JIB HANK
Murray Howard Wiseman, 20 Karori Crescent, Auckland, New Zealand
Filed Apr. 16, 1969, Ser. No. 16,773
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—232



218,395
APPLIANCE-HOLDING BRACKET
Harris B. Mandel, New York, N.Y., assignor to Bright Star Industries Incorporated, Clifton, N.J., a corporation of Delaware
Filed Jan. 14, 1969, Ser. No. 15,333
Term of patent 3½ years
Int. Cl. D8—*03*
U.S. Cl. D8—233



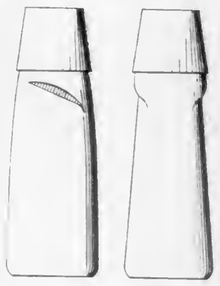
218,396
LINK FOR A CONVEYOR CHAIN
Eric Leslie Wright, 75 Woodfield Road, Oadby, Leicestershire, England
Filed May 20, 1969, Ser. No. 17,242
Claims priority, application Great Britain Dec. 31, 1968
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—261



218,397
SQUEEZE BOTTLE OR THE LIKE
Henry J. Orr, 2834 Vincent St., Cuyahoga Falls, Ohio 44221
Filed Dec. 18, 1968, Ser. No. 15,043
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—2



218,398
BOTTLE
Philip S. Coghill, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 12, 1968, Ser. No. 14,378
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—44



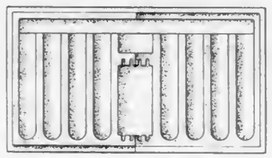
218,399
JAR
Jack Duncan Campbell, Northport, N.Y., and Edward Charles Kozlowski, Fairfield, Conn., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 16, 1968, Ser. No. 14,974
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—145



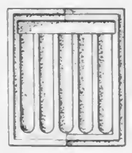
218,400
DISPENSING CONTAINER FOR PILLS
Carroll H. Walter, Westmount, Quebec, Canada, assignor, by mesne assignments, to Syntex Corporation, Panama, Panama, a corporation of Panama
Filed July 1, 1968, Ser. No. 12,580
Claims priority, application Canada May 28, 1968
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—184



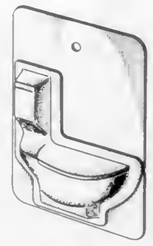
218,401
MAILING PACKAGE
Max Segel, 1105 Arbor Lane, Glenview, Ill. 60025
Filed Aug. 18, 1969, Ser. No. 18,734
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—185



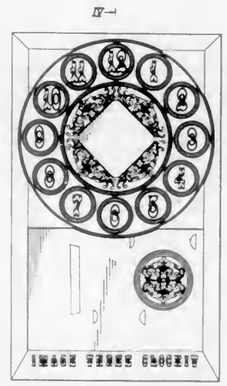
218,402
TUBE MAILING PACKAGE
Max Segel, 1105 Arbor Lane, Glenview, Ill. 60025
Filed Aug. 18, 1969, Ser. No. 18,735
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—189



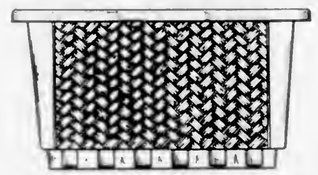
218,403
TOILET BOWL CLEANER PACKAGE
Gerd H. Friedeberg, 1406 Hancock Ave., San Mateo, Calif. 94403
Filed Mar. 6, 1969, Ser. No. 16,100
Term of patent 14 years
Int. Cl. D9—*99*
U.S. Cl. D9—192



218,404
CARTON FOR CLOCK PARTS
Peter Norman Haward, London, England, assignor to Thwaites & Reed Limited, London, England
Filed Dec. 23, 1968, Ser. No. 15,082
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—195



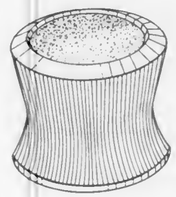
218,405
FLORAL BASKET OR SIMILAR ARTICLE
Robert E. Wilson, Pittsburgh, Pa., assignor to Stylette Plastics, Inc., Oakdale, Pa., a corporation of Pennsylvania
Filed Jan. 23, 1969, Ser. No. 15,459
Term of patent 14 years
Int. Cl. D9—*05*
U.S. Cl. D9—246



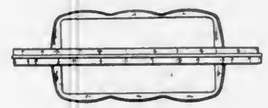
218,406
BUNDLING STRAP OR SIMILAR ARTICLE
Edward F. Rynk, Linden, N.J., assignor to Thomas & Betts Corporation, Elizabeth, N.J., a corporation of New Jersey
Filed Sept. 29, 1969, Ser. No. 19,328
Term of patent 14 years
Int. Cl. D9—*08*
U.S. Cl. D9—252



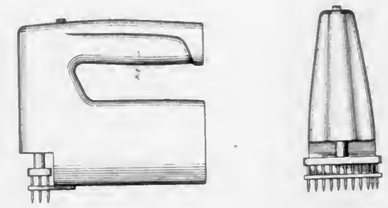
218,407
CONTAINER CAP
John R. Howard, Lombard, and Conrad Thatcher Schwartz, Jr., Wheaton, Ill., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Apr. 25, 1969, Ser. No. 16,909
Term of patent 14 years
Int. Cl. D9—*02*
U.S. Cl. D9—284



218,408
HANDLE FOR A FLORAL BASKET OR SIMILAR ARTICLE
Robert E. Wilson, Pittsburgh, Pa., assignor to Stylette Plastics, Inc., Oakdale, Pa., a corporation of Pennsylvania
Filed Jan. 23, 1969, Ser. No. 15,470
Term of patent 14 years
Int. Cl. D9—*99*
U.S. Cl. D9—291



218,409
MEAT TENDERIZER MACHINE
Virginia L. Clifton, 1701 Louisiana Ave., Denver, Colo. 80210
Filed May 29, 1968, Ser. No. 12,127
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D11—1



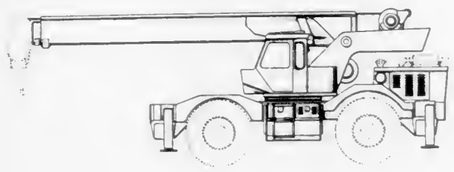
218,410
BUILDING
Clarence T. Adams, 4615 E. 3rd St., Tulsa, Okla. 74112
Filed Nov. 7, 1968, Ser. No. 14,417
Term of patent 14 years
Int. Cl. D25—*04*
U.S. Cl. D13—1



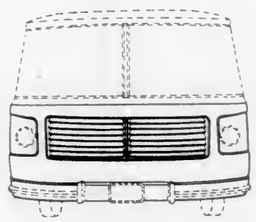
218,411
BUILDING
Peter S. K. Yeung, Atlanta, Ga., assignor to Wellington Hall, Ltd., Thomasville, N.C., a corporation of North Carolina
Filed Aug. 11, 1969, Ser. No. 18,637
Term of patent 14 years
Int. Cl. D25—*04*
U.S. Cl. D13—1



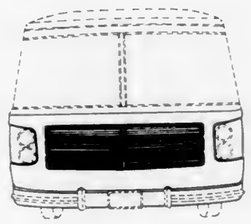
218,412
COMBINATION HYDRAULIC CRANE AND CHASSIS
William L. Lowe, Hagerstown, Md., assignor to Grove Manufacturing Company, Shady Grove, Pa., a corporation of Pennsylvania
Filed Feb. 26, 1969, Ser. No. 15,925
Term of patent 14 years
Int. Cl. D12—*05*
U.S. Cl. D14—3



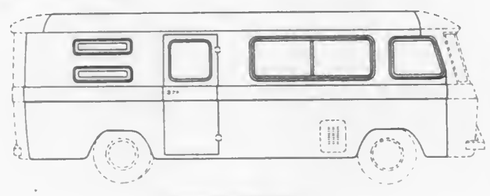
218,413
FRONT PANEL UNIT FOR A VEHICLE
Jesse R. Birchard, Walled Lake, Mich., Albert D. Mortrude, Pompano Beach, Fla., and Ray C. Conner, Battle Creek, Mich., assignors, by mesne assignments, to The Cortez Corporation, Kent, Ohio, a corporation of Ohio
Original design application Sept. 20, 1968, Ser. No. 13,621. Divided and this application Feb. 26, 1969, Ser. No. 17,036
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D14—6



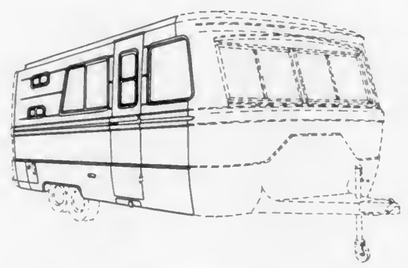
218,414
FRONT PANEL UNIT FOR A VEHICLE
Jesse R. Birchard, Walled Lake, Mich., Albert D. Mortrude, Pompano Beach, Fla., and Ray C. Conner, Battle Creek, Mich., assignors, by mesne assignments, to The Cortez Corporation, Kent, Ohio, a corporation of Ohio
Original design application Sept. 20, 1968, Ser. No. 13,621. Divided and this application Feb. 26, 1969, Ser. No. 17,037
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D14—6



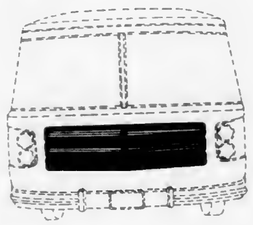
218,415
DESIGN FOR A SIDE PANEL UNIT FOR A VEHICLE
Jesse R. Birchard, Walled Lake, Mich., Albert D. Mortrude, Pompano Beach, Fla., and Ray C. Conner, Battle Creek, Mich., assignors, by mesne assignments, to The Cortez Corporation, Kent, Ohio, a corporation of Ohio
Original design application Sept. 20, 1968, Ser. No. 13,630. Divided and this application Feb. 26, 1969, Ser. No. 17,040
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D14—6



218,416
SIDE PANEL UNIT FOR A VEHICLE
Jesse R. Birchard, Walled Lake, Mich., Albert D. Mortrude, Pompano Beach, Fla., and Ray C. Conner, Battle Creek, Mich., assignors, by mesne assignments, to The Cortez Corporation, Kent, Ohio, a corporation of Ohio
Original design application Sept. 20, 1968, Ser. No. 13,630. Divided and this application Feb. 26, 1969, Ser. No. 17,042
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D14—6



218,417
GRILLE FOR A VEHICLE
Jesse R. Birchard, Walled Lake, Mich., Albert D. Mortrude, Pompano Beach, Fla., and Ray C. Conner, Battle Creek, Mich., assignors, by mesne assignments, to The Cortez Corporation, Kent, Ohio, a corporation of Ohio
Original design application Sept. 20, 1968, Ser. No. 13,621. Divided and this application Feb. 26, 1969, Ser. No. 17,039
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D14—18



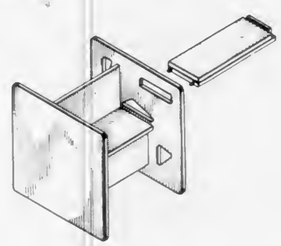
218,418
GRILLE FOR A VEHICLE
Jesse R. Birchard, Walled Lake, Mich., Albert D. Mortrude, Pompano Beach, Fla., and Ray C. Conner, Battle Creek, Mich., assignors, by mesne assignments, to The Cortez Corporation, Kent, Ohio, a corporation of Ohio
Original design application Sept. 20, 1968, Ser. No. 13,621. Divided and this application Feb. 26, 1969, Ser. No. 17,038
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D14—18



218,419
SECRETARY CHAIR
Bernard David Nightingale, 36 Prince Arthur Ave., Toronto, Ontario, Canada
Filed Feb. 1, 1968, Ser. No. 10,392
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



218,420
COMBINED TABLE AND CHAIR FOR A CHILD
Evert C. Weidner, 118 S. Race St., Kennett Square, Pa. 19348
Filed June 20, 1968, Ser. No. 12,457
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



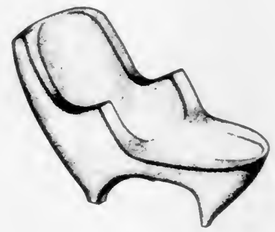
218,421
BASE FOR AN ARTICLE OF FURNITURE
Eugene L. Crandall, 1401 Concord Ave., Elkhart, Ind. 46514
Filed Oct. 25, 1968, Ser. No. 14,186
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



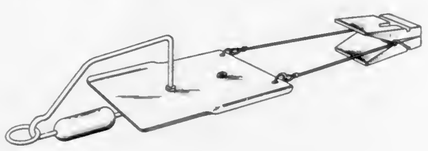
218,422
BASE FOR AN ARTICLE OF FURNITURE
Eugene L. Crandall, 1401 Concord Ave., Elkhart, Ind. 46514
Filed Oct. 25, 1968, Ser. No. 14,187
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



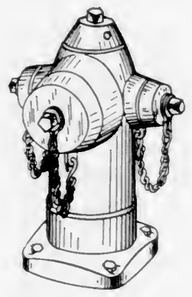
218,423
LOUNGE CHAIR
Dell Y. Angerer, 639 Romany Road, Kansas City, Mo. 64113, and Jean B. Wilson, L–8 Lake Lotawana, Lee's Summit, Mo. 64063
Filed June 16, 1969, Ser. No. 17,722
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—11



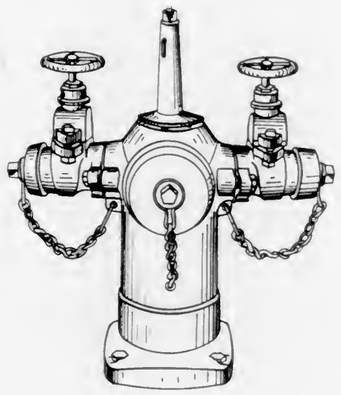
218,424
DEPTH REGULATOR FOR FISH LURES
Jack C. King, 678 Massachusetts, North Muskegon, Mich. 49445
Filed Apr. 3, 1969, Ser. No. 16,562
Term of patent 14 years
Int. Cl. D22—*07*
U.S. Cl. D22—30



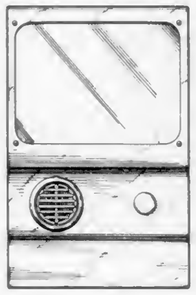
218,425
FIRE HYDRANT
John J. Smith, Decatur, Ill., assignor to Mueller Co., Decatur, Ill., a corporation of Illinois
Filed June 23, 1969, Ser. No. 17,813
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—12



218,426
FIRE HYDRANT
John J. Smith, Decatur, Ill., assignor to Mueller Co., Decatur, Ill., a corporation of Illinois
Filed June 23, 1969, Ser. No. 17,814
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—12

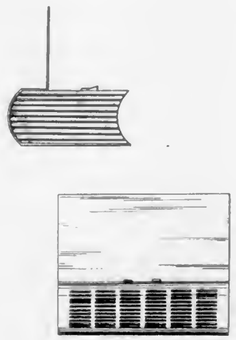


218,427
COMBINED HAND DRYER AND ADVERTISING DISPLAY
Louis E. Beyer, Bellwood, Ill (% Electric Aire Engineering Corp., 7908 W. Grand Ave., Elmwood Park, Ill. 60635)
Filed June 20, 1969, Ser. No. 17,788
Term of patent 14 years
Int. Cl. D23—*02*; D20—*03*
U.S. Cl. D23—74

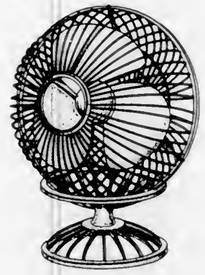




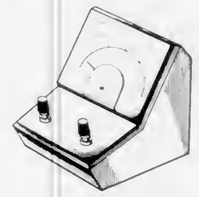
218,428
OZONIZER WITH MOVABLE COVER
Sandra Lucchi, % Misitano, Via Padova 217, Milan, Italy
Filed Jan. 3, 1969, Ser. No. 15,192
Claims priority, application Italy Dec. 21, 1968
Term of patent 14 years
Int. Cl. D23—*04*
U.S. Cl. D23—150



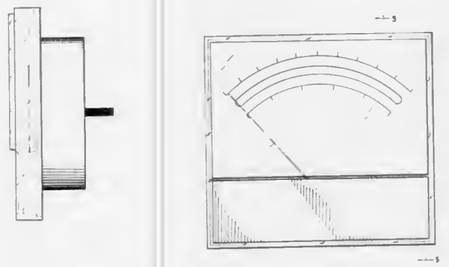
218,429
ELECTRIC FAN
Teruo Yotsukura, Hitachi-shi, Japan, assignor to Hitachi, Ltd., Tokyo-to, Japan
Filed Sept. 23, 1969, Ser. No. 19,259
Term of patent 14 years
Int. Cl. D23—*04*
U.S. Cl. D23—155



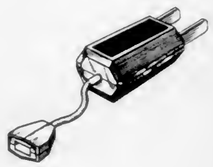
218,430
COMBINED AMPERE AND VOLTMETER
Yoshiharu Alan Shimasaki, 5–12 3-chome, Minami-Azabu, Minato-ku, Tokyo, Japan
Filed Nov. 14, 1967, Ser. No. 9,396
Term of patent 14 years
Int. Cl. D10—*10*
U.S. Cl. D26—1



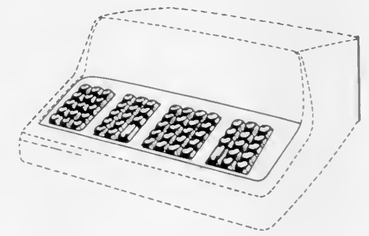
218,431
COMBINED AMPERE, VOLT AND RESISTOR-METER
Yoshiharu Alan Shimasaki, 5–12 3-chome, Minami-Azabu, Minato-ku, Tokyo, Japan
Filed Nov. 17, 1967, Ser. No. 9,458
Claims priority, application Japan June 27, 1967
Term of patent 14 years
Int. Cl. D10—*10*
U.S. Cl. D26—1



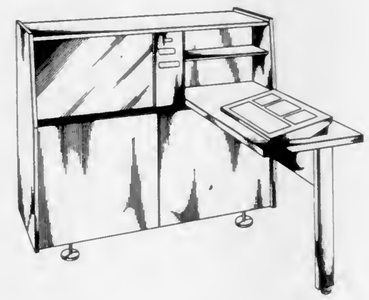
218,432
LIGHT ACTIVATED TRIGGER FOR MULTIPLE FLASH SYSTEM
Joseph J. Schmidt, Glenview, and Louis M. Frank, Morton Grove, Ill., assignors to The Lase Co., Chicago, Ill., a corporation of Illinois
Filed Feb. 27, 1969, Ser. No. 15,939
Term of patent 14 years
Int. Cl. D13—*03*
U.S. Cl. D26—1



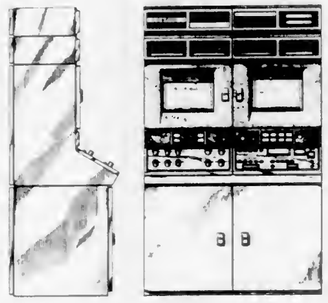
218,433
KEYBOARD FOR ELECTRONIC APPARATUS
Bernard M. Oliver, 13310 La Paloma Ave., Los Altos Hills, Calif. 94022; Thomas E. Osborne, 2058 Vallejo, San Francisco, Calif. 94123; and Richard E. Monnier, 1661 Kamsask Drive, Sunnyvale,, Calif. 94087
Filed Sept. 16, 1968, Ser. No. 13,552
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—5



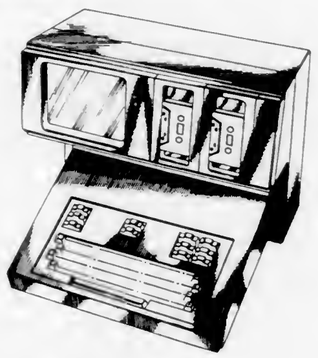
218,434
DATA PROCESSING CONSOLE OR SIMILAR ARTICLE
John F. Graham, Sudbury, and Frank C. Baker, Woburn, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Oct. 25, 1968, Ser. No. 14,176
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—5



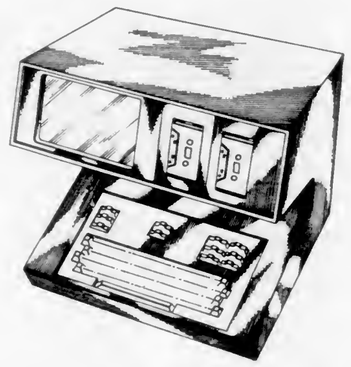
218,435
OPERATOR'S STATION FOR AN INDUSTRIAL PROCESS MEASURING AND CONTROLLING SYSTEM
Frederick M. Hill, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Feb. 6, 1969, Ser. No. 15,683
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—5



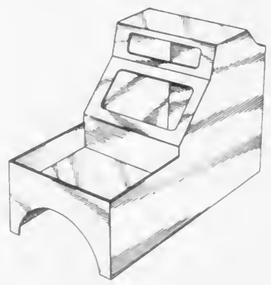
218,436
DATA HANDLING AND COMMUNICATION TERMINAL
Samuel A. Morgan, Ann Arbor, Mich., and John Svezia, Millburn, N.J., assignors to Sycor Inc., Ann Arbor, Mich., a corporation of Delaware
Filed Apr. 3, 1969, Ser. No. 16,573
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—5



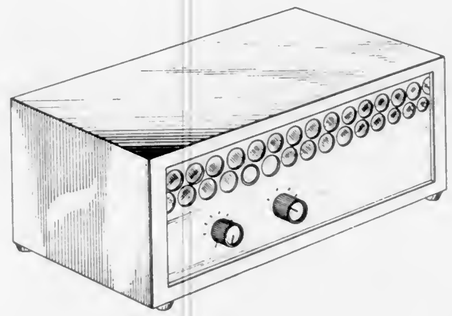
218,437
DATA ENTRY TERMINAL
Robert G. Plantholt, Rochester, and James G. Balmer, Bloomfield Hills, Mich., assignors to Sycor Inc., Ann Arbor, Mich., a corporation of Delaware
Filed May 5, 1969, Ser. No. 17,005
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—5



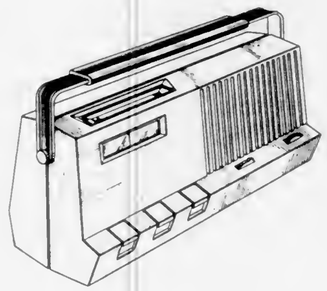
218,438
ELECTRONIC EQUIPMENT CASE FOR EMERGENCY VEHICLES
Robert L. Shook, Rte. 4, Box 197, and Ladson L. Ouzts, Rte. 2, Box 103, both of Hillsboro, Oreg. 97123
Filed May 22, 1969, Ser. No. 17,273
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—5



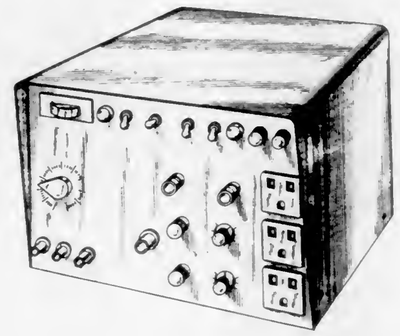
218,439
INTRUDER AND FIRE DETECTOR
Don R. Horowitz and Joseph G. Brendel, Jr., both of 925 Penn Ave., Pittsburgh, Pa. 15222
Filed Mar. 19, 1969, Ser. No. 16,326
Term of patent 14 years
Int. Cl. D13—*03;* D29—*02*
U.S. Cl. D26—13



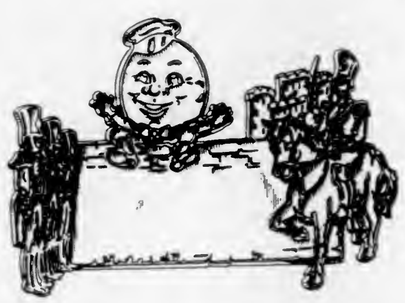
218,440
PORTABLE TAPE RECORDER
Walter E. Willday, Leeds, England, assignor to E. I. Arnold & Son Limited, Leeds, England, a corporation of Great Britain
Filed June 18, 1969, Ser. No. 17,750
Claims priority, application Great Britain Apr. 16, 1969
Term of patent 7 years
Int. Cl. D14—*01, 03*
U.S. Cl. D26—14



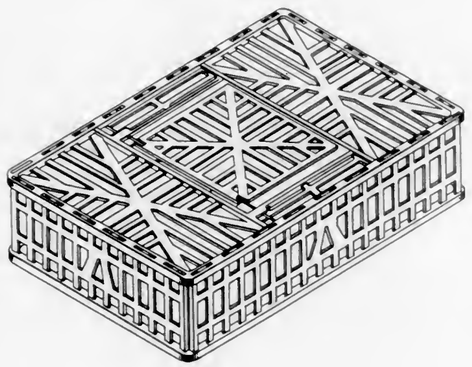
218,441
POWER SUPPLY UNIT FOR MAINTENANCE AND REPAIR OF ELECTRONIC EQUIPMENT
William Jordan Siegel, 814 E. Franklin Ave., Silver Spring, Md. 20901
Filed July 31, 1969, Ser. No. 18,486
Term of patent 14 years
Int. Cl. D13—*02*
U.S. Cl. D26—15



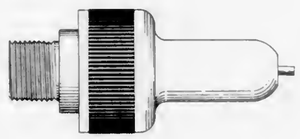
218,442
WALL PLAQUE
Edward R. F. Jones-Fenleigh, Dalby Lodge, Busby, Leicestershire, England
Filed Mar. 17, 1969, Ser. No. 16,292
Claims priority, application Great Britain Jan. 29, 1969
Term of patent 14 years
Int. Cl. D11—*02*
U.S. Cl. D29—23



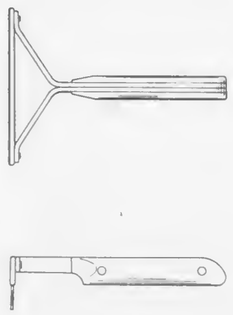
218,443
POULTRY COOP
K. Zack Taylor, Decatur, Ga., assignor to Uniplastic Corporation, Atlanta, Ga., a corporation of Georgia
Filed June 11, 1968, Ser. No. 12,298
Term of patent 14 years
Int. Cl. D30—*01*
U.S. Cl. D30—1



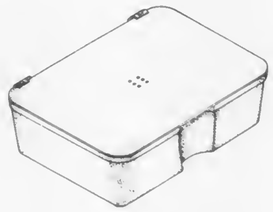
218,444
ANIMAL DRINKING FOUNTAIN OR THE LIKE
Gerald L. Pochyla and William Ralph Smith, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
Filed Oct. 31, 1968, Ser. No. 14,242
Term of patent 14 years
Int. Cl. D30—*02*
U.S. Cl. D30—13



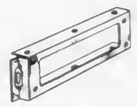
218,445
COMB FOR ANIMALS
Raymond D. Lovvorn, 487 N. Highland, Memphis, Tenn. 38122
Filed June 17, 1969, Ser. No. 17,746
Term of patent 14 years
Int. Cl. D30—*99*
U.S. Cl. D30—40



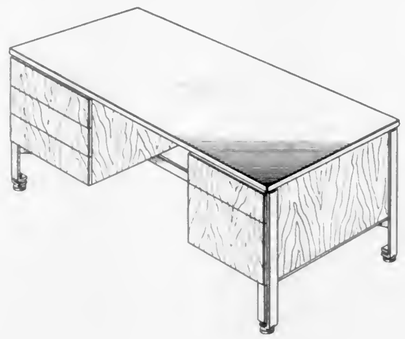
218,446
CAT LITTER BOX
Robert W. Sleith, Wilbraham, Mass., assignor to Suburban Plastics, Inc., Three Rivers, Mass., a corporation of Massachusetts
Filed Aug. 4, 1969, Ser. No. 18,526
Term of patent 14 years
Int. Cl. D30—*99*
U.S. Cl. D30—99



218,447
COMBINED DRAWER GUIDE AND LEG SUPPORT FOR FURNITURE
Ellis S. Wilkinson, Mebane, N.C., assignor to Melville Furniture Manufacturing Co., Mebane, North Carolina, a corporation of North Carolina
Filed Oct. 22, 1968, Ser. No. 14,116
Term of patent 7 years
Int. Cl. D6—*99*
U.S. Cl. D33—1



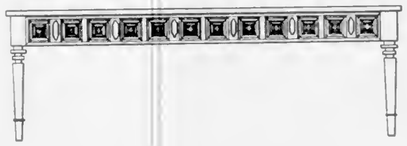
218,448
DESK
Sidnor Tebbs Chichester, Jr., 2529-A P St. NW., Washington, D.C. 20007
Filed Mar. 12, 1969, Ser. No. 16,189
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—7



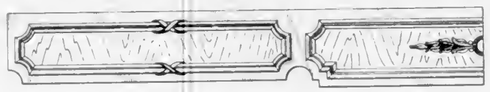
218,449
SIDE RAIL FOR A TABLE
Herman W. Bernard, 304 Edgedale Drive, High Point, N.C. 27403
Filed Oct. 29, 1968, Ser. No. 14,338
Term of patent 7 years
Int. Cl. D6—*01*
U.S. Cl. D33—14



218,450
TABLE
Herman W. Bernard, 304 Edgedale Drive, High Point, N.C. 27403
Filed Oct. 16, 1968, Ser. No. 14013
Term of patent 7 years
Int. Cl. D6—*01*
U.S. Cl. D33—14



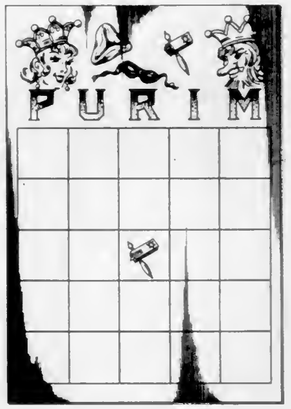
218,451
SIDE RAIL FOR A TABLE
Herman W. Bernard, 304 Edgedale Drive, High Point, N.C. 27403
Filed Oct. 23, 1968, Ser. No. 14,132
Term of patent 7 years
Int. Cl. D6—*01*
U.S. Cl. D33—14



218,452
GAME WHEEL GUIDE STICK
John I. Tymkiw, 3907 Sumac Drive, Los Angeles, Calif. 91403
Filed Feb. 10, 1969, Ser. No. 15,725
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



218,453
GAME BOARD
Helen P. Lasker, 94—01 64th Road, Rego Park, N.Y. 11374
Filed May 28, 1969, Ser. No. 17,392
Term of patent 7 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



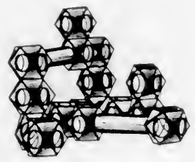
218,454
EXERCISE DEVICE
Richard L. Chapman, 233 Prospect Ave., Waterloo, Iowa 50703
Filed May 29, 1969, Ser. No. 17,406
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



218,455
PLAYGROUND CLIMBER
Richard Dattner, New York, N.Y., assignor to Playstreet, Inc., New York, N.Y., a corporation of New York
Filed July 22, 1969, Ser. No. 18,294
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5

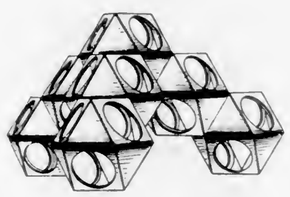


218,456
PLAYGROUND CLIMBER
Richard Dattner, New York, N.Y., assignor to Playstreet, Inc., New York, N.Y., a corporation of New York
Filed July 22, 1969, Ser. No. 18,295
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



218,457
PLAYGROUND CLIMBER
Richard Dattner, New York, N.Y., assignor to Playstreet, Inc., New York, N.Y., a corporation of New York
Filed July 22, 1969, Ser. No. 18,311
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5

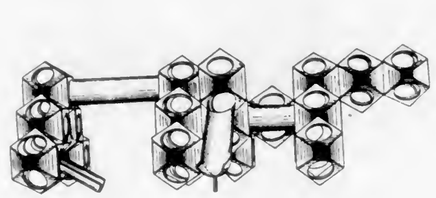
218,458
PLAYGROUND CLIMBER
Richard Dattner, New York, N.Y., assignor to Playstreet, Inc., New York, N.Y., a corporation of New York
Filed July 22, 1969, Ser. No. 18,320
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



218,459
PLAYGROUND CLIMBER
Richard Dattner, New York, N.Y., assignor to Playstreet, Inc., New York, N.Y., a corporation of New York
Filed July 22, 1969, Ser. No. 18,321
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



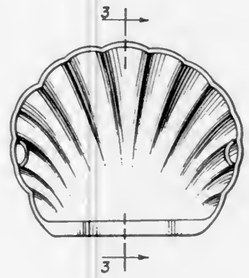
218,460
COMBINED PLAYGROUND CLIMBER AND SLIDE
Richard Dattner, New York, N.Y., assignor to Playstreet, Inc., New York, N.Y., a corporation of New York
Filed July 22, 1969, Ser. No. 18,333
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



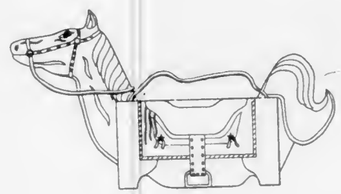
218,461
SNOW SLED
Raymond G. Lankowitz, 4700 W. 32nd Ave., Denver, Colo. 80212
Filed Jan. 2, 1969, Ser. No. 15,173
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—15



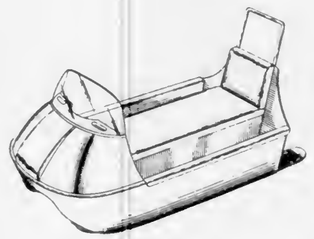
218,462
SNOW SLED
Raymond G. Lankowitz, 4700 W. 32nd Ave., Denver, Colo. 80212
Filed Jan. 10, 1969, Ser. No. 15,311
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—15



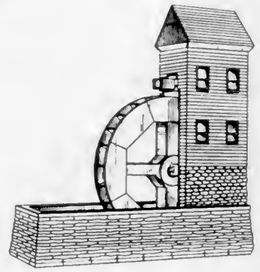
218,463
TOY HORSE
William F. Brown, P.O. Box 16033, Memphis, Tenn. 38101
Filed Feb. 5, 1969, Ser. No. 15637
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



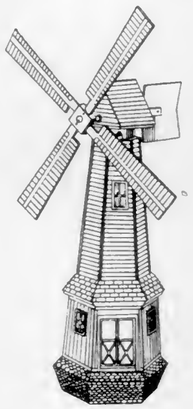
218,464
SLEIGH
Leonard Marois, Montmagny, Quebec, Canada, assignor to Aurele Marois Inc., Montmagny, Quebec, Canada
Filed Sept. 2, 1969, Ser. No. 18,950
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—15



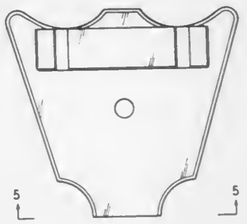
218,465
WATERMILL LAWN AND GARDEN ORNAMENT
Edward Fier, Jr., Mundelein, Ill., assignor, by mesne assignments, to Lawn Ware Products, Inc., a corporation of Illinois
Filed June 16, 1969, Ser. No. 17,707
Term of patent 14 years
Int. Cl. D31
U.S. Cl. D35—1



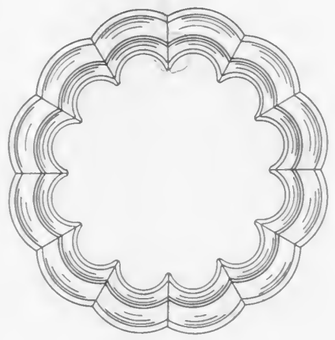
218,466
WINDMILL LAWN AND GARDEN ORNAMENT
Edward Fier, Jr., Mundelein, Ill., assignor, by mesne assignments, to Lawn Ware Products, Inc., a corporation of Illinois
Filed June 16, 1969, Ser. No. 17,721
Term of patent 14 years
Int. Cl. D31
U.S. Cl. D35—1



218,467
FRAME FOR A COMBINED CLOCK AND PLANT HOLDER
Marion K. Summers, W. Commerce St., Brownstown, Ind. 47220
Filed Mar. 3, 1969, Ser. No. 16,012
Term of patent 14 years
Int. Cl. D10—*01*
U.S. Cl. D42—7



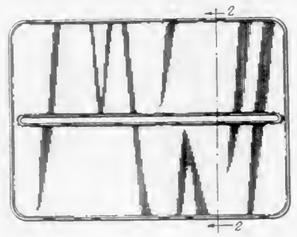
218,468
FRAME FOR A CLOCK OR THE LIKE
Harry Bergman, Glencoe, Ill., assignor to Butler Specialty Company, Chicago, Ill., a corporation of Delaware
Filed June 9, 1969, Ser. No. 17,596
Term of patent 3½ years
Int. Cl. D10—*06*
U.S. Cl. D42—7



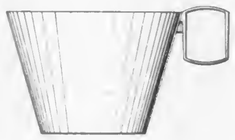
218,469
FRAME FOR A CLOCK OR THE LIKE
Harry Bergman, Glencoe, Ill., assignor to Butler Specialty Company, Chicago, Ill., a corporation of Delaware
Filed June 9, 1969, Ser. No. 17,597
Term of patent 3½ years
Int. Cl. D10—*06*
U.S. Cl. D42—7



218,470
COOKIE BAKING SHEET
Elizabeth De Palmo, 48 S. Portland St., Youngstown, Ohio 44509
Continuation-in-part of design application Ser. No. 12,747, June 15, 1968, now Patent No. 214,280, dated May 27, 1969. This application Feb. 5, 1969, Ser. No. 15,653.
Term of patent 14 years
Int. Cl. D7—*02*
U.S. Cl. D44—1



218,471
DISPOSABLE CUP
Stanford C. Stone, South St. Paul, Minn., assignor to Plastics, Inc., St. Paul, Minn., a corporation of Delaware
Filed Apr. 10, 1969, Ser. No. 16,660
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—9



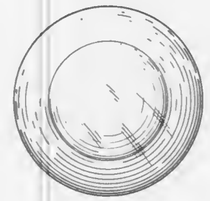
218,472
MEASURING CUP
Morison S. Cousins, Plainview, N.Y., Rennold L. Klawson, Darien, Conn., and Roy Watson, Mount Kisco, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
Filed May 21, 1969, Ser. No. 17,252
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D44—21



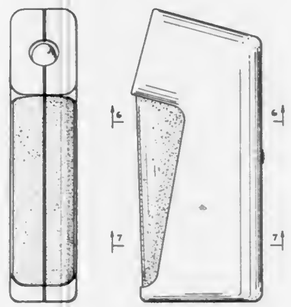
218,473
PITCHER
Robert D. Asch, 74 Sunnyside Ave., Montreal, 217 Quebec, Canada
Filed June 3, 1969, Ser. No. 17,486
Claims priority, application Canada Apr. 16, 1969
Term of patent 7 years
Int. Cl. D7—*01*
U.S. Cl. D44—21



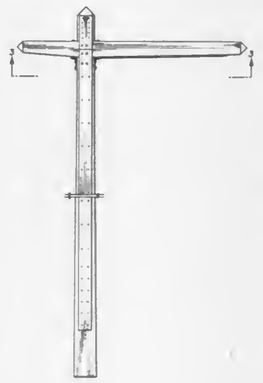
218,474
LIGHTING GLOBE
Harry C. Devine, Jr., Kansas City, Mo., assignor to Devine Lighting Incorporated, Kansas City, Mo., a corporation of Missouri
Filed Apr. 29, 1969, Ser. No. 16,944
Term of patent 14 years
Int. Cl. D26—*06*
U.S. Cl. D48—16



218,475
DISPOSABLE POCKET LIGHT
Lew F. Allyn, Skaneateles, N.Y., assignor to Welch Allyn Inc., Skaneateles Falls, N.Y., a corporation of New York
Filed Sept. 4, 1969, Ser. No. 19,018
Term of patent 14 years
Int. Cl. D26—*04*
U.S. Cl. D48—24



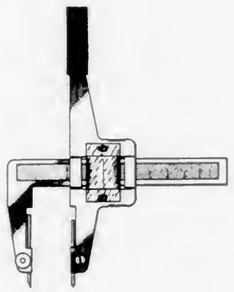
218,476
LIGHTING STANDARD
Nicholas V. Poletika and Barton A. Ecklund, Fort Bragg, Calif., assignors to Union Lumber Company, San Francisco, Calif., a corporation of California
Filed Oct. 14, 1968, Ser. No. 13,981
Term of patent 14 years
Int. Cl. D26—*03*
U.S. Cl. D48—31



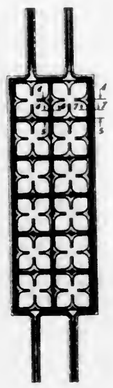
218,477
LIGHTING FIXTURE
Howard A. Daum, Gettysburg, Pa., assignor to Hadco Products, Inc., Littlestown, Pa., a corporation of Pennsylvania
Filed July 15, 1969, Ser. No. 18,208
Term of patent 14 years
Int. Cl. D26—*03, 02*
U.S. Cl. D48—31



218,478
SLIDE COMPASS
Warren D. Novak, 325 Douglas Road, Chappaqua, N.Y. 10514
Continuation of design application Ser. No. 13,338, Aug. 30, 1968. This application May 29, 1969, Ser. No. 17,540
Term of patent 14 years
Int. Cl. D10—*08*
U.S. Cl. D52—6



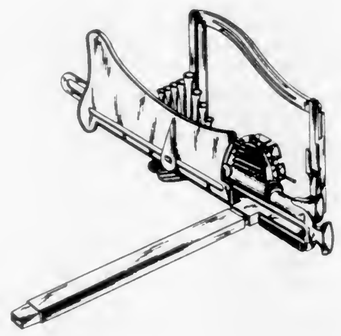
218,479
GRILLEWORK FOR TREILLAGES, ROOM DIVIDERS OR THE LIKE
Ron Furtak, Chicago, Ill., assignor to Julius Blum & Co., Inc., Carlstadt, N.Y., a corporation of New York
Filed Apr. 21, 1969, Ser. No. 16,829
Term of patent 14 years
Int. Cl. D25—*01*
U.S. Cl. D54—2



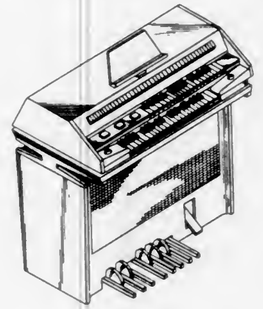
218,480
CONVEYOR
Charles N. Hannon, Olathe, Kans., assignor to Warren W. Hannon, Olathe, Kans.
Filed June 23, 1969, Ser. No. 17,838
Term of patent 14 years
Int. Cl. D15—*03*
U.S. Cl. D55—1



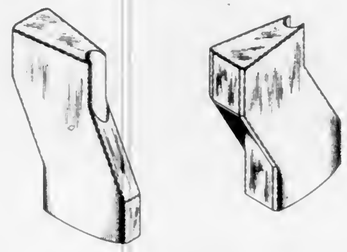
218,481
MUSICAL INSTRUMENT
Joseph B. Barricks, 616 37th St., Des Moines, Iowa 50312
Filed Apr. 23, 1969, Ser. No. 16,878
Term of patent 14 years
Int. Cl. D17—*02*
U.S. Cl. D56—1



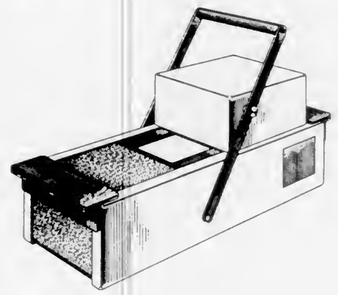
218,482
ORGAN CONSOLE
Frank A. Warren, Lake Parsippany, and Alan H. Friedman, Metuchen, N.J., assignors to Allen Organ Company, Macungie, Pa., a corporation of Pennsylvania
Filed Jan. 29, 1969, Ser. No. 15,551
Term of patent 14 years
Int. Cl. D17—*01*
U.S. Cl. D56—2



218,483
PHONOGRAPH SPINDLE ADAPTOR FOR 45 R.P.M. RECORDS OR SIMILAR ARTICLE
David L. Kahler and Eugene A. Stoner, Decatur, Ill., assignors to General Electric Company, a corporation of New York
Filed Jan. 3, 1969, Ser. No. 15,200
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D56—4



218,484
PLASTIC I.D. CARD LAMINATING MACHINE OR SIMILAR ARTICLE
Roger J. Kuhns, Lincoln, Mass., assignor to Avant Incorporated, Lincoln, Mass., a corporation of Massachusetts
Filed June 24, 1969, Ser. No. 17,847
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D63—1



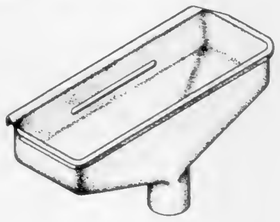
218,485
CALCULATING MACHINE
Kenneth Grange, London, Hampstead, England, assignor to Maruzen Mishin Kabushiki Kaisha (Maruzen Sewing Machine Co., Ltd.), Sata Moriguchi, Osaka Prefecture, Japan
Filed Mar. 28, 1969, Ser. No. 16,505
Term of patent 14 years
Int. Cl. D18—*01*
U.S. Cl. D64—11



218,486
CALCULATING MACHINE
Yoshio Suganoya, Nara, Japan, assignor to Sharp Kabushiki Kaisha (Sharp Corporation), a corporation of Japan
Filed May 21, 1969, Ser. No. 17,248
Claims priority, application Japan Mar. 12, 1969
Term of patent 14 years
Int. Cl. D18—*01*
U.S. Cl. D64—11



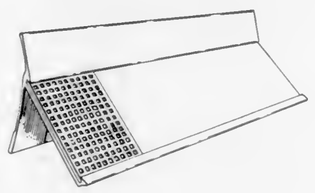
218,487
RESTAURANT ICE MACHINE FUNNEL
Edward R. Flores, 4 Bueno Court, Danville, Calif. 94526
Filed Apr. 7, 1969, Ser. No. 16,611
Term of patent 14 years
Int. Cl. D15—*10*
U.S. Cl. D67—3



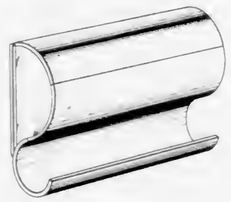
218,488
COMBINED LANE DELINEATOR-DIRECTION INDICATOR DEVICE FOR ROADWAYS
Rolf W. Peter, Palo Alto, Calif., assignor to Tucker Associates, Inc., Palo Alto, Calif., a corporation of California
Filed Oct. 7, 1968, Ser. No. 13,852
Term of patent 14 years
Int. Cl. D29—*99*
U.S. Cl. D72—1



218,489
CALENDAR HOLDER
Henry Finkel, Montreal, Quebec, Canada, assignor to Bank of Montreal, Montreal, Quebec, Canada
Filed Nov. 4, 1968, Ser. No. 14,309
Claims priority, application Canada Oct. 30, 1968
Term of patent 14 years
Int. Cl. D19—*03*
U.S. Cl. D74—5



218,490
MAILBOX
Charles E. Blumberg, 1933 Red Oak Drive, Adelphi, Md. 20783
Filed Feb. 12, 1969, Ser. No. 15,754
Term of patent 14 years
Int. Cl. D31
U.S. Cl. D74—9



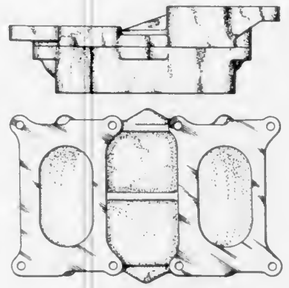
218,491
WRITING INSTRUMENT
Henry Bovin, Danbury, and Grover H. Jensen, Woodbury, Conn., assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Apr. 29, 1968, Ser. No. 11,679
Term of patent 14 years
Int. Cl. D19—*06*
U.S. Cl. D74—17



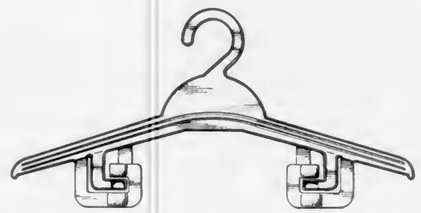
218,492
BALLPOINT PEN
Marcel Louis Michel Antoine Bich, Neuilly-sur-Seine, France, assignor to Societe Bic, Societe Anonyme de Droit Francais, Clichy, France
Filed Oct. 18, 1968, Ser. No. 14,058
Claims priority, application France July 30, 1968
Term of patent 14 years
Int. Cl. D19—*06*
U.S. Cl. D74—17



218,493
ADAPTER FOR MANIFOLD AND CARBURETORS
Walter L. Garner, Norwalk, Calif. (% Trans-Dapt of Calif., Inc., P.O. Box 4157 Compton, Calif. 90224)
Filed Aug. 13, 1969, Ser. No. 18,658
Term of patent 14 years
Int. Cl. D15—*01*
U.S. Cl. D77—1



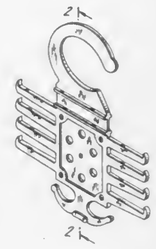
218,494
COAT HANGER
Henry S. Leichter, 225 W. Lehigh Ave., Philadelphia, Pa. 19133
Filed May 8, 1969, Ser. No. 17,063
Term of patent 14 years
Int. Cl. D6—*07*
U.S. Cl. D80—8



218,495
HEAD FOR MANNIKIN
John W. Rigsby, Evansville, Ind., assignor to Merit Clothing Company, Inc., Mayfield, Ky., a corporation of Kentucky
Filed June 12, 1969, Ser. No. 17,669
Term of patent 14 years
Int. Cl. D20—*02*
U.S. Cl. D80—8



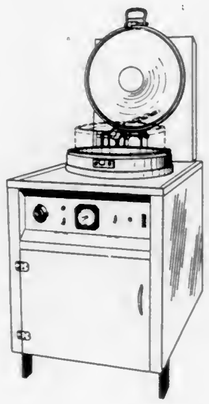
218,496
TRAVEL TIE HANGER OR THE LIKE
James B. Swett, Barrington, R.I., and Sidney Z. Smith, Worcester, Mass., assignors to Dart Industries, Inc., Los Angeles, Calif., a corporation of Delaware
Filed July 16, 1969, Ser. No. 18,219
Term of patent 14 years
Int. Cl. D6—*07*
U.S. Cl. D80—8



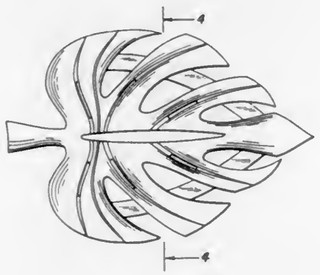
218,497
DISPLAY STAND
Sylvain Weindling, Lincolnwood, and Barry Hornstein, Glencoe, Ill., assignors to WMI Corporation, Lincolnwood, Ill., a corporation of Illinois
Filed July 24, 1969, Ser. No. 18,362
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D80—9



218,498
PRESSURE FRYER
Robert G. Wilson, 643 E. Faris Road, and Raymond W. Rogers, 414 Potomac Ave., both of Greenville, S.C. 29605
Filed Oct. 2, 1968, Ser. No. 13,820
Term of patent 14 years
Int. Cl. D12—*04*
U.S. Cl. D81—10



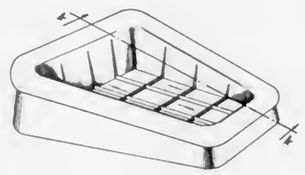
218,499
GAS FLAME COMBINATION COVER PLATE AND SIMMERER
Lena L. Troutman, 418 W. Monroe St., Salisbury, N.C. 28144
Filed June 30, 1969, Ser. No. 18,342
Term of patent 14 years
Int. Cl. D7—*02*
U.S. Cl. D81—25



218,500
SEALED BAG FOR LIQUIDS
David Bellamy, Jr., Kenilworth, and Philip Gregory Ralston, Villa Park, Ill., assignors to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware
Filed Mar. 17, 1968, Ser. No. 16,257
Term of patent 14 years
Int. Cl. D24—*02*; D9—*01*
U.S. Cl. D83—1

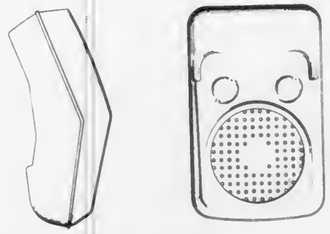


218,501
BEDPAN
William J. Gorman, Raytown, Mo., and John G. Markert, Overland Park, and James S. Reed, Lawrence, Kans., assignors to GMR, Inc., Lawrence, Kans., a corporation of Kansas
Filed May 5, 1969, Ser. No. 17,014
Term of patent 14 years
Int. Cl. D28—*01*; D24—*99*
U.S. Cl. D83—1





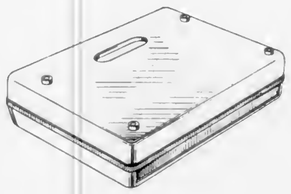
218,502
ENCLOSURE FOR SELF-CONTAINED UNDERWATER BREATHING APPARATUS
Louis Riccio, Lansdale, Pa., assignor to Marine Systems International, a corporation of Pennsylvania
Filed June 13, 1969, Ser. No. 17,686
Term of patent 14 years
Int. Cl. D24—*99*
U.S. Cl. D83—1



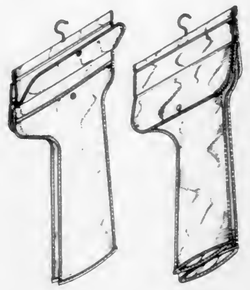
218,503
MEDICAL TRAY
Alice J. Perkinson, 5246 E. Florence Ave., Bell, Calif. 90201
Filed July 7, 1969, Ser. No. 18,076
Term of patent 14 years
Int. Cl. D24—*05*
U.S. Cl. D83—1



218,504
COMBINED HEATER HOUSING FOR HAIR CURLERS AND VANITY MIRRORS
Arne Bybjerg Pedersen, Kalunborg, Denmark, assignor, by mesne assignments, to Bristol-Myers Company, New York, N.Y., a corporation of Delaware
Filed Nov. 27, 1968, Ser. No. 14,693
Claims priority, application Denmark June 26, 1968
Term of patent 14 years
Int. Cl. D28—*03*
U.S. Cl. D86—10



218,505
BOOT HOLDER
Harold Rattner, 350 5th Ave., New York, N.Y. 10001
Filed Mar. 3, 1969, Ser. No. 16,014
Term of patent 14 years
Int. Cl. D3—*99*
U.S. Cl. D87—5



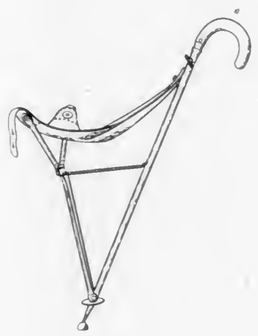
218,506
KEY HOLDING ATTACHMENT FOR KEY CASES
Charles W. Elsenheimer, Meriden, Conn., assignor to Prentice Corporation, Kensington, Conn., a corporation of Connecticut
Filed Jan. 15, 1969, Ser. No. 15,355
Term of patent 14 years
Int. Cl. D3—*99*
U.S. Cl. D87—8



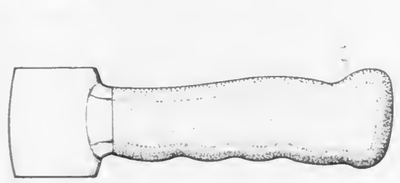
218,507
STOWED UMBRELLA
Fritz Bremshey, Solingen-Ohligs, Germany, assignor to Telesco Brophey Limited, East Montreal, Quebec, Canada
Filed Jan. 16, 1969, Ser. No. 15,379
Claims priority, application Germany Sept. 25, 1968
Term of patent 14 years
Int. Cl. D3—*03*
U.S. Cl. D88—3



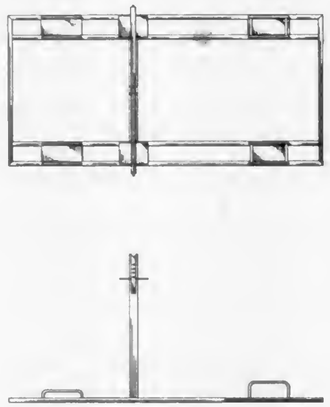
218,508
COMBINED GUNREST, SEAT AND WALKING STICK
Rufus Norman, 7300 Cameron, Apt. 220, North Little Rock, Ark. 72209
Filed Mar. 5, 1969, Ser. No. 16,043
Term of patent 14 years
Int. Cl. D3—*03*
U.S. Cl. D88—4



218,509
HANDLE FOR A CRUTCH OR SIMILAR ARTICLE
Eugene C. Levy, 137—59 71st Ave., Flushing, N.Y. 11367
Filed Sept. 17, 1969, Ser. No. 19,189
Term of patent 14 years
Int. Cl. D24—*01*; D3—*03*
U.S. Cl. D88—4



218,510
PORTABLE CARRIER FOR MOTORCYCLES
Cecil E. Gwin and Harvey L. Gwin, both of 9400 Lake Natoma Drive, Orangevale, Calif. 95662
Filed May 21, 1969, Ser. No. 17,260
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D90—18



218,511
BOOKMARK OR THE LIKE
Robert B. Sarro, 416 Burkhard St., Mineola, N.Y. 11501
Filed Mar. 12, 1969, Ser. No. 16,201
Term of patent 7 years
Int. Cl. D19—*99*
U.S. Cl. D97—2



LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 18TH DAY OF AUGUST, 1970

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Abex Corporation: *See—*
Arsenault, Robert P., 3,524,507.
Acme Engineering and Manufacturing Corporation: *See—*
Bohanon, Hoy R., 3,524,399.
Adams, James William, to American Can Company. Synthetic plant growth medium with overwrap. 3,524,279, Cl. 47-34.13
Adams, Richard H.: *See—*
Nicholson, James E., and Adams, Richard H. 3,524,608.
Addressograph-Multigraph Corporation: *See—*
Hruby, Joseph, 3,524,397.
Af Ekenstam, Bo Thuresson, Claeson, Karl Goran, and Henn, Fritz, to Aktiebolaget Bofors. Methylalkanoyloxymethyl ketals of prednisolone derivatives. 3,524,850, Cl. 260-239.55
Aguilar, Ralph. Walking and training device. 3,524,642, Cl. 272-70.1
Ahamed, Syed V., to Corporation. Apparatus responsive to the slip of an electrical machine. 3,525,026, Cl. 318-232.
Aiken Industries, Inc., & Superior Electronics Company: *See—*
Janowsky, Seymour, Skurnik, Harold, and Turow, John, 3,524,492.
Ainsworth, Frank W., and Handberg, Gordon O., to Honeywell Inc. Craft altitude control apparatus. 3,524,612, Cl. 244-77.
Air Reduction Company, Incorporated: *See—*
Ellard, Paul R., and Moen, Walter B., 3,524,444.
Kiernan, Joseph F., 3,524,962.
Rose, Fred A., and Congdon, George L., 3,524,463.
Ajinomoto Co., Inc.: *See—*
O'Hara, Masami, Ota, Shizuyki, Enei, Hitoshi, Eguchi, Sadanari, and Okumura, Shinji, 3,524,747.
Akeireb, David. Container carrier construction. 3,524,671, Cl. 294-87.2
Aker, Jimmie R.: *See—*
Cullen, Roy H., Elliott, Charles H., and Aker, Jimmie R. 3,524,244.
Aktiebolaget Bofors: *See—*
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Aktiebolaget Electrolux: *See—*
Kogel, Wilhelm Georg, 3,524,330.
Aktiebolaget Kalle-Regulatorer: *See—*
Gustafsson, Berth Ulrik, 3,524,592.
Aktiebolaget Kamyr: *See—*
Richter, Ole Johan, 3,524,551.
Aktiengesellschaft Brown, Boveri & Cie: *See—*
Hohn, Alfred, and Zimmermann, Max, 3,524,665.
Alasia, Alfred Victor, 1/2 to Rashkin, Leo. Three dimensional camera. 3,524,395, Cl. 95-18.
Albert, Harry Elmer, to Pennsalt Chemicals Corporation. Inhibiting popcorn polymer formation with tertiary amino naphthol compound. 3,524,894, Cl. 260-666.5
Albertson, Noel F., to Sterling Drug Inc.2-imidazolin-2-yl)alkyl-substituted 7- azaindoles. 3,524,860, Cl. 260-296.
Albrecht, Norman P. Apparatus for supporting film while being edge punched. 3,524,372, Cl. 83-451.
Allen, Joseph C., to Texaco Inc. Well stimulation with vaporization of formation water. 3,524,504, Cl. 166-303.
Allenspach, Walter: *See—*
Rapp, Hermann, and Allenspach, Walter 3,524,478.
Allied Chemical Corporation: *See—*
Miller, William A., and Pizzano, Roman J., 3,524,533.
Allmanna Svenska Elektriska Aktiebolaget: *See—*
Eliasson, Olof, and Sindahl, Karl Gustav, 3,524,954.
Torok, Viimos, 3,525,032.
Allport, Dennis Charlton, to Imperial Chemical Industries Limited. Cross-linkable composition of a thermoplastic polymer and a uretidione oligomer. 3,524,834, Cl. 260-77.5
Alvarez-Calderon, Alberto. Leading edge flap of variable camber and thickness. 3,524,610, Cl. 244-42.
Alvord, Lowell R.: *See—*
Collman, Joel, Alvord, Lowell R., and Tucker, Howard E. 3,524,618.
AMBAC Industries, Inc., : *See—*
Carmon, Richard Lyle, 3,524,552.
Rosenberg, Merton I., and Bohaker, Walter G., 3,525,017.
Amercan Can Company: *See—*
Spaulding, Harold Ernest, 3,524,295.
American Can Company: *See—*
Adams, James William, 3,524,279.
Barnes, Bayard I., Sweet, James Aubrey, and Barnes, Kramer L., 3,524,425.
Masters, John Edmund, Simon, Lawrence Mathias, and Germiat, Hubert Joseph, 3,524,779.
Parks, Kenneth Jay, 3,524,566.
Winterroth, Philip Henry, Wahler, Richard Otto, and Rogers, Robert Neal, 3,524,781.
American Cyanamid Company: *See—*
Booth, Robert Ben, 3,524,682.
Huffman, Kenneth Robert, and Ullman, Edwin Fisher, 3,524,863.
Schmitt, Joseph Michael, and Miller, Charles Hartley, Jr., 3,524,906.
Stockel, Richard Frederick, and Depaolo, George Robert, 3,524,907.
Terenzi, Joseph Francis, and Thompson, Mortimer Stafford, 3,524,536.
Winter, William Robert, 3,524,537.
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American Machine & Foundry Company: *See—*
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American Saint Gobain Corporation: *See—*
Bundy, Albert J., and Williams, James L., 3,524,543.
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Ruggles, Kay L., 3,524,203.
Schuster, Donald Ray, 3,524,328.
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Kirk, Chester H., Jr., 3,524,475.
AMK Subsidiary Corporation, : *See—*
Isaksson, Gustaf E., Jones, Thomas C., Ulm, Ernest S., and Haas, HerbertG., 3,524,784.
AMP Incorporated: *See—*
Swengel, Robert Charles, 3,524,963.
Ampex Corporation, : *See—*
Madden, Theodore R., Hopkins, George H., Jr., and Chessman, Michael, 3,525,037.
Anderson, Ingvar, and Brown, Victor, to Metropolitan Waste Conversion Corporation. Refuse handling system. 3,524,594, Cl. 241-19.
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Anderson, Robert I.: *See—*
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Anderson, Willis H., Hyden, Daniel W., and Frier, Frank, to General Motors Corporation. Combined pivotal and linear switch actuator. 3,524,952, Cl. 200-6.
Ando, Mao, to Chisso Corporation. Heat-generating pipe utilizing skin effect of A.C. having improved insulation in conductor line. 3,524,966, Cl. 219-300.
Anglass Industries, Inc.: *See—*
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APL Corporation: *See—*
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Arron, Stanley. Electric heating element for apparel. 3,524,965, Cl. 219-211.
Arsenault, Robert P., to Abex Corporation. Slushing scraper. 3,524,507, Cl. 172-26.5
Artaud, Gerard P., 1/2 to Hodgson, R. W. Adjustable-cutting-radius rotary cutting tool attachment head. 3,524,382, Cl. 90-11.
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Atomic Energy of Canada Limited: *See—*
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Auerbach, Seymour. Lighting fixture diffuser assembly. 3,524,981, Cl. 240-128.

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Bader, I Walton, to Swingline Inc. Nailing machine. 3,524,576, Cl. 227-136.

Bader, I Walton, to Auto-Soler Company, The. Fastener inserting means. 3,524,577, Cl. 227-153.

Baggott, Albert Jefferes, to Londex Limited, and London Electricity Board. Apparatus for transmitting data over electric power supply network. 3,525,078, Cl. 340-172.5

Bajpai, Chandra K., and Basu, Rabindra N., to Northern Electric Company Limited. Inverter circuit with saturable reactor current limiting. 3,524,990, Cl. 307-88.

Baker, Eugene E., to Halliburton Company. Cementing tool with inflatable packer and method of cementing. 3,524,503, Cl. 166-289.

Bakkr, Donavon L., to Butler Manufacturing Company. Silage handler with automatic filling control. 3,524,557, Cl. 214-17.

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Ballenger, William G., to Central Specialties Co. Infant stroller. 3,524,655, Cl. 280-47.38

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Barnett, Douglas, and Myall, Norman John, to Brown, S. G., Limited. Torsional restraining means for gyroscopes. 3,524,356, Cl. 74-5.

Barney, Arthur Livingston, and Honsberg, Wolfgang, to Du Pont de Nemours, E. I., and Company. Vulcanization of fluorinated polymers and compositions therefor. 3,524,836, Cl. 260-80.77

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Barrett, Edward J., and Powers, John C., Jr. Space-filling atomic and molecular orbital model sets. 3,524,267, Cl. 35-18.

Bassett, William W. Control apparatus. 3,524,462, Cl. 137-86.

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Batcho, Andrew David, and Leimgruber, Willy, to Hoffmann-La Roche Inc. Process for the preparation of pyrrolo-benzodiazepine acrylamides and intermediates useful therein. 3,524,849, Cl. 260-239.3

Batlin, Helen W. Facial skin supporting device. 3,524,443, Cl. 128-76.

Bauer, William V., to Lummus Company, The. Process for removing sulfur dioxide from gases. 3,524,720, Cl. 23-2.

Bauger, Louis Jules, Bouiller, Jean Georges, Garnier, Michel Robert, and Lacroix, Armand Jean-Baptiste, to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Gas turbine power plants having axial-flow compressors incorporating contrarotating rotors. 3,524,318, Cl. 60-226.

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Baxter, Edmund F., Jr., to Esso Research and Engineering Company. Graft copolymer preparation via peroxidation by high energy irradiation. 3,524,904, Cl. 260-877.

Bayly, John G., and Rhodes, Cecil, to Atomic Energy of Canada Limited. Sample input system. 3,524,351, Cl. 73-421.

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Beach, William R.: *See—*
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Beall, George H., to Corning Glass Works. High strength alpha-and beta-quartz glass-ceramic products and method. 3,524,748, Cl. 106-39.

Beasley, Albert W. Refuse container support. 3,524,615, Cl. 248-145.

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Bell, Edward R.: *See—*
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Bell, Saul A.: *See—*
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Bell Telephone Laboratories, Incorporated: *See—*
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Bellows, John G., and Borough, Howard C., said Borough assor. to said Bellows. Apparatus for objectively and automatically refracting the eye systems. 3,524,702, Cl. 351-6.

Bemmann, Richard W., to General Motors Corporation. Cruise release solenoid valve. 3,524,516, Cl. 180-108.

Bendix Corporation, The: *See—*
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Bene, Georges, to Institut Francais du Petrole des Carburants et Lubrifiants. Process for the detection of hydrocarbons and apparatus for carrying it out. 3,525,036, Cl. 324-0.5

Benezra, Marc T., to Lever Brothers Company. Container with squeeze open dispensing spout. 3,524,578, Cl. 229-7.

Benjumeda, Carlos, and Dominguez, Jose Hermida. Heat transmission system. 3,524,500, Cl. 165-129.

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Berg, Quentin. Contact lug. 3,525,070, Cl. 339-276.

Bermel, Thomas W., to Corning Glass Works. Saturable proportional fluid amplifier device. 3,524,460, Cl. 137-81.5

Bernardi, Robert J., and Collier, Robert E., to Pacific Plantronics, Inc. Electroacoustic apparatus. 3,524,951, Cl. 179-156.

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Bethman, Donald C., Jaeger, Joseph, and Manwaring, William F., to Du Pont de Nemours, E. I., and Company. Man-made suede and method of making same. 3,524,791, Cl. 161-64.

Betz Laboratories, Inc.: *See—*
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Bickel, Hans, and Kump, Wilhelm, to Ciba Corporation. Process for the manufacture of 3-formylrifamycin. 3,524,845, Cl. 260-210.

Biddison, John M., and Steinke, Otto F., to Globe Tool and Engineering Company, The. Armature winding. 3,524,601, Cl. 242-7.03

Billy, Jean-Marc, to Ogilvie Flour Mills Company Limited, The. Starch adhesives and their preparation. 3,524,750, Cl. 106-213.

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Birtlett, Gordon E. Golf greens mower. 3,524,309, Cl. 56-249.

Bishop, Thomas Desmond, to Deritend Engineering Company Limited, The. Apparatus for stripping waste from cardboard and like blanks. 3,524,364, Cl. 83-103.

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Blytas, George C., Slott, Edward S., and Bell, Edward R., to Shell Oil Company. Metal plating of plastics. 3,524,754, Cl. 117-47.

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Boettner, George B., Can, Yilmaz, Fanning, Edward F., Miller, Ralph E., and Preston, Frank W., to Corning Glass Works. Method and apparatus for melting thermoplastic materials. 3,524,206, Cl. 13-6.

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Boomgaarden, STEVENL., and Johnson, Orlo J., to Tel-E-Lect, Inc. Extendable boom remote control system. 3,524,521, Cl. 182-46.

Boon, William. Laundry and fabric collector and method having a constant vacuum. 3,524,681, Cl. 302-59.

Booth, Robert Ben, to American Cyanamid Company. Coal suspension pumping using polyelectrolytes. 3,524,682, Cl. 302-66.

Borden, Inc.: *See—*
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Borg-Warner Corporation: *See—*
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Born, Roger L., Neitzel, Edwin B., and Vigil, Ernest F., to Texas Instruments, Incorporated. Method and apparatus for processing seismic data in the field. 3,525,072, Cl. 340-15.5

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Bosewitz, Gerhard, Ehlies, Helmut, and Dickscheit, Rudolf, to Institut fur Die Garungs- und Getrankeindustrie. Apparatus for treating beer worts. 3,524,402, Cl. 99-276.

Bottom, Theodore J. Interlocking panel assembly. 3,524,292, Cl. 52-522.

Botts, Corliss Dean: *See—*
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Bauger, Louis Jules, Bouiller, Jean Georges, Garnier, Michel Robert, and Lacroix, Armand Jean-Baptiste 3,524,318.

Bourget, Joseph A., to Chesapeake Systems Corporation. Single local oscillator for dual conversion system. 3,525,046, Cl. 325-434.

Boxall, Frank Stuart, to Vicom Corporation. Output circuit for pulse code modulation time sharing system. 3,524,938, Cl. 179-15.

Boyanton, Walter Lee, Mc Allister, Robert J., and Rhodes, Joe H., to Gibraltar Fence Co., Inc. Device for attaching a rail to a fence post. 3,524,627, Cl. 256-65.

Boylan, John R.: *See—*
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Bozek, John S., to Continental Can Company, Inc. Stripping punch. 3,524,338, Cl. 72-345.

Bozik, John E., Swift, Harold E., and Wu, Ching Yong, to Goodrich-Gulf Chemicals, Inc. Diolefin alkylation process. 3,524,896, Cl. 260-680.

BP Chemicals (U.K) Limited: *See—*
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Bradpiece, Sydney: *See—*
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Bradt, Richard W., Jr., and Uhline, Russell T., to Du Pont de Nemours, E. I., and Company. Polyester film coated with werner chrome complexes and chloral. 3,524,762, Cl. 117-138.8

Bramekamp, Karl-Jurgen, and Hitzemann, Gerhard, to Titangesellschaft m.b.H. Process for production of vaporous titanium tetrachloride containing exact amounts of aluminum trichloride. 3,524,818, Cl. 252-188.3

Brandell, John R. Motion detecting and indicating device. 3,524,650, Cl. 273-183.

Brannen, Cecil G.: *See—*
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Braun, Anton. Free piston engine apparatus. 3,524,436, Cl. 123-46.

Braun, Anton. Engine. 3,525,102, Cl. 417-364.

Braun, Fred, and Bresowar, Allan F., to Textool Products, Inc. Apparatus for use in connection with vise. 3,524,617, Cl. 248-309.

Braus, Harry, and Woltermann, Jay R., to National Distillers and Chemical Corporation. Preparation of hydrocarbon thioalkylene phosphites. 3,524,909, Cl. 260-968.

Braxton, Henry G., Jr., and Lajiness, Evelyn J., to Ethyl Corporation. Method of defoliating plants with organomercurials. 3,524,741, Cl. 71-70.

Breant, Gerard D. G.: *See—*
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Breslow, Jeffrey D., to Glass, Marvin, & Associates. Card game apparatus. 3,524,645, Cl. 273-1.

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Brink, Robert H.: *See—*
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Bristol Flare Corporation: *See—*
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Britvin, Lev Nikolaevich. Capacity regulator for intermittent-action displacement pump. 3,524,387, Cl. 92-60.

Broekema, Gerhard Willem, to U.S. Philips Corporation, mesne. Circuit arrangement for controlling the beam of a cathode-ray tube. 3,525,011, Cl. 315-30.

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Brouwer, Charles W., Bucheister, Henry C., and Tata, Raymond V., to Leesona Corporation. Textile equipment. 3,524,311, Cl. 57-54.

Brown Company: *See—*
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Brown, Dwight C. Fastener. 3,524,226, Cl. 24-84.

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Barnett, Douglas, and Myall, Norman John, 3,524,356.
Myall, Norman John, 3,524,357.

Brown, Stanley F., and Massee, Donald L., to International Business Machines Corporation. Dust cover and knob assembly. 3,524,540, Cl. 206-62.

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Brown, Walter, to North American Rockwell Corporation. Method for connecting pipe between two underwater complexes. 3,524,325, Cl. 61-72.3

Browner, Homer G. Carrier for cans and the like. 3,524,534, Cl. 206-16.

Bruce, Charles R., to Marathon Oil Company. Telemeter of mechanical displacement. 3,525,089, Cl. 340-206.

Brueggemann, Harry P., to Tridea Electronics. Anastigmatic wide-field cassegrain system. 3,524,698, Cl. 350-200.

Brunberg, Karl Gunnar, and Hemdal, Goran Anders Henrik, to Telefonaktiebolaget L M Ericsson. Electrolytic fluid amplifier. 3,524,459, Cl. 137-81.5

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Buckley, Norman A., and Rasmussen, Peter D., to McGraw-Edison Company. Steam gun. 3,524,593, Cl. 239-583.

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Bukovich, George D., Grundtner, Matthias J., Schultz, Harley W., and Woehler, Gary B., to Sperry Rand Corporation. Flexible magnetic record member profile correction means for rotating head drum memory system. 3,525,087, Cl. 340-174.1

Bundy, Albert J., and Williams, James L., to American Saint Gobain Corporation. Unitized packing device. 3,524,543, Cl. 206-65.

Burbank, John Emerson, to Scovill Manufacturing Company. Woven zipper stringer and method of making the sae. 3,524,479, Cl. 139-384.

Burden, Roy B., Jr., and O'Gieblyn, Ernest J., to Marston, Edgar J., Jr., mesne. Apparatus for shredding material such as bulk paper. 3,524,597, Cl. 241-142.

Burdick, Glen A., to Sylvania Electric Products, Inc. Method for assembling a multiple electron gun structure for cathode ray tube. 3,524,235, Cl. 29-25.16

Burns, Robert V., and Cleary, Robert T., to Automatic Electric Laboratories, Inc. Telephone conference circuit. 3,524,929, Cl. 179-1.

Burr, Robert P., to Circuit Research Company. Method of manufacturing electrical wire wound machines. 3,524,250, Cl. 29-597.

Burr, Robert P., to Circuit Research Company. Method of manufacturing disc-type wire wound electrical machines. 3,524,251, Cl. 29-598.

Burr, Robert P. Electrical wire wound axial air-gap machines. 3,525,008, Cl. 310-268.

Burroughs Corporation: *See—*
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Buske, Duwayne F. Combination protection coupon and label. 3,524,271, Cl. 40-2.

Buske, Duwayne F. Combination protection label and coupon. 3,524,782, Cl. 156-248.

Butcher, Alvin E., to Phillips Petroleum Company. Method and apparatus for multiple direction pinch-off. 3,524,218, Cl. 18-5.

Butler Manufacturing Company: *See—*
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Buttery, Kenneth T., to Brown Company. Carton structure. 3,524,581, Cl. 229-51.
Buttery, Kenneth T., to Brown Company. Overwrapped carton. 3,524,582, Cl. 229-51.
Buttery, Roger Alexander, and Turnbull, Thomas, to Quickfit & Quartz Limited. Fixture means to support plural workpieces in a co-planar relationship. 3,524,428, Cl. 118-503.
Byers, Charles H., to Scholl-Choffin Company, The. Method of fabricating tuyere elbow. 3,524,238, Cl. 29-157.
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Cahn, Robert P., to Esso Research and Engineering Company. Boric acid oxidation process. 3,524,891, Cl. 260-617.
Calderon, Sergio, and Sorli, Gordon B., to Sylvania Electric Products, Inc. Parity-checking apparatus for coded-vehicle identification systems. 3,525,073, Cl. 340-146.1
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Callies, Fritz A., to Rex Chainbelt Inc. Elastomer coupling. 3,524,332, Cl. 64-11.
Campbell, Alfred L. Jack for laying flooring. 3,524,623, Cl. 254-15.
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Canadian International Paper Company: *See—*
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Candlin, John Paton, and McKenna, Ronald Stanley, to Imperial Chemical Industries Limited. Catalyst compositions. 3,524,899, Cl. 260-683.9
Can-Eng holdings Ltd.: *See—*
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Canon Kabushiki Kaisha: *See—*
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Caprari, Fausto, to RCA Corporation. Apparats for regulating the light output of a flash lamp. 3,525,016, Cl. 315-241.
Carbonell, Emile, and Solente, Pierre, to L'Air Liquide, Societe Anonyme pour l'etude et l'Exploitation des Procedes Georges Claude. Method of maintaining electrical apparatus at very low temperatures. 3,524,327, Cl. 62-52.
Carborundum Company, The: *See—*
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Wohrer, Luis C., 3,524,286.
Carley, Emilie Lucille, to National Distillers and Chemical Corporation. Laminated plastic sheet having the transverse gauge bands of laminated sheet nested with respect to one another. 3,524,793, Cl. 161-119.
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Carmon, Richard Lyle, to AMBAC Industries, Inc., mesne. Filter. 3,524,552, Cl. 210-342.
Carrier Corporation: *See—*
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Cartwright, Delmar G., and Pinede, Edouard, to International Telephone and Telegraph Corporation. Miniature intercommunication key telephone system. 3,524,931, Cl. 179-1.
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Castello, Robert A.: *See—*
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Cermak, Jiri, to Ceskoslovenska akadamie ved. Heat flow sensor comprising thermocouples. 3,524,773, Cl. 136-224.
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Durst, Richard Rodney, to General Tire & Rubber Company, The. Catalysts for the polymerization of 1,3-butadiene, their methods of preparation and use. 3,524,841, Cl. 260-94.3

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Eden, Jamal S., to Goodrich, B. F., Company, The. Catalyst and process of preparing unsaturated aldehydes and acids. 3,524,824, Cl. 252-437.

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Eliasson, Olof, and Sindahl, Karl Gustav, to Allmanna Svenska Elektriska Aktiebolaget. Operating mechanism for the movable contact of an air blast circuit breaker including means for slowing down the motion of the contact. 3,524,954, Cl. 200-148.

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Engman, Robert G.. 3,525,021, Cl.

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Every, Richard L., and Cox, Paul F., to Continental Oil Company. Method for making ammonium thiosulfate and ammonium sulfate. 3,524,724, Cl. 23-115.

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Frink, Russell E., to Westinghouse Electric Corporation. Fluid-blast circuit interrupters having electromagnetic piston-driving means. 3,524,958, Cl. 200-148.
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LIST OF DEFENSIVE PUBLICATIONS

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Published at the request of the applicant or owner in accordance with the Notice of Dec. 16, 1969, 869 O. G. 687.

Butler, Robert W., A. J. Ganz, M. J. Jaye, and E. D. Klug, to Hercules Inc. Stabilized oil-in-water emulsions. 877,003, 8–18–70, Cl. 99—144.

De Nobriga, Frank H.: *See*—
Neal, Richard D., and De Nobriga. 877,009.

Dunham, Kenneth R. Use of silver pi-complex stabilizers. 877,011, 8–18–70, Cl. 96—94.

Du Pont de Nemours, E. I., and Co.: *See*—
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Ganz, Alexander J.: *See*—
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Gorton, Bert S., to E. I. du Pont de Nemours and Co. Ethylene/vinyl acetate copolymer water resistant adhesives. 877,001, 8–18–70, Cl. 260—29.4.

Gott, Paul G.: *See*—
Martin, James G., and Gott. 877,002.

Harvey, Robert C. Photographic element and process. 877,010, 8–18–70, Cl. 96—23.

Hercules Inc.: *See*—
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Imperial Chemical Industries Ltd.: *See*—
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Jaye, Murray J.: *See*—
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Klug, Eugene D.: *See*—
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Marchant, John C., and J. R. Tinney. Laser stabilization and/or photodevelopment of silver halide materials. 877,006, 8–18–70, Cl. 96—45.2.

Martin, James C., and P. G. Gott. Reaction of dialkylketenes with thiophosgene. 877,002, 8–18–70, Cl. 260—544.

Neal, Richard D., and F. H. De Nobriga. Resilient, fibrous batting. 877,009, 8–18–70, Cl. 161—150.

Payne, Richard E., to The Tappan Co. Windowed oven door. 877,004, 8–18–70, Cl. 126—200.

Schindler, Paul R., to Imperial Chemical Industries Ltd. Glare shields. 877,005, 8–18–70, Cl. 117—33.3.

Stewart, Paul H. Production of lithographic printing plates from dye developer images. 877,008, 8–18–70, Cl. 96—29.

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Uhline, Russell T. Ionomer film structure having improved slip and gloss properties. 877,007, 8–18–70, Cl. 260—32.6.

LIST OF REISSUE PATENTEES

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George, Donald K.: *See*—
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Hervey, Laurence R. B., and D. K. George, to Riegel Textile Corp. Method for improving a fluffed fibrous wood pulp batt for use in sanitary products and the products thereof. Re. 26,939, 8–18–70, Cl. 128—284.

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Shimasaki, Yoshiharu A. Combined ampere, volt and resistormeter. 218,431, 8–18–70, Cl. D26—1.

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Whitaker, Wiley M., to New Broom, Inc. Combination brush and scraper. 218,388, 8–18–70, Cl. D4—6.

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Willday, Walter E., to E. I. Arnold & Son Ltd. Portable tape recorder. 218,440, 8–18–70, Cl. D26—14.

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Wilson, Robert E., to Stylette Plastics, Inc. Floral basket or similar article. 218,405, 8–18–70, Cl. D9—246.

Wilson, Robert E., to Stylette Plastics, Inc. Handle for a floral basket or similar article. 218,408, 8–18–70, Cl. D9—291.

Wilson, Robert G., and R. W. Rogers. Pressure fryer. 218,498, 8–18–70, Cl. D81—10.

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Wright, Eric L. Link for a conveyor chain. 218,396, 8–18–70, Cl. D8—261.

Yeung, Peter S. K., to Wellington Hall, Ltd. Building. 218,411, 8–18–70, Cl. D13—1.

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CLASSIFICATION OF PATENTS

ISSUED AUGUST 18, 1970

NOTE.—First number, class; second number, subclass; third number, patent number

3– 1	3,524,202	43– 43.13:	3,524,277	74– 5.6	3,524,357	117–205	3,524,765	156–367	3,524,784	198–188	3,524,531
4– 1	3,524,203	55	3,524,278	98	3,524,358	231	3,524,766	380	3,524,785	218	3,524,532
100	3,524,204	44– 62	3,524,732	219	3,524,359	118– 47	3,524,425	447	3,524,786	220	3,524,533
8–170	3,524,718	63	3,524,733	325	3,524,360	49	3,524,426	498	3,524,787	200– 6	3,524,952
172	3,524,205	47– 34.13:	3,524,279	417	3,524,361	302	3,524,427	499	3,524,788	61.42:	3,524,953
13– 6	3,524,206	41.11:	3,524,280	796	3,524,362	503	3,524,428	160–393	3,524,491	148	3,524,954
	3,524,918	48–180	3,524,734	75– 51	3,524,742	620	3,524,429	161– 6	3,524,789		3,524,957
14– 71	3,524,207	49– 74	3,524,281	77	3,524,743	119– 5	3,524,430	37	3,524,790		3,524,958
15– 22	3,524,208	181	3,524,282	171	3,524,744	19	3,524,431	64	3,524,791		3,524,959
119	3,524,209	51– 5	3,524,283	76–104	3,524,363	51.11:	3,524,432	77	3,524,792	155	3,524,960
145	3,524,210	135	3,524,284	83– 53	3,524,367	103	3,524,434	119	3,524,793	157	3,524,955
327	3,524,211		3,524,285	98	3,524,368	157	3,524,433	160	3,524,794	167	RE.26,936
	3,524,212	164	3,524,735	103	3,524,364	123– 8.07:	3,524,435	165	3,524,795	204– 58	3,524,799
354	3,524,213	209	3,524,736	205	3,524,369	46	3,524,436	162–175	3,524,796	71	3,524,800
368	3,524,214	298	3,524,286	255	3,524,370	119	3,524,437	164– 98	3,524,492	104	3,524,801
16–124	3,524,215	52– 73	3,524,287	369	3,524,371	148	3,524,438	109	3,524,493	108	3,524,802
128	3,524,216	81	3,524,288	451	3,524,372	124– 20	3,524,439	281	3,524,494	142	3,524,803
17– 11.1	3,524,217	95	3,524,289	522	3,524,373	24	3,524,440	282	3,524,495	224	3,524,804
18– 5	3,524,218	98	3,524,290	626	3,524,374		3,524,441	165– 2	3,524,496	228	3,524,805
6	3,524,219	169	3,524,291	84– 1.01:	3,524,365	127– 71	3,524,767		3,525,098	206– 16	3,524,534
8	3,524,221	522	3,524,292	.13:	3,524,375	128– 2.06:	3,524,442	80	3,524,497	41.1	3,524,535
12	3,524,222	741	3,524,293	.25:	3,524,376	76	3,524,443	104	3,524,498	45.31:	3,524,536
16.7	3,524,220	53– 3	3,524,294	267	3,524,377	142	3,524,444	110	3,524,499	47	3,524,537
26	3,524,223	14	3,524,295	85– 47	3,524,378	218	3,524,445	129	3,524,500	56	3,524,538
30	3,524,224		3,524,296	74	3,524,379	284	RE.26,939	166–182	3,524,501	58	3,524,539
21– 2.7	3,524,719	22	3,524,297	88– 1.5	3,524,380	303.1	3,524,446	250	3,524,502	62	3,524,540
23– 2	3,524,720		3,524,298	89– 1.5	3,524,381	348	3,524,447	289	3,524,503	65	3,524,541
	3,524,721	23	3,524,299	90– 11	3,524,382	522	3,524,448	303	3,524,504		3,524,542
3	3,524,722	55	3,524,300	91– 35	3,524,383	524	3,524,449	168– 4	3,524,505		3,524,543
22	3,524,723	182	3,524,301		3,524,384	131– 10	3,524,450	169– 2	3,524,506	208– 46	3,524,806
115	3,524,724	55–238	3,524,302	224	3,524,385	140	3,524,451	172– 26.5	3,524,507	111	3,524,807
206	3,524,725	283	3,524,303	461	3,524,386		3,524,452	126	3,524,508		3,524,808
230	3,524,727	374	3,524,304	92– 60	3,524,387	174	3,524,453	212	3,524,509		3,524,809
253	3,524,726	386	3,524,305	161	3,524,388	265	3,524,454	174– 15	3,524,919	209– 11	3,524,544
262	3,524,728	56– 25.4	3,524,306	93– 8	3,524,389	134– 1	3,524,768	68.5	3,524,920	80.5	3,524,545
285	3,524,729		3,524,307	94– 18	3,524,390	143	3,524,455	70	3,524,921	210– 20	3,524,810
	3,524,730	51	3,524,308	95– 10	3,524,391	135– 45	3,524,456	138	3,524,922	23	3,524,546
288	3,524,731	249	3,524,309		3,524,392	136– 86	3,524,769	163	3,524,923	52	3,524,811
24– 67	3,524,225	328	3,524,310	11	3,524,393	133	3,524,770	175– 88	3,524,510	63	3,524,812
84	3,524,226	57– 54	3,524,311	12	3,524,394	203	3,524,771	92	3,524,511	134	3,524,547
126	3,524,227	56	3,524,312	18	3,524,395	205	3,524,772	176– 36	3,524,924	153	3,524,548
	3,524,228	58– 3	3,524,313	90	3,524,396	224	3,524,773	178– 5.4	3,524,925	222	3,524,549
132	3,524,229	18	3,524,314	94	3,524,397	137– 1	3,524,366	6	3,524,926	232	3,524,550
157	3,524,230	60– 29	3,524,315	96– 1.5	3,524,745	2	3,524,457	.8	3,524,927	342	3,524,551
281	3,524,231		3,524,316	98– 17	3,524,398	15.1	3,524,458	7.6	3,524,928		3,524,552
25– 41	3,524,232	209	3,524,317	33	3,524,399	81.5	3,524,459	179– 1	3,524,929	211–128	3,524,553
26– 3	3,524,233	226	3,524,318	37	3,524,400		3,524,460		3,524,930	163	3,524,554
29– 25.11:	3,524,234	259	3,524,319	99– 90	3,524,401		3,524,461		3,524,931	214– 1	3,524,555
.16:	3,524,235	61– 38	3,524,320	100	3,524,746	86	3,524,462		3,524,932		3,524,556
	3,524,236	45	3,524,321	140	3,524,747	93	3,524,463	6	3,524,936	17	3,524,557
148.4	3,524,237	46.5	3,524,322	276	3,524,402	102	3,524,464	15	3,524,937	38	3,524,558
157	3,524,238		3,524,323	331	3,524,403	115	3,524,465		3,524,938	82	3,524,559
200	3,524,239	48	3,524,324	390	3,524,404	268	3,524,466	17	3,524,939	138	3,524,560
203	3,524,240	72.3	3,524,325	100–257	3,524,405	340	3,524,467	18	3,524,933	152	3,524,561
208	3,524,241		3,524,326	101– 93	3,524,406	494	3,524,468		3,524,934	512	3,524,563
243.57:	3,524,242	62– 52	3,524,327	103	3,524,407	543.19:	3,524,469		3,524,940	762	3,524,562
423	3,524,243	285	3,524,328	102– 28	3,524,408	599	RE.26,940		3,524,941	219– 69	3,524,961
429	3,524,244	295	3,524,329	37.4	3,524,409	624.12:	3,524,471		3,524,942	75	3,524,962
430	3,524,245	490	3,524,330	70.2	3,524,410	.18:	3,524,470		3,524,943	76	3,524,956
477.7	3,524,246	498	3,524,331	104–130	3,524,411	625.21:	3,524,472		3,524,944	100	3,524,963
498	3,524,247	64– 11	3,524,332	134	3,524,412	.44:	3,524,473		3,524,945	103	3,524,964
568	3,524,248	65– 30	3,524,737	105–369	3,524,413	.61:	3,524,474		3,524,946	211	3,524,965
588	3,524,249	134	3,524,738	404	3,524,414	138– 30	3,524,475		3,524,947	300	3,524,966
597	3,524,250	182	3,524,739	106– 14	3,524,749	103	3,524,476	81	3,524,935	469	3,524,967
598	3,524,251	70–156	3,524,333	39	3,524,748	106	3,524,477		3,524,948	499	3,524,968
604	3,524,252	275	3,524,334	213	3,524,750	111	3,524,478	100.2	3,524,949	220– 16	3,524,564
30– 29.5	3,524,253	363	3,524,335	108– 53	3,524,415	139–384	3,524,479	.41:	3,524,950	19	3,524,565
310	3,524,254	457	3,524,336	76	3,524,416	140– 82	3,525,096	156	3,524,951	27	3,524,566
32– 13	3,524,255	71– 69	3,524,740	110– 8	3,524,417	93.4	3,524,480	180– 14	3,524,512	41	3,524,567
22	3,524,256	70	3,524,741	18	3,524,418	.6	3,524,481	52	3,524,513	67	3,524,568
33– 1	3,524,257	72–164	3,524,337	111– 2	3,524,419	149	3,524,482	79.2	3,524,514	222– 5	3,524,569
27	3,524,258	345	3,524,338	112–252	3,524,420	141– 90	3,524,483		3,524,515	224– 2	3,524,570
89	3,524,259	435	3,524,339	114– 43.5	3,524,421	144– 32	3,524,484	108	3,524,516	5	3,524,571
174	3,524,260	73– 15	3,524,340	61	3,524,422	176	3,524,485	124	3,524,517	42.1	3,524,572
	3,524,261	38	3,524,341	162	3,524,423	146– 15	3,524,486	127	3,524,518	226– 62	3,524,573
185	3,524,262	40	3,524,342	116– 70	3,524,424	76	3,524,487	181– .5	3,524,519	198	3,524,574
34– 20	3,524,264	83	3,524,343	117– 5.1	3,524,751	148– 16.5	RE.26,935	182– 36	3,524,520	227– 7	3,524,575
45	3,524,263	118	3,524,344	6	3,524,752	22	3,524,774	46	3,524,521	136	3,524,576
54	3,524,265	150	3,524,345	11	3,524,753	158	3,524,775	187– 9	3,524,522	153	3,524,577
99	3,524,266	153	3,524,346	47	3,524,754	189	3,524,776	192– 4	3,524,523	229– 7	3,524,578
35– 18	3,524,267	170	3,524,347		3,524,755	149– 41	3,524,777	35	3,524,524	34	3,524,579
35	3,524,268	186	3,524,348	63	3,524,760	150– .5	3,524,488	53	3,524,525	40	3,524,580
37– 42	3,524,269	343	3,524,349	72	3,524,756	151– 41.7	3,524,489	141	3,524,526	51	3,524,581
94	3,524,270	376	3,524,350	95	3,524,757	152–362	3,524,490	195– 29	3,524,797		3,524,582
40– 2	3,524,271	421	3,524,351	102	3,524,758	156–184	3,524,778	63	3,524,798	87	3,524,583
28.1	3,524,272	423	3,524,352	105.3	3,524,759	190	3,524,779	197– 71	3,524,527	232– 43.2	3,524,584
70	3,524,273	432	3,524,353	138	3,524,761	191	3,524,780	133	3,524,528	234– 33	3,524,585
124.4	3,524,274	455	3,524,354	.8	3,524,762	231	3,524,781	198– 22	3,524,529	35	3,524,586
	3,524,275	74– 5	3,524,355	161	3,524,763	248	3,524,782	24	3,525,097	235– 50	3,524,969
43– 4.5	3,524,276		3,524,356	201	3,524,764	251	3,524,783	25	3,524,530	61.6	3,524,970

235–145	3,524,975	254– 1	3,524,622	260–515	3,524,877	280–124	3,524,658	313–178	3,525,009	339– 41	3,525,068
155	3,524,976	15	3,524,623		3,524,878	414	3,524,659	315– 11	3,525,010	82	3,525,069
164	3,524,977	43	3,524,624		3,524,879	478	3,524,660	30	3,525,011	276	3,525,070
193	3,524,978	143	3,524,625	526	3,524,880	285–239	3,524,661	70	3,525,012	340– 9	3,525,071
239– 76	3,524,587	167	3,524,626	551	3,524,881	330	RE.26,938	111	3,525,013	15.5	3,525,072
265.13	3,524,588	256– 65	3,524,627	583	3,524,882	368	3,524,662	169	3,525,014	146.1	3,525,073
308	3,524,589	259– 10	3,524,628	584	3,524,883	287– 53	3,524,663	194	3,525,015	.3	3,525,074
424.5	3,524,590	95	3,524,629	586	3,524,884	87	3,524,664	241	3,525,016	150	3,525,075
428.5	3,524,591	260– 2.5	3,524,825	599	3,524,885	113	3,524,665	316– 21	3,524,693	166	3,525,076
466	3,524,592	5	3,524,826	606.5	3,524,886	189.35	3,524,666	317– 5	3,525,017	172.5	3,525,077
583	3,524,593	9	3,524,827	609	3,524,887	292–113	3,524,667	18	3,525,018		3,525,078
240– 2	3,524,979	17	3,524,828	610	3,524,888	228	3,524,668	27	3,525,019		3,525,079
	3,524,980	23	3,524,829	611	3,524,889	346	3,524,669	101	3,525,020		3,525,080
103	3,525,088	29.6	RE.26,934		3,524,890	294– 16	3,524,670	142	3,525,021		3,525,081
128	3,524,981	30.8	3,524,830	617	3,524,891	87.2	3,524,671	155.5	3,525,022		3,525,082
241– 19	3,524,594		3,524,831	635	3,524,892	296– 1	3,524,672	234	3,525,023	173	3,525,083
69	3,524,595	45.9	3,524,832	639	3,524,893	23	3,524,673		3,525,024	174	3,525,084
100.5	3,524,596	47	3,524,833	666.5	3,524,894	102	3,524,674	235	3,525,025		3,525,085
142	3,524,597	77.5	3,524,834	677	3,524,895	137	3,524,675	318–227	3,525,100	.1	3,525,086
186	3,524,598	78	3,524,837	680	3,524,896	297–188	3,524,676	232	3,525,026		3,525,087
199	3,524,599	79.1	3,524,835	683	3,524,897	216	3,524,677	367	3,525,027	206	3,525,089
242– 1.1	3,524,600	80.77	3,524,836	.3	3,524,898		3,524,678	446	3,525,028	244	3,525,090
7.03	3,524,601	88.3	3,524,838	.9	3,524,899	384	3,524,679	599	3,525,029	324	3,525,091
55.19	3,524,602	92.1	3,524,839	825	3,524,900	298– 2	3,525,099	321– 5	3,525,030		3,525,092
65	3,524,603	94.3	3,524,840	835	3,524,901	299– 31	3,524,680	15	3,525,031	347	3,525,093
115	3,524,604		3,524,841		3,524,902	302– 59	3,524,681	18	3,525,032		3,525,094
130	3,524,605	151	3,524,842	837	3,524,903	66	3,524,682	323– 22	3,525,033	343– 7	3,525,095
158	3,524,606	163	3,524,843	877	3,524,904	303– 21	3,524,683	31	3,525,034	350–176	3,524,695
192	3,524,607	210	3,524,844	897	3,524,905		3,524,684	61	3,525,035	177	3,524,694
244– 1	3,524,608		3,524,845	900	3,524,906		3,524,685	324– .5	3,525,036	184	3,524,696
31	3,524,609	211.5	3,524,846	926	3,524,907	307– 10	3,524,989	7	3,525,037	196	3,524,697
42	3,524,610	234	3,524,847	959	3,524,908	88	3,524,990	51	3,525,038	200	3,524,698
53	3,524,611	239.3	3,524,848	968	3,524,909		3,524,991	78	3,525,039	210	3,524,699
77	3,524,612		3,524,849	261– 76	3,524,630	215	3,524,992	103	3,525,040	215	3,524,700
142	3,524,613	.55	3,524,850	112	3,524,631	228	3,524,993	117	3,525,041	307	3,524,701
246–182	3,524,982	247.5	3,524,851	263– 19	3,524,632	235	3,524,994	142	3,525,042	351– 6	3,524,702
248–131	3,524,614	248	3,524,852	21	3,524,633	237	3,524,995	158	3,525,043	353– 35	3,524,703
145	3,524,615		3,524,853	267– 65	3,524,634	251	3,524,996	173	3,525,044	355– 3	3,524,704
188.7	3,524,616	.5	3,524,854	119	3,524,635	252	3,524,997	325–363	3,525,045	55	3,524,705
309	3,524,617	268	3,524,855	166	3,524,636	299	3,524,998	434	3,525,046	356– 71	3,524,706
249– 61	3,524,618	279	3,524,856	270– 31	3,524,637	308	3,524,999	328–114	3,525,047	103	3,524,707
142	3,524,619	286	3,524,857	72	3,524,638	308– 9	3,524,686	330– 1	3,525,048	170	3,524,708
250– 43.5	3,524,983	287	3,524,858	271– 10	3,524,639	189	3,524,687	2	3,525,049	246	3,524,709
83.3	3,524,984	295	3,524,859	61	3,524,640	310– 11	3,525,000	29	3,525,050	251	3,524,710
	3,524,985	296	3,524,860	272– 57	3,524,641	54	3,525,001	56	3,525,051	401–266	RE.26,937
211	3,524,986	307	3,524,861	70.1	3,524,642	88	3,525,002	149	3,525,052	416– 20	3,524,711
219	3,524,987	.5	3,524,862	83	3,524,643	90	3,525,003	331– 49	3,525,054	233	3,524,712
	3,524,988	326	3,524,863		3,524,644	103	3,525,004	94.5	3,525,053	417– 54	3,524,713
251– 63.4	3,524,620	327	3,524,864	273– 1	3,524,645	156	3,525,005	116	3,525,055	345	3,524,714
75	3,524,621	343.6	3,524,865	81.2	3,524,646	251	3,525,006	333– 22	3,525,056	364	3,525,102
252– 8.5	3,524,813	.9	3,524,866	102	3,524,647	268	3,525,007	34	3,525,057	471	3,524,715
33.2	3,524,814	345.2	3,524,867	153	3,524,648		3,525,008	335– 35	3,525,058	490	3,524,716
69	3,524,815		3,524,868	176	3,524,649	312–184	3,524,688	132	3,525,059	424– 35	3,524,910
73	3,524,816	429.7	3,524,869	183	3,524,650	208	3,524,689	153	3,525,060	45	3,524,911
79.3	3,524,817	448	3,524,870	274– 4	3,524,651	245	3,524,690	203	3,525,061	150	3,524,912
188.3	3,524,818	454	3,524,871	39	3,524,652	286	3,524,691	249	3,525,062	157	3,524,913
373	3,524,819		3,524,872	277– 27	3,524,653	322	3,524,692	336– 96	3,525,063	180	3,524,914
	3,524,820	465	3,524,874	92	3,524,654	313– 85	3,524,971	337–146	3,525,064	282	3,524,915
416	3,524,821	.3	3,524,875	280– 47.38	3,524,655		3,524,972	338–243	3,525,065	285	3,524,916
	3,524,822		3,525,101	87	3,524,656		3,524,973	339– 17	3,525,066	317	3,524,917
437	3,524,823	.9	3,524,873	124	3,524,657		3,524,974		3,525,067	431– 29	3,524,717
	3,524,824	482	3,524,876								

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D 2– 4	218,382	D 9–195	218,404	D23– 12	218,426	D33– 7	218,448	D44– 1	218,470	D74– 17	218,491
24	218,383	246	218,405	74	218,427	14	218,449	9	218,471		218,492
228	218,384	252	218,406	150	218,428		218,450	21	218,472	D77– 1	218,493
231	218,385	284	218,407	155	218,429		218,451		218,473	D80– 8	218,494
383	218,386	291	218,408	D26– 1	218,430	D34– 5	218,452	D48– 16	218,474		218,495
D 4– 6	218,387	D11– 1	218,409		218,431		218,453	24	218,475		218,496
	218,388	D13– 1	218,410		218,432		218,454	31	218,476	9	218,497
D 5– 2	218,389		218,411	5	218,433		218,455		218,477	D81– 10	218,498
4	218,390	D14– 3	218,412		218,434		218,456	D52– 6	218,478	25	218,499
5	218,391	6	218,413		218,435		218,457	D54– 2	218,479	D83– 1	218,500
D 8– 90	218,392		218,414		218,436		218,458	D55– 1	218,480		218,501
	218,393		218,415		218,437		218,459	D56– 1	218,481		218,502
232	218,394		218,416		218,438		218,460	2	218,482		218,503
233	218,395	18	218,417	13	218,439	15	218,461	4	218,483	D86– 10	218,504
261	218,396		218,418	14	218,440		218,462	D63– 1	218,484	D87– 5	218,505
D 9– 2	218,397	D15– 1	218,419	15	218,441		218,463	D64– 11	218,485	8	218,506
44	218,398		218,420	D29– 23	218,442		218,464		218,486	D88– 3	218,507
145	218,399		218,421	D30– 1	218,443	D35– 1	218,465	D67– 3	218,487	4	218,508
184	218,400		218,422	13	218,444		218,466	D72– 1	218,488		218,509
185	218,401	11	218,423	40	218,445	D42– 7	218,467	D74– 5	218,489	D90– 18	218,510
189	218,402	D22– 30	218,424	99	218,446		218,468	9	218,490	D97– 2	218,511
192	218,403	D23– 12	218,425	D33– 1	218,447		218,469				

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(Notice of Dec. 16, 1969, 869 O.G. 687)

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29	T877,008	94	T877,011	117– 33.3	T877,005	161–150	T877,009	32.6	T877,007

260–544 T877,002

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PATENTS

1 : 3,524,439	6 : 3,524,607	8 : 3,524,883	17 : 3,524,303	17 : 3,524,960	25 : RE.26,939
3,524,520	3,524,611	3,525,089	3,524,307	3,524,971	3,524,213
3,524,604	3,524,614	9 : 3,524,231	3,524,308	3,524,972	3,524,345
3,524,624	3,524,621	3,524,237	3,524,314	3,524,980	3,524,362
3,524,666	3,524,622	3,524,446	3,524,323	3,524,982	3,524,368
3,524,742	3,524,642	3,524,479	3,524,335	3,524,983	3,524,442
3,524,803	3,524,670	3,524,480	3,524,338	3,525,002	3,524,474
2 : 3,524,570	3,524,674	3,524,536	3,524,378	3,525,044	3,524,539
3,524,690	3,524,676	3,524,564	3,524,396	3,525,100	3,524,608
4 : 3,524,689	3,524,698	3,524,613	3,524,397	18 : 3,524,263	3,524,648
5 : 3,524,508	3,524,707	3,524,636	3,524,414	3,524,324	3,524,717
6 : RE.26,937	3,524,714	3,524,667	3,524,422	3,524,415	3,524,736
3,524,207	3,524,740	3,524,682	3,524,469	3,524,710	3,524,786
3,524,245	3,524,754	3,524,726	3,524,484	3,524,814	3,524,792
3,524,247	3,524,757	3,524,776	3,524,487	3,524,914	3,524,801
3,524,253	3,524,780	3,524,790	3,524,491	3,524,952	3,524,828
3,524,268	3,524,809	3,524,793	3,524,524	3,525,090	3,524,970
3,524,272	3,524,837	3,524,817	3,524,550	19 : 3,524,242	3,524,992
3,524,280	3,524,846	3,524,819	3,524,554	3,524,243	3,524,995
3,524,325	3,524,886	3,524,862	3,524,562	3,524,264	3,525,017
3,524,336	3,524,889	3,524,906	3,524,591	3,524,403	3,525,029
3,524,342	3,524,920	3,524,910	3,524,594	3,524,596	3,525,037
3,524,343	3,524,924	3,524,964	3,524,595	3,524,660	3,525,045
3,524,349	3,524,927	3,524,965	3,524,616	3,524,798	3,525,048
3,524,360	3,524,932	3,524,989	3,524,645	3,524,956	3,525,049
3,524,376	3,524,938	3,525,003	3,524,650	3,524,968	3,525,071
3,524,381	3,524,948	3,525,018	3,524,654	20 : 3,524,398	3,525,073
3,524,382	3,524,951	3,525,094	3,524,655	3,524,433	3,525,076
3,524,384	3,524,996	10 : 3,524,546	3,524,662	3,524,643	26 : 3,524,260
3,524,385	3,525,001	3,524,760	3,524,663	21 : 3,524,210	3,524,269
3,524,390	3,525,021	3,524,833	3,524,702	3,524,246	3,524,275
3,524,406	3,525,038	3,524,836	3,524,733	3,524,454	3,524,289
3,524,411	3,525,039	3,524,887	3,524,744	3,524,527	3,524,317
3,524,412	3,525,040	3,524,902	3,524,770	3,524,680	3,524,344
3,524,417	3,525,061	3,524,905	3,524,779	3,524,928	3,524,359
3,524,423	3,525,063	3,524,988	3,524,781	22 : 3,524,227	3,524,367
3,524,425	3,525,068	12 : 3,524,310	3,524,796	3,524,228	3,524,386
3,524,435	3,525,069	3,524,470	3,524,806	23 : 3,524,348	3,524,405
3,524,443	3,525,085	3,524,528	3,524,822	3,525,057	3,524,431
3,524,473	3,525,086	3,524,535	3,524,827	24 : 3,524,276	3,524,441
3,524,488	3,525,096	3,524,716	3,524,856	3,524,410	3,524,464
3,524,506	7 : 3,524,316	3,524,936	3,524,859	3,524,476	3,524,485
3,524,509	3,524,537	3,525,052	3,524,871	3,524,686	3,524,499
3,524,540	3,524,572	13 : 3,524,486	3,524,872	3,524,761	3,524,522
3,524,541	3,524,854	3,524,489	3,524,911	3,524,811	3,524,529
3,524,563	8 : RE.26,940	3,524,577	3,524,921	3,524,930	3,524,532
3,524,565	3,524,208	15 : 3,524,419	3,524,929	3,524,981	3,524,552
3,524,567	3,524,609	17 : 3,524,204	3,524,933	3,525,046	3,524,581
3,524,586	3,524,673	3,524,215	3,524,934	3,525,075	3,524,582
3,524,589	3,524,723	3,524,241	3,524,935	3,525,095	3,524,633

26 : 3,524,649
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Design Patents

1 : 218,393
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Defensive Publications Applications

(Notice of Dec. 16, 1969, 869 O.G. 687)

10 : T877,003
36 : T877,006
36 : T877,008
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36 : T877,010
T877,011
39 : T877,004
42 : T877,001
47 : T877,002
48 : T877,007
80 : T877,005

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U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

August 18, 1970 Volume 877 Number 3

TRADEMARKS

NOTICES

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of default of such proceedings sent to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, judgment will be entered against each registrant and said registrations will be canceled.

Da Vida Cosmetics Inc., d.b.a. Da Vida, New York, N.Y., Reg. No. 881,382, Canc. No. 9,541.

Farrington Manufacturing Company, Jamaica Plains, Boston, Mass., Reg. No. 585,589, Canc. No. 9,542.

National Metal Products Company, Inc., Kansas City, Mo., Reg. No. 535,731, Canc. No. 9,559.

JOHN H. SCHNEIDER,
Assistant Commissioner of Patents.

CONDITION OF TRADEMARK APPLICATIONS AS OF JUNE 30, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)] ---------- 24,142
Date of oldest new application ---------- June 13, 1969
Date of oldest amended application (filing date) ---------- September 27, 1965

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 17, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	9-24-69	11-30-67
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	11-3-69	9-27-65
(III) C. R. FOWLER, Classes 12, 16, 19, 21, 23, 26, 31, 34, 35, 36	12-24-69	6-19-67
(IV) M. E. ABRAMSON, Classes 13, 14, 20, 22, 24, 25, 29; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	6-13-69	5-18-67
Renewals (All Classes)	5-11-70	----------
Sec. 12(c) Publications (All Classes)	5-15-70	----------

Applications filed during the month of June 1970—3,042

Registrations Issued ---------- 455—No. 896,690 to No. 897,144
Renewals Issued ---------- 130

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 263,002. Aktiebolaget Tetra Pak, Lund, Sweden. Filed Jan. 23, 1967.

BRIK

Owner of Swedish Reg. No. 117,505, dated Sept. 16, 1966.

Class 2—Receptacles

For Transport Baskets of Plastic; and Cartons (Int. Cls. 16 and 21).

Class 37—Paper and Stationery

For Wrapping Materials of Paper and of Plastics, and Combinations of Paper and Plastics (Int. Cl. 16).

SN 271,303. Zenith Industries, Inc., New York, N.Y. Filed May 11, 1967.

LIFEGUARD

Class 1—Raw or Partly Prepared Materials

For Aquarium Plants (Int. Cl. 31).

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Pet Clothing, Pet Toys, Pet Fountains, Pet Cages, Pet Cups, and Pet Collars (Int. Cl. 18).

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Aquarium Airline Equipment—Namely, Valves (Int. Cl. 6).

Class 26—Measuring and Scientific Appliances

For Thermometers (Int. Cl. 9).

Class 31—Filters and Refrigerators

For Aquarium Airline Equipment—Namely, Filters (Int. Cl. 11).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Aquarium Heaters (Int. Cl. 11).

Class 50—Merchandise Not Otherwise Classified

For Aquarium Accessories—Namely, Ornaments, Nets, Plastic Worm Feeders, and Feeding Rings (Int. Cl. 18).

First use Dec. 31, 1953.

SN 321,144. Anker-Werke AG, Bielefeld, Germany. Filed Mar. 10, 1969.

AOS

Owner of German Reg. No. 846,875, dated July 4, 1968.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Coin Dispensers; Coin Sorters; Trade Stamp Dispensers; and Parts Therefor (Int. Cls. 6 and 9).

Class 26—Measuring and Scientific Appliances

For Cash Registers and Parts Therefor (Int. Cl. 9).

Class 37—Paper and Stationery

For Ticket Rolls and Journal Rolls for Use in Cash Registers (Int. Cl. 16).

First use Apr. 30, 1966; in commerce on or prior to Mar. 20, 1968, Class 23; July 5, 1968, Classes 26 and 37.

SN 324,114. Atalasport S.a.S. Fabbrica Articoli Sportivi, Padova, Italy. Filed Apr. 10, 1969.



Priority claimed under Sec. 44(d) on Italian application filed Oct. 16, 1968; Reg. No. 234,829, dated Jan. 10, 1969.

Class 22—Games, Toys, and Sporting Goods

For Sport Apparatus—Namely, Football Shoes, Track Shoes, Boxing Shoes, Hockey Shoes, and Tennis Racquets (Int. Cls. 25 and 28).

Class 39—Clothing

For Sport Footwear—Namely, After-Ski Shoes, Knitted Shirts, Jerseys, Socks, Gloves, Jackets, Underwear; and Tennis Wear—Namely, Shorts, Skirts, and Jerseys (Int. Cl. 25).

SN 325,369. Maritz, Inc., Fenton, Mo. Filed Apr. 23, 1969.

COMMUNICO

Class 100—Miscellaneous

For Preparing Photographs and Other Art Work for Advertising Purposes for Others (Int. Cl. 42).

Class 101—Advertising and Business

For Preparing Copy for Television Commercials and Preparing Copy for Advertising Purposes for Others (Int. Cl. 35).

Class 107—Education and Entertainment

For Production of Film Clips for Television Commercials, Production of Educational Films and Filmed Documentaries, Conducting Sales Training Meetings, and Conducting Training Programs To Train Sales Personnel in Technical or Craft Skills in Classrooms and by Telephone, All for Others (Int. Cl. 41).

First use Apr. 8, 1969.

SN 329,928. Sperry Rand Corporation, New York, N.Y. Filed June 13, 1969.



Owner of Reg. Nos. 861,347, 878,585, and others.

Class 21—Electrical Apparatus, Machines, and Supplies

For Antenna Couplers, Controls, and Components (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Data Processing Equipment and Parts Thereof, Comprising Computers, Tabulating Machines, Tape Handling Units, Printers, Display Plotters, Key Sets, Memory Devices, Data Conversion Equipment, Data Communication Equipment, Counters and Indicators, Magnetic Cores, Pulse Amplifiers, and Control Panels (Int. Cl. 9).

Class 100—Miscellaneous

For Consultations and Advice in Planning and Installing Data Processing Equipment, Leasing and Time Sharing of Data Processing Equipment (Int. Cl. 42).

Class 101—Advertising and Business

For Computer Programming Services for Others (Int. Cl. 35).

First use Sept. 30, 1968.

SN 329,930. Sperry Rand Corporation, New York, N.Y. Filed June 13, 1969.

SPERRY RAND

Owner of Reg. Nos. 872,910, 861,349, and others.

Class 21—Electrical Apparatus, Machines, and Supplies

For Antenna Couplers, Controls, and Components (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Data Processing Equipment and Parts Thereof, Comprising Computers, Tabulating Machines, Tape Handling Units, Printers, Display Plotters, Key Sets, Memory Devices, Data Conversion Equipment, Data Communication Equipment, Counters and Indicators, Magnetic Cores, Pulse Amplifiers, and Control Panels (Int. Cl. 9).

Class 100—Miscellaneous

For Consultations and Advice in Planning and Installing Data Processing Equipment, Leasing and Time Sharing of Data Processing Equipment (Int. Cl. 42).

Class 101—Advertising and Business

For Computer Programming Services for Others (Int. Cl. 35).

First use Sept. 30, 1968.

SN 331,173. Downs-Clark, Incorporated, Brownwood, Tex. Filed June 27, 1969.

RuffneckK

Class 19—Vehicles

For Truck Bodies and Truck Trailers (Int. Cl. 12).
First use Apr. 16, 1968.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Cranes Mounted on a Truck (Int. Cl. 7).
First use Sept. 19, 1968.

SN 331,567. Orbay & Cerrato Furniture Inc., Elizabeth, N.J. Filed July 2, 1969.

ORBAY & CERRATO

Class 21—Electrical Apparatus, Machines, and Supplies

For Lamps for Home Use (Int. Cl. 11).

Class 32—Furniture and Upholstery

For Living Room, Dining Room and Bedroom Furniture for Home Use (Int. Cl. 20).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Carpets, Rugs, Window Curtains and Draperies for Home Use (Int. Cl. 27).

First use February 1966; as early as 1915 as to "Orbay y Cerrato."

SN 332,846. Nippon Denso Kabushiki Kaisha, Kariya, Aichi, Japan. Filed July 17, 1969.

NIPPONDENSO

Class 19—Vehicles

For Car Air Conditioners and Windshield Wipers (Int. Cl. 12).

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Horns and Ignition Coils (Int. Cl. 12).

First use October 1967; in commerce December 1967.

SN 339,133. Cane Machinery & Engineering Co., Inc., Thibodaux, La. Filed Sept. 29, 1969.

CAMECO

Class 19—Vehicles

For Cane Wagons and Cane Carts (Int. Cl. 12).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Vehicles, and Sugar Cane Harvesting Machinery and Parts Thereof—Namely, Cane Harvesters, Cane Loaders, Cane Cultivators; Mill Yard Equipment—Namely, Unloaders for Cane Wagons, Trucks and Railroad Cars, Cane Feeding Tables, Washing Units, Cane Grabs, and Agricultural Tractors; Log Skidding Tractors for the Logging Industry (Int. Cl. 7).

First use June 1965.

SN 343,026. Broadway-Hale Stores, Inc., Los Angeles, Calif. Filed Nov. 10, 1969.

CENTURA

Owner of Reg. No. 836,776.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Wallets and Billfolds (Int. Cl. 18).
First use December 1965.

Class 28—Jewelry and Precious-Metal Ware

For Men's Cuff Links and Necktie Fasteners (Int. Cl. 14).
First use July 1966.

Class 39—Clothing

For Men's and Boys' Apparel—Namely, Suits, Slacks, Coats, Sport Jackets, Dress Shirts, Sport Shirts, Pajamas, Underwear, Sweaters, Hosiery, Ties, Belts, and Handkerchiefs (Int. Cl. 25).
First use at least as early as 1964.

SN 349,252. J. I. Case Company, Racine, Wis. Filed Jan. 22, 1970.

case

Owner of Reg. Nos. 72,871, 659,775, and others.

Class 14—Metals and Metal Castings and Forgings

For Metal Castings (Int. Cl. 6).
First use Aug. 18, 1969.

Class 19—Vehicles

For Trailers for Hauling Equipment, Utility Trailers, Farm Wagons, and Parts Thereof (Int. Cl. 12).
First use Aug. 13, 1969.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Tractors; Dozers; Gasoline, Diesel and Liquefied Petroleum Gas Engines; Transmissions for Motor Vehicles; Agricultural Equipment—Namely, Combines, Balers, Harvesters, Windrowers, Plows, Tillers, Planters, Cultivators, Harrows, and Spreaders, Loaders, Distributors and Injectors for Manure and Fertilizer; Construction, Materials Handling, Earth Moving and Logging Equipment—Namely, Backhoes, Trenchers, Fork Lifts, Excavators, Loaders, Concrete Placers, Cranes and Skidders; and Parts for the Above Equipment Including Hydraulic Parts Thereof (Int. Cls. 7 and 12).
First use July 30, 1969.

SN 353,243. Topp Electronics, Inc., Miami, Fla. Filed Mar. 6, 1970.

THE ACTIVE SOUND OF JULIETTE

The word "Sound," without waiving any common law rights therein, is disclaimed apart from the mark as shown. Owner of Reg. Nos. 769,434 and 875,535.

Class 21—Electrical Apparatus, Machines, and Supplies

For Radios, Transceivers, and Batteries (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Tape Recorders and Phonographs (Int. Cl. 9).

First use on or about Nov. 24, 1969.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.
[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 330,915. Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany. Filed June 25, 1969.

DYPOR

Owner of German Reg. No. 844,313, dated Feb. 28, 1968.
For Breathable Artificial Leather (Int. Cl. 18).

SN 330,916. Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany. Filed June 25, 1969.

TROGAMID

Owner of German Reg. No. 837,123, dated July 15, 1967; and U.S. Reg. No. 858,131.
For Synthetic Resins in the Form of Liquids, Pastes, Powders, Shavings, and Granules (Int. Cl. 1).

SN 338,018. L. Teweles Seed Co., Milwaukee, Wis. Filed Sept. 16, 1969.

ULTRA XT

Owner of Reg. No. 817,192.
For Hybrid Corn (Int. Cl. 31).
First use Aug. 20, 1969.

SN 339,070. Dow Badische Company, Williamsburg, Va. Filed Sept. 29, 1969.

ZEFGUARD

Owner of Reg. Nos. 647,642, 864,761, and others.
For Synthetic Textile Fiber (Int. Cl. 22).
First use Sept. 22, 1969.

Class 2—Receptades

SN 337,381. Whitey Research Tool Co., Emeryville, Calif. Filed Sept. 8, 1969.

WHITEY

Owner of Reg. Nos. 725,801 and 733,738.
For Compressed Gas Cylinders (Int. Cl. 6).
First use July 24, 1969.

SN 340,672. Medical Plastics, Inc., Minneapolis, Minn. Filed Oct. 14, 1969.

MPI

Owner of Reg. No. 870,706.
For Disposable Containers—Namely, Water Soluble Plastic Bags (Int. Cl. 20).
First use Mar. 1, 1968.

SN 341,653. Greif Bros. Corporation, St. Paul, Minn. Filed Oct. 24, 1969.



STAK-TITE

Exclusive use of the words "Stak-Tite" is disclaimed apart from the mark. Owner of Reg. Nos. 580,711 and 761,170.
For Multi-Wall Paper and Plastic Bags (Int. Cl. 16).
First use May 4, 1965.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 315,857. Lanvin-Charles of the Ritz, Inc., New York, N.Y. Filed Jan. 6, 1969.

YVES SAINT LAURENT

"Yves Saint Laurent" is the name of a living individual whose consent is of record. Owner of Reg. Nos. 767,211, 853,369, and others.
For Handbags (Int. Cl. 18).
First use Nov. 24, 1967.

SN 320,592. Glamour Lite Corp., New York, N.Y. Filed Mar. 3, 1969.

GLAMOURLITE

For Carrying Case for Cosmetics Containing a Lighted Makeup Mirror (Int. Cl. 18).
First use May 22, 1968.
Subj. to Intf. with SN 329,453.

SN 329,360. Jay Plastics Inc., Bayshore, N.Y. Filed June 6, 1969.



The words "Better Vue Products" and the words "Plastics Inc." are hereby disclaimed apart from the mark as shown.
For Plastic Card Holders and Plastic Wallet Inserts, Sold as Components of Wallets (Int. Cl. 18).
First use Feb. 10, 1967.

Class 4—Abrasives and Polishing Materials

SN 345,205. Roto-Finish Company, Kalamazoo, Mich. Filed Dec. 3, 1969.

ROTO-FINISH

Owner of Reg. Nos. 397,895, 845,398, and others.
For Abrasive Shapes or Forms, Grains, Nuggets, Chips, or Fragments, for Use in Tumbling Barrels, Vibratory Finishing Machines, and Other Types of Finishing Machines, for Grinding, Deburring, Descaling, Edgebreaking, Polishing, Brite-Honing, Burnishing and Otherwise Surface Finishing of Parts or Workpieces of Wood, Metal, Ceramic, Glass, and the Like, Comprising Metal, Metal Oxide, Silicon Oxide, and Silicon Carbide, Including Such Materials Which Are Resin or Ceramic Bonded, Porcelain, and Rock, e.g., Limestone or Granite (Int. Cl. 3).
First use Sept. 1, 1940.

Class 5—Adhesives

SN 303,906. GAF Corporation, New York, N.Y. Filed July 30, 1968.

SPRAY 'N LAY

Owner of Reg. No. 883,218.
For Aerosol Spray Adhesives for Use With Floor Tiles (Int. Cl. 1).
First use Apr. 25, 1968.

Class 6—Chemicals and Chemical Compositions

SN 286,531. International Salt Company, Clarks Summit, Pa. Filed Dec. 8, 1967.

TX-10

For Salt for Use in Chemical Industries (Int. Cl. 1).
First use on or about Apr. 26, 1955.

SN 332,380. Takeda Chemical Industries, Ltd., Higashi-ku, Osaka, Japan. Filed July 11, 1969.

PADAN

Owner of Japanese Reg. No. 411,543, dated May 15, 1952.
For Insecticides for Agricultural Use (Int. Cl. 5).

SN 334,947. Thuron Industries, Inc., Dallas, Tex. Filed Aug. 11, 1969.

VAPORAIRE

For Odor Neutralizing Chemical Vapors in Strip Form (Int. Cl. 5).
First use May 13, 1969.

SN 340,992. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Oct. 17, 1969.

PYROCRON

For Pyrophyllite Used as a Pigment in Joint Cements and a Component in Ceramics and Refractories (Int. Cl. 2).
First use Oct. 1, 1965.

SN 341,627. Chevron Research Company, Richmond, Calif. Filed Oct. 24, 1969.

RHENIFORMING

For Catalysts Used in Petroleum Refining Processes and in the Manufacture of Petrochemicals (Int. Cl. 1).
First use Sept. 3, 1969.

SN 348,239. Amchem Products, Inc., Ambler, Pa. Filed Jan. 12, 1970.

AMILON

For Herbicides (Int. Cl. 5).
First use Dec. 16, 1969.

SN 351,501. Mineral Research and Development Corporation, Charlotte, N.C. Filed Feb. 16, 1970.

COPPER-COUNT

For Fungicide Spray Concentrate (Int. Cl. 5).
First use Aug. 8, 1969.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 323,535. Colt's Inc., Hartford, Conn. Filed Apr. 3, 1969.

GENERAL OFFICERS

Applicant disclaims exclusive rights to the trademark "Pistol" apart from the mark as shown, but applicant reserves all common law rights to such disclaimed matter. Owner of Reg. No. 522,531.
For Pistols (Int. Cl. 13).
First use Mar. 12, 1969.

SN 346,053. Canadian Industries Limited, Montreal, Quebec, Canada. Filed Dec. 12, 1969.

METAMITE

Owner of Canadian Reg. No. 152,058, dated July 14, 1967.
For Ammonium Nitrate Blasting Agents (Int. Cl. 13).

SN 346,056. Canadian Industries Limited, Montreal, Quebec, Canada. Filed Dec. 12, 1969.

HYDROMEX

Owner of Canadian Reg. No. 113,400, dated Feb. 27, 1959.
For Ammonium Nitrate Explosive Slurries (Int. Cl. 13).

SN 346,057. Canadian Industries Limited, Montreal, Quebec, Canada. Filed Dec. 12, 1969.

XACTEX

Owner of Canadian Reg. No. 118,867, dated July 15, 1960.
For Nitroglycerin (Int. Cl. 13).

SN 346,058. Canadian Industries Limited, Montreal, Quebec, Canada. Filed Dec. 12, 1969.

NITRONE

Owner of Canadian Reg. No. 164/41,846, dated June 17, 1952.
For Ammonium Nitrate Blasting Agents (Int. Cl. 13).

SN 346,217. Canadian Industries Limited, Montreal, Quebec, Canada. Filed Dec. 15, 1969.

HYDROFLO

Owner of Canadian Reg. No. 159,680, dated Nov. 29, 1968.
For Ammonium Nitrate Explosive Slurries (Int. Cl. 13).

SN 346,218. Canadian Industries Limited, Montreal, Quebec, Canada. Filed Dec. 15, 1969.

NITREX

Owner of Canadian Reg. No. 165,224, dated Sept. 12, 1969.
For Ammonium Nitrate Blasting Agents (Int. Cl. 13).

SN 346,219. Canadian Industries Limited, Montreal, Quebec, Canada. Filed Dec. 15, 1969.

PENTO-MEX

Owner of Canadian Reg. No. 114,299, dated May 29, 1959.
For Trinitrotoluene Primers (Int. Cl. 13).

SN 346,220. Canadian Industries Limited, Montreal, Quebec, Canada. Filed Dec. 15, 1969.

SHEAREX

Owner of Canadian Reg. No. 140,679, dated June 4, 1965.
For Nitroglycerin Explosives (Int. Cl. 13).

SN 360,288. Olin Corporation, Stamford, Conn. Filed May 20, 1970.

WINGO

For Small Arms Ammunition—Namely, Rim Fire Cartridges (Int. Cl. 13).
First use Jan. 26, 1970.

Class 10 — Fertilizers

SN 336,533. American Metal Climax, Inc., d.b.a. Southwest Potash Corporation, New York, N.Y. Filed Aug. 28, 1969.

K-Nite

For Nitrate of Potash for Agricultural Use (Int. Cl. 1).
First use July 11, 1969.

Class 12 — Construction Materials

SN 315,317. Interpace Corporation, Parsippany, N.J. Filed Dec. 27, 1968.

BELL-BOLT

For Reinforced Concrete Pipes and Fittings (Int. Cl. 6).
First use Oct. 16, 1968.

SN 323,082. Belaco, Inc., Delray Beach, Fla. Filed Mar. 28, 1969.

APPROVED
BELACO
QUALITY

The words "Approved" and "Quality" are disclaimed apart from the mark as shown.
For Vinyl Coated Ventilated Metal Shelving (Int. Cl. 6).
First use Feb. 17, 1969.

SN 323,564. Holmes Insulations, Limited, Sarnia, Ontario, Canada. Filed Apr. 3, 1969.

HOLMES INSULATIONS

The expressions "Holmes" and "Insulations" are disclaimed apart from the mark as shown. The drawing is lined for the color red. Owner of Reg. No. 878,492.
For Asbestos Pipe Covering in Pre-Molded Form (Int. Cl. 17).
First use April 1956; in commerce April 1956.

SN 328,610. Weyerhaeuser Company, Tacoma, Wash. Filed May 28, 1969.

VINYLHUE

For Particleboard Paneling (Int. Cl. 19).
First use Mar. 5, 1969.

SN 331,228. Platt Monfort, d.b.a. Aladdin Products, Huntington Station, N.Y. Filed June 27, 1969.

FERRO-MESH

For Wire Reinforcement for Ferro Cement Boats (Int. Cl. 6).
First use June 24, 1969.

SN 331,883. Enterprise Pool Equipment Corp., South Kearny, N.J. Filed July 7, 1969.

EPECO

Owner of Reg. No. 879,001.
For Swimming Pool Kit Comprising Panels, Liners, Coping, Pump, Filter, Cover, Hardware, and Corners (Int. Cl. 19).
First use Mar. 31, 1969.

SN 332,725. Johns-Manville Corporation, New York, N.Y. Filed July 16, 1969.

REGAL

For Asphalt-Solvent Blend Roof Coating (Int. Cl. 19).
First use since at least 1922.

SN 333,209. Uniroyal, Inc., New York, N.Y. Filed July 22, 1969.

UNIROYAL TRACK

No claim is made to the word "Track" apart from the mark as shown. Owner of Reg. No. 781,222.
For Track Base Concentrate Used in All-Weather Running Tracks and Surfaces for Field Sporting Events (Int. Cl. 19).
First use June 24, 1969.

SN 335,390. Tiwi Oy, Keuruu, Finland. Filed Aug. 14, 1969.

TIWI

Owner of Finnish Reg. No. 37,948, dated Feb. 27, 1962.
For Boards Made From Wood Chips (Int. Cl. 19).

SN 336,172. Resin Systems Inc., Woodside, N.Y. Filed Aug. 25, 1969.

CHROMASTONE

For Colored Decorative Aggregate for Use in Matrix Compositions (Such as Cement, Acrylic, Epoxy and Polyesters) for Both Interior and Exterior Use in Buildings (Int. Cl. 19).
First use June 17, 1969.

SN 338,655. Simpson Timber Company, Seattle, Wash. Filed Sept. 23, 1969.

MONACO

For Wood Doors for Interior and Exterior Use (Int. Cl. 19).
First use Jan. 13, 1969.

SN 342,912. Surface Master Corporation, Scranton, Pa. Filed Nov. 6, 1969.

SURFACE MASTER

For Asphalt Paving Sealing Compounds (Int. Cl. 19).
First use Nov. 13, 1968.

SN 343,295. Johns-Manville Corporation, New York, N.Y. Filed Nov. 12, 1969.

ALPINE

For Fiber Glass Ceiling Panels (Int. Cl. 19).
First use at least on or about Aug. 14, 1968.

SN 343,299. Johns-Manville Corporation, New York, N.Y. Filed Nov. 12, 1969.

DIRECTOIRE

For Acoustical Ceiling Tiles (Int. Cl. 19).
First use at least on or about Sept. 22, 1967.

SN 343,447. Andre Rubber Company (Canada) Limited, Toronto, Ontario, Canada. Filed Nov. 13, 1969.

ROTA

Owner of Canadian Reg. No. 137,559, dated Oct. 2, 1964.
For Bridge Bearings (Int. Cl. 19).

SN 343,448. Andre Rubber Company (Canada) Limited, Toronto, Ontario, Canada. Filed Nov. 13, 1969.

ROTAFLON

Owner of Canadian Reg. No. 137,560, dated Oct. 2, 1964.
For Bridge Bearings (Int. Cl. 19).

SN 345,124. Anaconda Aluminum Company, Louisville, Ky Filed Dec. 3, 1969.

SIGNALINE

For Aluminum Architectural Products—Namely, Doors (Int. Cl. 6).
First use Sept. 26, 1969.

SN 350,395. The McGraw Co., Glenside, Pa. Filed Feb. 3, 1970.

Accu-line

For Laminated Panels of Wood, Plastic and Metal for Construction, Industrial and Home Use (Int. Cl. 19).
First use Aug. 1, 1969.

SN 352,939. Butler Manufacturing Company, Kansas City, Mo. Filed Mar. 3, 1970.

FARMSTED

For Fabricated Metal Buildings and Parts Thereof (Int. Cl. 19).
First use Oct. 22, 1969.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 317,093. Perfect Parts, Inc., Carlstadt, N.J. Filed Jan. 21, 1969.

PERFECT PARTS

The term "Perfect Parts" is disclaimed apart from the mark as shown.
For Automotive Hardware—Namely, Wheel Studs, Bolts and Nuts, Wheel Hub Bolts, Studs and Nuts, Drain Plugs, Flexible Pipe Oil Lines, Grease Fittings, Heater Parts Including Air Conditioning Valves and Shut-Off Valves, Water Outlet Fittings, Expansion Plugs To Seal Openings in Engine Housing, Inlet and Outlet and Other Flow Connections to the Coolant and Radiator Systems (Int. Cls. 6 and 12).
First use January 1940.

SN 329,066. Dixon Valve & Coupling Co., Philadelphia, Pa. Filed June 4, 1969.

QUICK SAFE

For Chains, Chain Links and Hose Connection Fittings Including Hose Clamps, Band Clamp Adapters and Hose Coupling Chains and Parts Therefor (Int. Cl. 6).
First use Sept. 10, 1968.

SN 335,849. Continental Copper & Steel Industries, Inc., New York, N.Y. Filed Aug. 21, 1969.



For Wire Screening (Int. Cl. 6).
First use 1960.

SN 336,457. Kirsch Company, Sturgis, Mich. Filed Aug. 27, 1969.

QUIK-HOOK

For Drapery Hooks (Int. Cl. 20).
First use July 31, 1969.

SN 339,979. Timothy J. Wallace, Old Bridge, N.J. Filed Oct. 6, 1969.

UPTACK



The drawing is lined for the colors orange and gold.
For Picture Hangers (Int. Cl. 6).
First use Sept. 7, 1969.

SN 340,113. Block China Company, New York, N.Y. Filed Oct. 8, 1969.

BLOCK

Owner of Reg. Nos. 752,522 and 752,528.
For Enameled Metal and Cast Iron Cookware and Serving Ware (Int. Cl. 21).
First use Oct. 1, 1962.

SN 340,487. American Standard Inc., New York, N.Y. Filed Oct. 13, 1969.

AQUAMETER

For Self Closing Faucets (Int. Cl. 11).
First use on or about June 1963.

SN 341,818. Huck Manufacturing Company, Detroit, Mich. Filed Oct. 27, 1969.

HUCKTAINER

Owner of Reg. Nos. 605,012 and 874,552.
For Two-Part Fasteners Comprising Pins and Sleeves (Int. Cl. 6).
First use Oct. 7, 1969.

SN 341,899. Allmanna Brandredskapsaffaren Aktiebolag, Stockholm, Sweden. Filed Oct. 28, 1969.

ABA

Owner of Swedish Reg. No. 128,078, dated July 25, 1969.
For Hose Clamps (Int. Cl. 6).

SN 343,397. Gardner Tools Corporation, Denver, Colo. Filed Nov. 13, 1969.

GREENIE

For Water Actuated Hole Digging Devices for Directly Aerating and Watering the Roots of Growing Plants (Int. Cl. 6).
First use on or about Jan. 2, 1957.

SN 351,470. Industrial Bolt and Nut Company, Newark, N.J. Filed Feb. 16, 1970.

IBN

For Miscellaneous Small Hardware Items Such as Nuts, Bolts, Screws, Hooks, Brackets, and the Like (Int. Cl. 6).
First use as early as January 1959.

SN 353,407. Armstrong Plastic Specialties Company, d.b.a. Armstrong Systems, Los Angeles, Calif. Filed Mar. 9, 1970.

SILVER FLIPPER

For Lawn Sprinklers (Int. Cl. 11).
First use Sept. 23, 1969.

Class 14—Metals and Metal Castings and Forgings

SN 344,699. Diversified Industries, Inc., Clayton, Mo. Filed Nov. 26, 1969.

AL•BITS

Owner of Reg. No. 855,832.
For Aluminum Granules (Int. Cl. 6).
First use Oct. 29, 1969.

Class 16—Protective and Decorative Coatings

SN 344,754. C. R. Wallauer & Company Inc., White Plains, N.Y. Filed Nov. 26, 1969.

WALDUN

For Latex and Solvent-Thinned Paints, Primers and Enamels for Interior and Exterior Use (Int. Cl. 2).
First use on or about Sept. 5, 1969.

Class 17—Tobacco Products

SN 322,092. Rothmans of Pall Mall Limited, Zurich, Switzerland. Filed Mar. 18, 1969.



Applicant disclaims the words "King Size."
For Cigarettes (Int. Cl. 34).
First use July 1, 1968; in commerce July 1, 1968.

SN 329,420. Abelardo N. del Rosario, d.b.a. La Illustre Cigar & Cigarette Factory, Malabon, Rizal, Philippines. Filed June 9, 1969.



The drawing is lined for the colors red and blue. Owner of Philippine Reg. No. 13,270, dated Oct. 31, 1967.
For Cigarettes (Int. Cl. 34).
First use Aug. 22, 1965; in commerce Mar. 15, 1968.

Class 18—Medicines and Pharmaceutical Preparations

SN 323,505. Medical Pharmaceuticals Inc., Glendale, Calif. Filed Apr. 1, 1969.

ANESPRIN

For Acetoaminophen (Int. Cl. 5).
First use Mar. 3, 1969.

SN 334,886. The Upjohn Company, Kalamazoo, Mich. Filed Aug. 8, 1969.

GOLD LINE

The word "Line" is disclaimed apart from the mark as shown.
For Hormonal Preparation (Int. Cl. 5).
First use Jan. 31, 1968.
Subj. to Intf. with SN 343,449.

SN 343,449. Generix Drug Sales Co., Hollywood, Fla. Filed Nov. 13, 1969.

GOLD LINE

Applicant disclaims any right to the word "Line" apart from the mark as shown.
For Pharmaceutical Products—Namely, Vitamins, Laxatives, Aspirin, Analgesics, and Gelatin Capsules (Int. Cl. 5).
First use at least as early as June 1, 1964, on vitamins.
Subj. to Intf. with SN 334,886.

SN 344,383. Mrs. William Harrison Jackson, d.b.a. Quality Distributing Company, Orange City, Fla. Filed Nov. 24, 1969.

PINO

For Preparation for the Treatment of Coughs and Colds, All-Purpose Salve, Healing Oil, Hot Oil Liniment, and Lotion for the Treatment of Skin Disease, Athlete's Food, Ring Worm, Toe Itch, and Muck Itch (Int. Cl. 5).
First use Mar. 1, 1931.

SN 354,096. Parke, Davis & Company, Detroit, Mich. Filed Mar. 16, 1970.

AUTOREX

For Anti-Diarrheal Preparation (Int. Cl. 5).
First use on or before Mar. 6, 1970.

Class 19—Vehicles

SN 329,222. The Budd Company, Philadelphia, Pa. Filed June 5, 1969.

BEVEL BUDD WELD

For Automobiles, Motor Trucks, Truck Trailers and Parts for Brakes and Wheels—Namely, Brake Drums, Brake Disks, and Wheels (Int. Cl. 12).
First use Apr. 7, 1969.

SN 348,242. American Motors Corporation, Kenosha, Wis. Filed Jan. 12, 1970.

AMERICAN MOTORS

Applicant disclaims the word "Motors" apart from the mark, without waiver of any common law rights in the word "Motors" apart from the mark as shown. Owner of Reg. No. 855,441.
For Automobiles and Structural Parts Thereof (Int. Cl. 12).
First use in or before December 1956.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 326,057. American District Telegraph Company, New York, N.Y. Filed May 1, 1969.

ADTALK

For Telephone and Speaker Intercom Systems and Parts Thereof (Int. Cl. 9).
First use on or about Apr. 3, 1969.

SN 329,140. Thomas & Betts Corporation, Elizabeth, N.J. Filed June 4, 1969.

SHURE SPLICER

Owner of Reg. No. 652,535.
For Electric Cable Connectors — Namely, Compression Sleeves, Terminal Connectors, Taps and Lugs (Int. Cl. 9).
First use on or about Jan. 18, 1956.

SN 330,315. Voice Projector Co., Los Angeles, Calif. Filed June 17, 1969.

VOICE PROJECTOR

For Portable Public Address Systems (Int. Cl. 9).
First use in or before March 1961.

SN 330,425. Star-A Electric Mfg. Co., Inc., Brooklyn, N.Y. Filed June 18, 1969.



The representation of electrical goods is disclaimed apart from the mark as shown.
For Electrical Plugs, Sockets, Switches, Taps, Grip Caps, Patio Lights, Appliance Cord Sets, Nite Lites, and Utility Lamps (Int. Cls. 9 and 11).
First use Dec. 1, 1969.

SN 337,053. Ishimoto Trading Company, Los Angeles, Calif. Filed Sept. 4, 1969.

LEGI

For Electronic Tubes (Int. Cl. 9).
First use Aug. 26, 1969.

SN 345,046. Fairchild Hiller Corporation, Germantown, Md. Filed Dec. 2, 1969.

tee

For Extendible Elements for Use as Antennas, Gravity Gradient Attitude Control Rods, and Instrumentation Extension Booms (Int. Cl. 9).
First use Aug. 27, 1968.

SN 345,234. Adamson Company, Inc., Richmond, Va. Filed Dec. 4, 1969.

DURA-LEC

For Electric Hot Water Storage Heaters and Accessories Therefor, Components—Namely, Shell Sections, Copper Silicon Openings, Insulation, Enclosures, Circuit Breakers, Contractors, Thermostats, Cut-Outs, Fuses, Transformers, Heating Elements, Gauges, and Valves (Int. Cl. 11).
First use February 1968.

SN 349,268. Eastwood General Corporation, Los Angeles, Calif. Filed Jan. 22, 1970.

GUARDWELL

For Electrically Operated Home Burglar Alarms (Int. Cl. 9).
First use Oct. 1, 1969.

SN 349,813. Arriflex Corporation of America, Woodside, N.Y. Filed Jan. 28, 1970.

DURO-PACK

For Battery Packages for Movie Cameras (Int. Cl. 9).
First use November 1969.

SN 353,556. Protection Engineers, Inc., Fort Worth, Tex. Filed Mar. 9, 1970.

Vigilante

For Intrusion Burglar, Hold-Up and Anti-Theft Alarms (Int. Cl. 9).
First use Aug. 2, 1966.

Class 22—Games, Toys, and Sporting Goods

SN 285,058. POP Corporation, Kitatama-gun, Tokyo, Japan. Filed Nov. 16, 1967.

POP

For Battery-Operated Toy Automobile for Children (Int. Cl. 28).
First use Aug. 15, 1966; in commerce Mar. 1, 1967.

SN 300,138. Travel Games Ltd., Nassau, New Providence, Bahamas. Filed June 10, 1968.

Go!
The Puerto Rico Game

No registration rights are claimed for the words "The Puerto Rico Game" apart from the mark, but the applicant waives none of its common law rights in the mark or any feature thereof.
For Equipment Sold as a Unit for Playing a Board-Type Parlor Game (Int. Cl. 28).
First use Oct. 15, 1964; in commerce Oct. 15, 1964.

SN 313,682. Cycle Circus, Inc., Yonkers, N.Y. Filed Dec. 5, 1968.

CYCLE CIRCUS

No claim is made to the word "Cycle" apart from the mark without waiving any common law rights therein.
For Bicycles and Tricycles and Parts Thereof (Int. Cl. 12).
First use July 15, 1968.

SN 321,588. Aquala, Inc., Los Angeles, Calif. Filed Apr. 14, 1969.

Aquala

For Commercial, Sportsmen's and Skin Diving Equipment—Namely, Wet and Dry Suits, Cuffs and Boots, Snorkels, Mouthpieces, and Diving Suit Powder (Int. Cl. 28).
First use Jan. 1, 1963.

SN 324,054. Diplomat Sales Company, Incorporated, Los Angeles, Calif. Filed Apr. 9, 1969.

BUMPS AND GRINDS

For Equipment Sold as Units for Playing Card and Board Games (Int. Cl. 28).
First use Dec. 1, 1967.

SN 334,117. M. Edward Pope, d.b.a. Eddie Pope & Company, Altadena, Calif. Filed July 31, 1969.

FASTBACK

For Fishing Lures (Int. Cl. 28).
First use on or about July 18, 1969.

SN 337,801. Hasbro Industries, Inc., Pawtucket, R.I. Filed Sept. 12, 1969.

ASTROLITE

For Toy Set Comprising Translucent Building Units (Int. Cl. 28).
First use on or about Feb. 24, 1969.

SN 341,409. Joseph P. Parulski, d.b.a. Mid West Coast Bait Company, Milwaukee, Wis. Filed Oct. 22, 1969.

HAFAST

For Fishing Lures (Int. Cl. 28.)
First use Mar. 24, 1969.

SN 341,712. Uneeda Doll Co., Inc., Brooklyn, N.Y. Filed Oct. 24, 1969.

YUMMY

For Dolls and Doll Accessories (Int. Cl. 28).
First use Oct. 9, 1969.

SN 341,956. Sportsotron, Inc., Lynbrook, N.Y. Filed Oct. 28, 1969.

PRO-TOUR

For Golf Balls and Golf Clubs (Int. Cl. 28).
First use Sept. 1, 1969.

SN 342,069. Safe-Play Manufacturing Company, Inc., Sidney, Nebr. Filed Oct. 29, 1969.

SAFE-PLAY

For Football Official's Signal Flags, Quarterback Towel and Belt, Track Field Event Throw Markers, Track Starter's Sleeve, Field Sideline and End Zone Markers, Down Markers and Chains, Flag Football Belt and Flags, Official's Vests and Team Identifier Vests (Int. Cl. 28).
First use on or about July 1, 1964.

SN 342,327. Snagaway Enterprizes Limited, Don Mills, Ontario, Canada. Filed Oct. 31, 1969.

Snagaway

For Device for Retrieving Fishing Lures Snagged on Rocks, etc. (Int. Cl. 28).
First use May 1969; in commerce August 1969.

SN 342,448. Hasbro Industries, Inc., Pawtucket, R.I. Filed Nov. 3, 1969.

GLOW-ACTION

For Toys—Namely, Ring Toss Sets, Return Tops, Bouncing Balls, Flying Saucers, and Paddle and Ball Sets (Int. Cl. 28).
First use on or about Oct. 1, 1968.

SN 344,325. David B. Cantwell, San Francisco, Calif. Filed Nov. 24, 1969.

KLUBS UP

For Golf Bag Supports With or Without a Golf Bag (Int. Cl. 28).
First use May 14, 1968.

SN 344,327. Jonnie W. Chase, Roseland, N.J. Filed Nov. 24, 1969.

LUNAR LOON

For Toy Animal or Insect (Int. Cl. 28).
First use Nov. 16, 1968.

SN 344,359. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Nov. 24, 1969.

BUBBLE

For Camping Tents Attachable to Station Wagons (Int. Cl. 22).
First use Oct. 31, 1969.

SN 345,744. Aluminum Hardgoods, Inc., Forest Park, Ill. Filed Dec. 10, 1969.

FREEZ-FUN

For Winter Sports Equipment, Particularly Portable Ice Rinks and Hockey Goals (Int. Cl. 28).
First use no later than August 1960.

SN 350,548. Ellen Ketchum, Houston, Tex. Filed Feb. 5, 1970.

DESTINY DECK

Without relinquishing any common law rights, applicant disclaims the term "Deck" apart from the mark as shown.
For Game Equipment—Namely, Fortune Telling Cards (Int. Cl. 28).
First use at least as early as Aug. 28, 1969.

SN 350,818. Murray Eskenazi, East Rockaway, N.Y. Filed Feb. 9, 1970.

BRIDGES AND TUNNELS

For Unit for Playing a Board Game (Int. Cl. 28).
First use July 1, 1969.

SN 359,558. Mattel, Inc., Hawthorne, Calif. Filed May 13, 1970.

ORBITOR

For Toy Rotatable, Launchable Disk (Int. Cl. 28).
First use Feb. 17, 1970.

SN 359,560. Mattel, Inc., Hawthorne, Calif. Filed May 13, 1970.

PACIFIC/8

For Toy Automobile Race Set (Int. Cl. 28).
First use Feb. 17, 1970.

SN 359,561. Mattel, Inc., Hawthorne, Calif. Filed May 13, 1970.

SEARCH & RESCUE

For Toy Kit, Comprising a Doll, Diving Gear for the Doll, an Underwater Propelled Vehicle and a Combined Land and Water Vehicle (Int. Cl. 28).
First use Feb. 17, 1970.

SN 359,962. Mattel, Inc., Hawthorne, Calif. Filed May 18, 1970.

THE SNARLER

For Toy Automobile (Int. Cl. 28).
First use Mar. 3, 1970.

SN 359,963. Mattel, Inc., Hawthorne, Calif. Filed May 18, 1970.

ROARIN' GLORY

For Toy Top (Int. Cl. 28).
First use Feb. 17, 1970.

SN 359,965. Mattel, Inc., Hawthorne, Calif. Filed May 18, 1970.

SEA DEVILS

For Water Toys Comprising Dolls, an Amphibious Vehicle, Diving Gear, and an Underwater Powered Vehicle (Int. Cl. 28).
First use Feb. 17, 1970.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 315,290. Motorenfabrik Hatz GmbH, Ruhstorf, Germany. Filed Dec. 27, 1968.

HATZ

Owner of German Reg. No. 842,782, dated July 20, 1966.
For Internal Combustion Engines; Internal Combustion Marine Engines; Internal Combustion Aircraft Engines; Parts for Said Engines; and Tractors (Int. Cl. 12).

SN 327,355. The Bucket Elevator Company, Chatham, N.J. Filed May 15, 1969.

CORRA-TROUGH

For Belt Conveyors, Conveyor Belt Elevators, and Parts Therefor (Int. Cl. 7).
First use on or about June 15, 1962.

SN 329,896. TSC Industries Inc., Chicago, Ill. Filed June 12, 1969.

RED LINE

The drawing is lined for the color red. Owner of Reg. No. 854,100.
For Seeders; Hay Loaders and Stackers; Dumping Hoists; Furrow Markers; Fencepost Drivers; Fence and Wire Stretchers; Stalk Cutters; Rotary Roller Pumps for Pumping Water and Agricultural and Industrial Solutions; Water Well Pump Units Including Storage Tanks, Jet Chargers and Check Valves; and Injector Kits for Water Wells, Each Kit Comprising a Jet Charger, Pipe Fixtures, and Valve (Int. Cl. 7).
First use Aug. 5, 1968.

SN 330,650. Wilkinson Sword Limited, London, England. Filed June 20, 1969.

SUPER ARMOURCUT

No claim is made to the term "Super" apart from the mark.
For Garden Tools—Namely, Pruning Shears, Flower Gathering Cutters, Hedge Cutting Shears, Grass Cutting Shears, Lawn Edging Cutters, Garden Spades and Forks, Garden Hoes, Garden Rakes, Garden Trowels, Garden Knives, and General Purpose Scissors, Pinking Shears, and Tailors' Shears (Int. Cl. 8).
First use on or about Oct. 7, 1968; in commerce Oct. 24, 1968.

SN 335,065. Scientific Atlanta, Inc., Atlanta, Ga. Filed Aug. 11, 1969.

RIGID-VU

For Packaging Machines for Rigid or Semi-Rigid Packaging of Medicinal Supplies and Food Products in Plastic or Aluminum Containers (Int. Cl. 7).
First use at least as early as Mar. 1, 1969.

SN 335,842. Beebe Bros., Inc., Seattle, Wash. Filed Aug. 21, 1969.

WINCH-MATIC

For Electric Hoists and Winches, Remote Controlled Electric Winches and Air Tuggers (Winches and Hoists) Furnished With Automatic Brakes (Int. Cl. 7).
First use on or about July 8, 1969.

SN 336,153. Oneida Ltd., Oneida, N.Y. Filed Aug. 25, 1969.

DARDANELLA

For Flatware Made of Non-Precious Metal (Int. Cl. 8).
First use Aug. 6, 1969.

SN 340,782. Edward F. Dickerson, South Haven, Mich. Filed Oct. 15, 1969.

DICKERSON

For Printing Presses (Int. Cl. 7).
First use Dec. 8, 1959.

SN 341,402. The Mead Corporation, Dayton, Ohio. Filed Oct. 22, 1969.

MEAD SEAL - III

Owner of Reg. No. 443,716 and others.
For Carton Sealing Machines (Int. Cl. 7).
First use January 1969.

SN 344,087. Abercrombie & Fitch Co., New York, N.Y. Filed Nov. 20, 1969.

ABERCROMBIE 60

For Electric Razors (Int. Cl. 8).
First use June 1969.

SN 347,283. The Kaydon Engineering Corporation, Muskegon, Mich. Filed Dec. 29, 1969.

LAMI-SHIELD

For Anti-Friction Bearings (Int. Cl. 7).
First use Sept. 18, 1969.

SN 347,480. Coppus Engineering Corporation, Worcester, Mass. Filed Dec. 31, 1969.

JECTAIR

For Portable Units Providing Jets of Compressed Air or Steam for the Entrainment and Movement of Air and Other Gases (Int. Cl. 7).
First use on or about Apr. 5, 1962.

SN 348,249. Robert G. Austin, d.b.a. Austin Mfg., Minneapolis, Minn. Filed Jan. 12, 1970.

HI-BOY

For Snow Rakes (Int. Cl. 8).
First use Dec. 24, 1969.

SN 348,302. Markwell Manufacturing Company, Inc., New York, N.Y. Filed Jan. 12, 1970.

ATC

For Stapling Machines (Int. Cl. 7).
First use Dec. 1, 1969.

SN 352,140. International Automated Marketing Co., Chicago, Ill. Filed Feb. 24, 1970.

IAMCO

For Coin-Operated Automatic Dispensing Machines, and Parts Thereof (Int. Cl. 9).
First use Jan. 8, 1970.

Class 24 — Laundry Appliances and Machines

SN 354,063. Ametek, Inc., East Moline, Ill. Filed Mar. 16, 1970.

CHORE-KLEEN

Owner of Reg. No. 867,139.
For Dry Cleaning Machines (Int. Cl. 7).
First use Jan. 12, 1970.

SN 354,064. Ametek, Inc., East Moline, Ill. Filed Mar. 16, 1970.

MI-T-FOLD

For Laundry Folding Machines (Int. Cl. 7).
First use Jan. 30, 1970.

Class 26 — Measuring and Scientific Appliances

SN 278,834. Uster Corporation, Charlotte, N.C. Filed Aug. 22, 1967.

AQUATEC

For Moisture Monitor for Measuring Pickup in a Moving Fabric or Wrap (Int. Cl. 9).
First use in or before June 1967.

SN 303,209. Waukesha Foundry Company, Inc., Waukesha, Wis., assignee of Waukesha Foundry Company, Waukesha, Wis. Filed July 19, 1968.

DIGI FLOW

Applicant makes no claim to the terms "Flow," "1," "2," or "3" apart from the mark as shown.
For Fluid Flow Control Systems Specifically Comprising One or More of the Following Components: a Control Station Having Manual Controls for Setting or Changing the Action of the System; a Control Center Containing Devices That Coordinate the Action of Two or More of the Components; a Programming Unit Comprising Means for Mechanically Determining the Particular Sequence of Operation; a Printout Unit Containing Means for Recording the Functioning of the System (Int. Cl. 9).
First use Oct. 28, 1966.

SN 308,509. Nuclear Magnetic Resonance Specialties, Inc., New Kensington, Pa. Filed Sept. 30, 1968.

NMR Specialties

Applicant disclaims the word "Specialties" apart from the mark as a whole.
For Nuclear Magnetic Resonance Spectrometers and Parts Therefor (Int. Cl. 9).
First use Jan. 16, 1966.

SN 308,607. Data Machines, Inc., Richmond, Va. Filed Oct. 1, 1968.

MULTI/CHEK

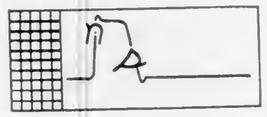
For Electrical Keyboard Data Entry Units, Electronic Switching and Logic Units, and Data Recording Units, Used Alone or in System Combinations, Especially for Retail Order Entry, Pricing and Inventory Control (Int. Cl. 9).
First use at least December 1959.

SN 315,033. Berkey Photo, Inc., New York, N.Y. Filed Dec. 23, 1968.

BERKEY

For Photographic Enlargers Including, Lamphouses, Time Computing Equipment, Vacuum Easel, Light Measuring Probe, Separation Filter Wheels, Time Switches (Int. Cl. 9).
First use Sept. 27, 1966.

SN 317,599. Nanosecond Systems, Inc., Fairfield, Conn. Filed Jan. 27, 1969.



The mark comprises the letters "NS" displayed upon a representation of an electronic pulse.
For Gate Generators; Pulse Train Generators; Scalers; Counters; Linear and Logic Modules, Comprising Discriminators, Coincidence Units, Delay Lines, Prescalers, Amplifiers, and Time to Pulse Height Converters; Photomultiplier Base Assemblies; Variable Delay Pulse Splitters; Programmable Digital Pulse Testers; and Calibrated Delay Lines (Int. Cl. 9).
First use June 21, 1962.

SN 322,108. Visolux-Elektronik Richard Stering, G.m.b.H., Berlin, Germany. Filed Mar. 18, 1969.

VISOLUX-ELEKTRONIK

Owner of German Reg. No. 790,296, dated Jan. 1, 1964.
For Non-Contact Sensing Systems—Namely, Sensing Units, Scanners, Switches, Amplifier Control Units, Detection Systems, Photoelectric Control Units, Counters, Ultrasonic Barrier Units, Inductive Sensing Units (Int. Cl. 9).

SN 323,494. Visual Electronics Corporation, New York, N.Y. Filed Apr. 2, 1969.

MASTERFILE

For Devices for Magnetic Storage of, and Random Fast Access to Large Quantities of Information in Digital Form (Int. Cl. 9).
First use July 16, 1968.

SN 324,548. Vicon Products Corp., Mamaroneck, N.Y. Filed Apr. 14, 1969.

VICONEX

For Fiber Optic Illumination System for Medical and Dental Instruments, and the Like (Int. Cl. 11).
First use Jan. 15, 1969.

SN 328,047. G.V.W. Corporation, Dearborn Heights, Mich. Filed May 22, 1969.

G.V.W.

For Vehicle Load Gauges and Vehicle Load Indicator Systems (Int. Cl. 9).
First use Jan. 27, 1969.

SN 328,048. G.V.W. Corporation, Dearborn Heights, Mich. Filed May 22, 1969.



For Vehicle Load Gauges and Vehicle Load Indicator Systems (Int. Cl. 9).
First use Jan. 27, 1969.

SN 329,349. Ferrex Corporation, Redwood City, Calif. Filed June 6, 1969.

COLORVERTER

For Machine for Analyzing Color Negatives To Improve the Color Balance of Color Prints Made From Negatives (Int. Cl. 9).
First use May 13, 1969.

SN 331,922. Milian Instruments S.A. Geneva, Switzerland. Filed July 7, 1969.

MILIAN

Priority Claimed under Sec. 44(d) on Swiss Reg. No. 237,154, dated Jan. 7, 1969.
For Micro-Test Tubes of Polyethylene and Polypropylene and Stoppers Therefor; Stopper Removers for Micro-Test Tubes; Micro-Test Tube Stands; Diffusion Units and Stands Therefor; Test Tube Scissors; Viewers for Fluorometric Titrations, Wiping Pads for Stirrers, Pipettes etc.; Heparinized Glass Capillaries; Centrifugation Tubes; Micro-Centrifuges; Micro Agitators; Micro-Thermostats; pH Measuring Apparatus; Polyethylene and Glass Tubing and Piping; Beakers, Flasks and Covers in Polystyrene (Int. Cl. 9).

SN 335,403. Drummond Instrument Company, Broomall, Pa. Filed Aug. 15, 1969.



Applicant disclaims the representation of the goods shown in the drawing.
For Micro-Syringe With Graduated Barrel and Having a Disposable Micropipette Bore (Int. Cl. 10).
First use Apr. 19, 1968.

SN 335,933. Astrocom Corporation, St. Paul, Minn. Filed Aug. 22, 1969.

ASTROSET

For Electronic Modulators and Demodulators for Use in Transmitters and Receivers in Data Communication Systems (Int. Cl. 9).
First use Apr. 21, 1969.

SN 337,272. Computer Synetics, Inc., Santa Clara, Calif. Filed Sept. 8, 1969.

COMPUTER SYNECTICS

The word "Computer" is disclaimed apart from the mark as shown.
For Isolation Probes, and System Utilization Monitors for Computer Equipment, and Components Thereof (Int. Cl. 9).
First use Aug. 5, 1969.

SN 337,694. Sanwa Electric Instrument Co., Ltd., Chiyoda-ku, Tokyo, Japan. Filed Sept. 11, 1969.

SANWA

For Electric Measurement Instruments and Parts Thereof—Namely, Multitesters, Electrotesters, Transistor Checkers, Resistance Meters, Transistorized Insulation Testers, Electrical Thermometers, Transistorized Percent Meters and Tune-Up Testers for Motor Vehicle Adjustment (Int. Cl. 9).
First use March 1937; in commerce August 1954.

SN 337,735. White's Electronics, Inc., Sweet Home, Oreg. Filed Sept. 11, 1969.

GOLD WE MASTER

For Mineral and Metal Detectors (Int. Cl. 9).
First use May 8, 1969.

SN 341,455. Martin J. Ferguson, Greenwich, Conn. Filed Oct. 20, 1969.

SLIDE SPLINT

Applicant disclaims the word "Slide" apart from the mark as shown.
For Photographic Slide Stiffeners (Int. Cl. 9).
First use Oct. 14, 1969.

SN 344,289. The Jacobi Systems Corporation, Encino, Calif. Filed Nov. 24, 1969.

MINITS

For Electronic Computers (Int. Cl. 9).
First use Nov. 12, 1969.

SN 346,777. Thomas D. Spencer, d.b.a. Thomas Spencer Enterprises, New Canaan, Conn. Filed Dec. 19, 1969.

SUNDICATOR

For Astronomical and Navigational Devices for Predetermining the Positions of Heavenly Bodies—Namely, Astrolabes (Int. Cl. 9).
First use on or before Dec. 1, 1969.

SN 349,156. Babbitt Industries, Inc., South San Francisco, Calif. Filed Jan. 21, 1970.

BI

For Eye Protective Devices—Namely, Safety Spectacles and Goggles (Int. Cl. 9).
First use February 1969.

SN 353,146. Aden Supply Company, Belmont, Mich. Filed Mar. 5, 1970.

TEMP-HARD

For Lenses for Eye Spectacles (Int. Cl. 9).
First use on or about Dec. 1, 1969.

SN 353,147. Aden Supply Company, Belmont, Mich. Filed Mar. 5, 1970.

REZ-HARD

For Lenses for Eye Spectacles (Int. Cl. 9).
First use on or about Dec. 1, 1969.

SN 353,412. Binary Systems, Inc., Orinda, Calif. Filed Mar. 9, 1970.

BINAR

For Optical Scanning Units for Reading Information From Special Fonts Printed on Sales Tickets and Converting the Information to Electronic Output and Electronic Decoding Units for Transmitting Electronic Information From the Optical Scanners to Computers (Int. Cl. 9).
First use Jan. 12, 1970.

SN 355,119. Eastman Kodak Company, Rochester, N.Y. Filed Mar. 26, 1970.

SUPER-K

Owner of Reg. Nos. 628,230, 864,790, and others.
For Sensitized Photographic Paper (Int. Cl. 1).
First use Nov. 4, 1969.

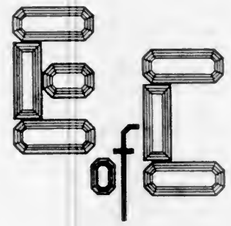
SN 359,797. Renauld International, Ltd., Fitchburg, Mass. Filed May 15, 1970.

STATUSPECS

For Sunglasses (Int. Cl. 9).
First use in or about April 1970.

Class 28 — Jewelry and Precious-Metal Ware

SN 330,828. Emeralds of Colombia Jewelers, Miami, Fla. Filed June 24, 1969.



The figure representation of the gemstones are disclaimed apart from their use in the mark.
For Jewelry, Including Gems (Int. Cl. 14).
First use Feb. 20, 1969.

Class 29 — Brooms, Brushes, and Dusters

SN 326,028. Art & Sign Brush Manufacturing Corporation, Long Island City, N.Y. Filed May 1, 1969.

FINEPOINT

For Artists' Brushes (Int. Cl. 16).
First use Mar. 18, 1942.

SN 348,086. Popeil Brothers, Inc., Chicago, Ill. Filed Jan. 9, 1970.

SCOOPER

For Mechanical Brush (Int. Cl. 21).
First use Jan. 5, 1970.

Class 31 — Filters and Refrigerators

SN 343,539. Friedrich Refrigerators Inc., San Antonio, Tex. Filed Nov. 14, 1969.

FLOATING AIR

Owner of Reg. No. 518,495.
For Electric, Commercial, Refrigerated Display Cases (Int. Cl. 11).
First use Jan. 15, 1934.

SN 344,202. R. P. Adams Company, Inc., Buffalo, N.Y. Filed Nov. 21, 1969.

ADAMS UNI-MATIC

Owner of Reg. No. 737,142.
For Single Tube Water Filter or Strainer (Int. Cl. 11).
First use Oct. 6, 1969.

Class 32 — Furniture and Upholstery

SN 336,415. Centuries of Art, Inc., Pacoima, Calif. Filed Aug. 27, 1969.

CENTURIES OF ART

Applicant disclaims the word "Art" apart from the mark as shown.
For Framed Paintings (Int. Cl. 16).
First use Oct. 15, 1968.

SN 337,064. Medco Enterprises, Inc., Columbus, Ohio. Filed Sept. 4, 1969.

MEDI+GUARD

For Safety Box Medicine Cabinet (Int. Cl. 20).
First use Mar. 3, 1969.
Subj. to Intf. with SN 338,590.

SN 338,152. Jamison Bedding, Inc., Nashville, Tenn. Filed Sept. 17, 1969.

THE SOMETIME SOFA

Applicant disclaims the word "Sofa" apart from the mark as shown.
For Sofas Convertible to Beds (Int. Cl. 20).
First use May 15, 1969.

SN 357,349. Fiber Industries, Inc., Charlotte, N.C. Filed Apr. 20, 1970.

SERENE SUPERBA

Owner of Reg. No. 805,957.
For Pillows (Int. Cl. 20).
First use on or about Feb. 15, 1970.

Class 33 — Glassware

SN 335,114. American Carnival Glass Association, Inc., Washington, D.C. Filed Aug. 12, 1969.



For Glassware—Namely, Tableware, Vases, Bowls and Pitchers (Int. Cl. 21).
First use May 16, 1969.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 317,371. Poweray Infrared Corporation, Farmingdale, N.Y. Filed Jan. 23, 1969.



Owner of Reg. No. 831,801.
For Surfacing Restoration Equipment—Namely, Radiant Energy Heaters for Road Surfacing Materials, and Storage Receptacles for Road Surfacing Materials With and Without Heat Generating Elements (Int. Cl. 11).
First use Jan. 17, 1969.

SN 326,922. Stoody Company, Santa Fe Springs, Calif. Filed May 9, 1969.



For Machine for Rebuilding Rotary Machine Parts by the Application of Arc Weld Metal (Int. Cl. 7).
First use on or about Apr. 2, 1969.

SN 346,921. Fred A. Lorenz, d.b.a. Lorenz Manufacturing, Romulus, Mich. Filed Dec. 22, 1969.

NOZ-L-IFE

For Welding Spatter Control Compound (Int. Cl. 1).
First use Dec. 3, 1969.

SN 348,190. Sunbeam Lighting Company, Inc., Los Angeles, Calif. Filed Jan. 9, 1970.

MODU DUCT

Applicant disclaims the word "Duct" apart from the mark as shown.
For Ventilating Air Ducts (Int. Cl. 11).
First use on or about Apr. 1, 1969.

SN 348,501. Continental Gourmet, Inc., Los Angeles, Calif. Filed Jan. 14, 1970.

MONGOLIAN KOOKER

Applicant disclaims the word "Kooker" apart from the mark as shown.
For Hibachi Stoves (Int. Cl. 11).
First use Dec. 22, 1969.

SN 349,802. Mix-Mill, Inc., Bluffton, Ind. Filed Jan. 28, 1970.

ROAST-A-TRON

For Machines for Roasting Grain, Specifically Including Leguminous and Cereal Grains (Int. Cl. 11).
First use May 14, 1969.

SN 351,021. James O. Ewing, d.b.a. Frigidheat Industries, Nashville, Tenn. Filed Feb. 10, 1970.



For Heat Pump for Controlling the Temperature of Liquids in Various Industrial Applications (Int. Cl. 11).
First use Dec. 10, 1969; 1960 in a different form.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 298,072. W. J. Voit Rubber Corp.. Santa Ana, Calif. Filed May 13, 1968.

VOIT

Owner of Reg. No. 530,087.
For Tread Rubber and Tire Repair Materials for Vehicle Tires—Namely, Rubbers, Gums, and Cord Repair Fabrics (Int. Cl. 12).
First use Jan. 1, 1923.

SN 301,260. Royal Industries, Inc., Pasadena, Calif., assignee of Royal Industries, Pasadena, Calif. Filed June 24, 1968.

STOP-RITE

For Brake Shoe Linings for Use on Motor Vehicles (Int. Cl. 12).
First use at least as early as 1950.

SN 325,835. Carlisle Corporation, Carlisle, Pa. Filed Apr. 29, 1969.

ZEPHYR FLYTE

Owner of Reg. Nos. 640,029 and 754,636.
For Bicycle Tires and Tubes (Int. Cl. 12).
First use May 1, 1954.

Class 36 — Musical Instruments and Supplies

SN 338,453. John M. Washburn, d.b.a. Garden Grove Music Center, Garden Grove, Calif. Filed Sept. 19, 1969.

MUSIC CENTER

For Wind and Stringed Instruments and Their Component Parts, Such as Strings (Int. Cl. 15).
First use Mar. 1, 1955.

SN 341,076. James Johnson, d.b.a. Amjo Rec, Philadelphia, Pa. Filed Oct. 16, 1969.

AMJO

For Phonograph Records (Int. Cl. 9).
First use June 16, 1969.

SN 354,621. Hammond Corporation, Deerfield, Ill. Filed Mar. 19, 1970.

ROOM ROCKER

For Musical Instrument Amplifiers Having Circuitry for Modifying the Natural Tone of the Instrument To Produce Special Effects (Int. Cl. 9).
First use Mar. 2, 1970.

SN 354,873. National General Records Corporation, Los Angeles, Calif. Filed Mar. 23, 1970.



For Phonograph Records and Magnetic Tapes (Int. Cl. 9).
First use Feb. 17, 1970.

Class 38 — Prints and Publications

SN 308,295. John Hinde Ltd., Caninteely, County Dublin, Ireland. Filed Sept. 26, 1968.



For Printed Matter—Namely, View Cards, Printed or Picture Postcards, Greeting Cards, Calendars, Advertising Sheets, Booklets and Brochures for Others, and Printed Show or Point of Sale Cards (Int. Cl. 16).
First use 1957; in commerce 1963.

SN 308,296. John Hinde Ltd., Caninteely, County Dublin, Ireland. Filed Sept. 26, 1968.

JOHN HINDE

"John Hinde" is the name of a living individual, whose consent is of record.
For Printed Matter—Namely, View Cards, Printed or Picture Postcards, Greeting Cards, Calendars, Advertising Sheets, Booklets and Brochures for Others, and Printed Show or Point of Sale Cards (Int. Cl. 16).
First use 1957; in commerce 1963.

SN 337,848. William C. Bach, Monterey Park, Calif. Filed Sept. 15, 1969.

DUMBDUM

For Cartoon Series (Int. Cl. 16).
First use at least as early as July 31, 1969.

SN 341,616. Ashleigh Ellwood Brilliant, d.b.a. Brilliant Enterprises, San Francisco, Calif. Filed Oct. 24, 1969.

POT-SHOTS

For Printed Post Cards (Int. Cl. 16).
First use Oct. 6, 1967.

SN 341,880. Ruby A. Owens, Lemon Grove, Calif. Filed Oct. 27, 1969.

NURSERY SCHOOL



WORLD OF MUSIC

For Sheet Music (Int. Cl. 16).
First use Sept. 24, 1969.

SN 345,223. Western Publishing Company, Inc., Racine, Wis. Filed Dec. 3, 1969.

GOLDEN COMICS DIGEST

Applicant disclaims its exclusive rights in the words "Comics" and "Digest" apart from the mark as shown.
For Periodically Published Magazine Containing Comics and Editorial Matter Primarily Intended for Children (Int. Cl. 16).
First use Mar. 20, 1969.

SN 357,287. Pathe News, Inc., New York, N.Y. Filed Apr. 20, 1970.



Owner of Reg. No. 879,986.
For Series of Moving Pictures (Int. Cl. 9).
First use June 1, 1959.

SN 358,718. Richard L. Estes, Lithonia, Ga. Filed May 4, 1970.

RETIRED TIMES

For Newspaper, Published Periodically (Int. Cl. 16).
First use on or about Mar. 19, 1970.

SN 358,748. Hanky-Panky, Inc., Amarillo, Tex. Filed May 4, 1970.

EIGHTBALL

For Cartoon Series (Int. Cl. 16).
First use July 15, 1969.

Class 39 — Clothing

SN 315,537. Marie Chantal, Paris, France. Filed Jan. 2, 1969.

MARIE-CHANTAL

The name "Marie-Chantal" is fanciful. Priority claimed under Sec. 44(d) on French Reg. No. 743,925, dated July 18, 1968.
For Ready Made Clothing for Women and Children—Namely, Coats, Dresses, Shirts, Sweaters, Slacks, Jackets, Hosiery, Pants, Suits, Gloves, Sleepwear, Swimwear, Rainwear, Skiwear, Beach Costumes, and Bathing Costumes (Int. Cl. 25).

SN 330,825. Cuddleteen Frocks, Inc., New York, N.Y. Filed June 24, 1969.

Aquarius

For Children's Dresses (Int. Cl. 25).
First use June 20, 1969.
Subj. to Intf. with SN 332,346.

SN 332,346. Hampton Shirt Co., Inc., New York, N.Y. Filed July 11, 1969.

AQUARIUS

For Men's and Boys' Shirts (Int. Cl. 25).
First use May 15, 1969.
Subj. to Intf. with SN 330,825.

SN 340,440. Toni California, Los Angeles, Calif. Filed Oct. 10, 1969.



For Women's Apparel—Namely, Dresses, Skirts, Pants and Slacks, Blouses, Jackets, Coats, and Hats When Part of a Coordinated Ensemble (Int. Cl. 25).
First use Oct. 2, 1969.

SN 344,513. Maidenform, Inc., New York, N.Y. Filed Nov. 25, 1969.

NEARLY YOU

For Foundation Garments, Lingerie, Sleepwear, and Loungewear (Int. Cl. 25).
First use Sept. 10, 1969.

SN 345,491. Palizzio, Inc., New York, N.Y. Filed Dec. 5, 1969.

801 COLLECTION

For Women's Shoes (Int. Cl. 25).
First use Sept. 30, 1969.

SN 345,497. Publix Shirt Corporation, New York, N.Y. Filed Dec. 5, 1969.

BELVEDERE

Owner of Reg. No. 256,006.
For Dress, Negligee, Sport and Knit Shirts, Sweaters and Pajamas for Men, Youths, and Boys (Int. Cl. 25).
First use Nov. 30, 1928.

SN 346,554. Elise Blouse of Boston, Inc., Boston, Mass. Filed Dec. 18, 1969.

NORTH MAIN STREET

For Women's Dresses and Sportswear—Namely, Jumpers, Culottes, and Shifts (Int. Cl. 25).
First use Nov. 3, 1969.

SN 346,558. Consolidated Foods Corporation, Chicago, Ill. Filed Dec. 18, 1969.

INTERDIGITATE

For Gloves (Int. Cl. 25).
First use Nov. 12, 1969.

SN 350,142. Teenform, Inc., New York, N.Y. Filed Jan. 30, 1970.

STRETCH UPS

Owner of Reg. No. 783,026.
For Brassieres (Int. Cl. 25).
First use Sept. 16, 1963.

SN 351,176. Trendsetter Footwear Corporation, Newtonville, Mass. Filed Feb. 12, 1970.



Owner of Reg. No. 777,442.
For Men's, Women's and Children's Shoes, Boots, and Sandals (Int. Cl. 25).
First use June 29, 1969.

SN 351,177. Trendsetter Footwear Corporation, Newtonville, Mass. Filed Feb. 12, 1970.



Owner of Reg. No. 777,442.
For Men's, Women's and Children's Shoes, Boots, and Sandals (Int. Cl. 25).
First use June 29, 1969.

SN 352,413. Herbert F. Greenberg, Los Angeles, Calif. Filed Feb. 26, 1970.

THE UNDIE-WORLD

For Lingerie (Int. Cl. 25).
First use at least as early as 1955.

SN 358,653. Camp and McInnes, Inc., Reading, Pa. Filed May 4, 1970.

HEATHER LIGHT

Owner of Reg. No. 884,718 and others.
For Men's Hosiery (Int. Cl. 25).
First use Apr. 21, 1970.

SN 358,659. International Playtex Corporation, New York, N.Y. Filed May 4, 1970.

MOON WALK

For Foundation Garments and Women's Underwear (Int. Cl. 25).
First use Oct. 2, 1969.

SN 359,183. The United States Shoe Corporation, Cincinnati, Ohio. Filed May 8, 1970.

J. RIGGINGS

"J. Riggings" is a fanciful name and does not identify any known individual.
For Shoes; Neckties; Men's Suits, Belts, Trousers, Sportcoats, and Shirts (Int. Cl. 25).
First use at least as early as Mar. 26, 1969.

SN 359,311. The United States Shoe Corporation, Cincinnati, Ohio. Filed May 11, 1970.



"J. Riggings" is a fanciful name and does not identify any known individual.
For Shoes; Neckties; Men's Suits, Belts, Trousers, Sportcoats, and Shirts (Int. Cl. 25).
First use at least as early as Mar. 26, 1969.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 330,489. Fonda Manufacturing Corporation, New York, N.Y. Filed June 19, 1969.

FONDA-VEL

Owner of Reg. No. 861,430.
For Yard and Piece Goods for Making Men's, Women's, and Children's Outer Wear and Sportswear, Dresses, Toys, Dolls, Slippers, and Boot and Shoe Linings (Int. Cl. 24).
First use Jan. 17, 1969.

SN 338,574. Janssens de Horion's Wollenstoffenfabrieken N.V., Tilburg, Netherlands. Filed Sept. 22, 1969.

UNITED HOLTEX MILLS

Owner of Dutch Reg. No. 160,322, dated June 17, 1966.
For Tissues (Piece Goods) (Excluded Adhesive Tissues), Bed and Table Covers (Int. Cl. 24).

SN 339,072. Dow Badische Company, Williamsburg, Va. Filed Sept. 29, 1969.

ZEFGUARD

Owner of Reg. Nos. 756,148, 864,761, and others.
For Knitted or Woven Reflective Textile Fabrics for Protective Clothing Such as Outerwear, Innerwear, Gloves, Headwear, or Other Garments and Reflective Fabrics for Protective Purposes Such as Shields or Tarpaulins (Int. Cl. 24).
First use Sept. 22, 1969.

SN 341,916. Collins & Aikman Corporation, New York, N.Y. Filed Oct. 28, 1969.

COMPUT-R-FLOR

For Pile Vinyl Floor Covering (Int. Cl. 27).
First use Sept. 9, 1969.

SN 344,186. Guilford Mills, Inc., Greensboro, N.C. Filed Nov. 21, 1969.

INTIMA

For Nylon Tricot Fabrics for Apparel (Int. Cl. 24).
First use Oct. 5, 1969.

SN 344,635. Kinetic Knitting Mills, Inc., New York, N.Y. Filed Nov. 26, 1969.



For Knitted Goods for Making Into Wearing Apparel and Home Furnishings for Industrial Uses (Int. Cl. 24).
First use May 19, 1969.

SN 359,782. Deering Milliken, Inc., New York, N.Y. Filed May 15, 1970.

VENTANA

Owner of Reg. No. 592,787.
For Upholstery Fabrics of Wool, Cotton and Synthetic Fibers and Combinations Thereof (Int. Cl. 24).
First use May 7, 1970.

Class 44 — Dental, Medical, and Surgical Appliances

SN 287,283. Dental Dynamics Inc., Coral Gables, Fla. Filed Dec. 20, 1967.

DENTAL DYNAMICS

The word "Dental" is disclaimed apart from the mark as shown.

For Dental, Medical and Surgical Appliances—Namely, a Gnathic Relator Device for Use by Dentists in the Fitting of Dentures (Int. Cl. 10).

First use Oct. 2, 1967.

SN 290,320. The Pelvic Anchor Corporation, Rochester, N.Y. Filed Feb. 5, 1968.

PELVIC ANCHOR

For Surgical and X-Ray Table Accessories—Namely, Unilateral Traction and Counter-Traction Units, Leg Supports, and Vacuum Placement Cups (Int. Cl. 10).

First use September 1951, on unilateral traction and counter-traction units.

SN 325,122. Concept Inc., St. Petersburg, Fla. Filed Apr. 21, 1969.

concept

For Dental, Medical and Surgical Appliances—Namely, Hand Drills, Disposable Flashlights, Eye Burrs, Skin Graft Expanders, Cauteries, Nerve Locator Stimulators (Int. Cl. 10).

First use Oct. 31, 1963.

SN 325,487. Howmet Corporation, New York, N.Y. Filed Apr. 24, 1969.

COPYCAST

For Dental Equipment and Materials—Namely, Duplicating Material for Making Dentures (Int. Cl. 5).

First use January 1965.

SN 329,437. Centre d'Etudes et de Diffusion des Implants Aiguilles, Paris, France. Filed June 9, 1969.

CEDIN

For Dental Fillings and Caps (Int. Cl. 5).

First use Oct. 31, 1962; in commerce Jan. 20, 1963.

SN 343,704. Hanau Engineering Co., Inc., Buffalo, N.Y. Filed Nov. 17, 1969.

LTD

For Dental Articulators (Int. Cl. 10).

First use Sept. 15, 1969.

SN 344,151. Sybron Corporation, Rochester, N.Y. Filed Nov. 20, 1969.

UNILASTIC

For Impression Materials for Dental Use (Int. Cl. 5).

First use Aug. 27, 1969.

Class 45 — Soft Drinks and Carbonated Waters

SN 349,132. The Coca-Cola Company, Atlanta, Ga. Filed Jan. 21, 1970.

SUGARBUSH

For Grape Flavored Soft Drink and Syrup for Making Same (Int. Cl. 32).

First use Jan. 12, 1970.

SN 360,656. Royal Crown Cola Co., Columbus, Ga. Filed May 25, 1970.

AFICIONADO

For Soft Drinks (Int. Cl. 32).

First use May 6, 1970.

Class 46 — Foods and Ingredients of Foods

SN 318,188. Tom E. Hays, d.b.a. Tom Hays and Associates, Enid, Okla. Filed Feb. 3, 1969.

Johnny O

For Barbeque Sauce (Int. Cl. 30).

First use Dec. 15, 1968.

Subj. to Intf. with SN 331,280.

SN 324,283. Earl of Sandwich, Inc., Baltimore, Md. Filed Apr. 11, 1969.

Earl of Sandwich



The word "Sandwich" is disclaimed apart from the mark as shown. The name shown in the drawing does not represent a particular live person.

For Sandwiches, Such as Roast Beef, Corned Beef, Ham, Pastrami, Hot Dogs, and the Like (Int. Cl. 29).

First use on or about Aug. 13, 1968.

Subj. to Intf. with SN 320,253 and SN 320,463.

SN 325,636. Universal Foods Corporation, Milwaukee, Wis. Filed Apr. 25, 1969.

PIZZA'S PAL

Applicant disclaims the word "Pizza's" apart from the mark shown, but does not waive any common law rights in the mark shown or any feature thereof.

For Cheese (Int. Cl. 29).

First use in or about December 1951.

Subj. to Intf. with SN 329,381.

SN 342,743. Henri's Food Products Company, Inc., d.b.a. Henri's Food Products, Milwaukee, Wis. Filed Nov. 5, 1969.

1001 ISLAND DRESSING

No claim is made to the word "Dressing" apart from the mark as shown.

For Salad Dressing (Int. Cl. 29).

First use Oct. 8, 1969.

SN 346,316. A. E. Staley Manufacturing Company, Decatur, Ill. Filed Dec. 15, 1969.

MIRA-CREME

Owner of Reg. Nos. 55,577 and 55,578.

For Food Starch (Int. Cl. 30).

First use Nov. 21, 1969.

SN 346,701. Roadel Foods, Inc., New York, N.Y. Filed Dec. 19, 1969.

ROADEL

For Canned Fish, Canned Vegetables, and Canned Fruits (Int. Cl. 29).

First use at least as early as 1945.

SN 349,929. Pet Incorporated, St. Louis, Mo. Filed Jan. 29, 1970.

INSTINCT

For Flavored Milk Based Cooking Sauces (Int. Cl. 29).

First use Jan. 23, 1970.

SN 350,648. Carter-Wallace, Inc., New York, N.Y. Filed Feb. 6, 1970.

FOOD FOR THOUGHT

Applicant disclaims exclusive right to the word "Food" apart from the mark as shown.

For Imitation Mayonnaise (Int. Cl. 29).

First use Jan. 20, 1970.

SN 351,674. H. C. Brill Company, Inc., Cedar Grove, N.J. Filed Feb. 18, 1970.

Brill Quality-Approved Bakers' Ingredients

The words "Quality-Approved" and "Bakers' Ingredients" are disclaimed apart from the mark as shown. The drawing is lined for red. Owner of Reg. Nos. 528,448, 880,963, and others.

For Products and Ingredients for Use in the Making of Bread, Rolls, Coffee Cakes, Cakes, Cookies, Pies, Pastries, and the Like—Namely, Baking Powder; Imitation Whipped Cream Powder; Prepared Cake Mixtures; Emulsifiers; Stabilizers; Fruit, Custard Cream, Butter Cream, Nut, Starch, and Chocolate and Other Flavored Fillings, Frostings and Icings and Bases for Making the Same; Fudge for Making Fillings, Frostings or Icings; Whipping Agents of the Emulsifier, Vegetable Gum, and Mineral Salt Types and Combinations Thereof; Spice and Apple Sauce Cake Base Compound; Flavors in Liquid, Paste or Powder Form for Use in Flavoring of Icings, Fillings, Cake, Sweet Dough and Bread; Pan Grease; Powder for Making Meringue and Marshmallow Toppings; Fermentation Base Used in Making Breads, Rolls, Donuts, Sweet Dough, and All-Yeast Leavened Products; and Bases for Making Sour Dough Bakery Products (Int. Cl. 30).

First use Feb. 18, 1966, on base for making fillings for pastries.

SN 351,675. John T. Brueggeman, d.b.a. Vita Guard Enterprises, Deerfield, Ill. Filed Feb. 18, 1970.

VITA GUARD

For Dog Food (Int. Cl. 30).

First use Apr. 24, 1969.

SN 352,467. Gainsborough International (Spain), S.A., Torremolinos, Malaga, Spain. Filed Feb. 26, 1970.

BOLERO

For Canned Tomatoes, Pimientos, Apricots, and Artichoke Hearts (Int. Cl. 29).

First use 1933; in commerce 1933.

SN 352,509. The Oxford Corporation, Oxford, Pa. Filed Feb. 26, 1970.

STAR CHEF

For Canned Mushrooms and Frozen Prepared Mushrooms (Int. Cl. 29).

First use Sept. 3, 1969.

SN 352,510. The Oxford Corporation, Oxford, Pa. Filed Feb. 26, 1970.

COLONIAL FARMS

For Canned Mushrooms (Int. Cl. 29).

First use Sept. 3, 1969.

SN 352,683. TV Time Foods, Inc., Chicago, Ill. Filed Feb. 27, 1970.

DIDDLY DOO

For Prepopped Popcorn and Flavoring Material—Namely, Caramel Flavoring (Int. Cl. 30).
First use Jan. 29, 1970.

SN 357,564. Pet Incorporated, St. Louis, Mo. Filed Apr. 22, 1970.

DOWNYFLAKE

Owner of Reg. Nos. 516,621 and 764,401.
For Frozen Fruit Pies, Waffles, Pancakes, French Toast, Muffins, Honey Buns, Sweet Rolls, Enriched Rolls, Cinnamon Bread, French Rolls, Potato Pancakes, Unbaked Pie Shells, and Apple Dumplings (Int. Cl. 30).
First use Nov. 3, 1920.

SN 360,274. Lever Brothers Company, New York, N.Y. Filed May 20, 1970.

HEARTLINE

For Margarine (Int. Cl. 29).
First use Apr. 29, 1970.

SN 360,275. Lever Brothers Company, New York, N.Y. Filed May 20, 1970.

LIFETIME

For Margarine (Int. Cl. 29).
First use Apr. 29, 1970.

SN 360,413. DCA Food Industries Inc., New York, N.Y. Filed May 21, 1970.

MAGIC CARROUSEL

For Griddle Cake, Donut, and Breading Mixes (Int. Cl. 30).
First use Apr. 13, 1970.

SN 360,424. Thomas J. Lipton, Inc., Englewood Cliffs, N.J. Filed May 21, 1970.

LIPTON

Owner of Reg. Nos. 505,985 and 826,202.
For Iced Coffee Mix (Int. Cl. 30).
First use May 1, 1970.

Class 47 — Wines

SN 325,588. Dufouleur Freres, Nuits-Saint-Georges, Cote d'Or, France. Filed Apr. 25, 1969.

DUFOULEUR FRÈRES

For Wines (Int. Cl. 33).
First use 1933; in commerce 1959.

SN 328,462. Taylor, Fladgate & Yeatman-Vinhos S.A.R.L., Vila Nova de Gaia, Oporto, Portugal. Filed Mar. 9, 1970.

MONTARIA

"Montaria" may be translated "mounted hunt." Owner of Portuguese Reg. No. 149,125, dated Nov. 3, 1969.
For Wines (Int. Cl. 33).

SN 333,834. Hermann Kendermann, Wiesbaden, Germany. Filed July 29, 1969.

Ondine

Owner of U.S. Reg. No. 887,243.
For Wines (Int. Cl. 33).
First use Apr. 1, 1968; in commerce Sept. 1, 1968.

Class 49 — Distilled Alcoholic Liquors

SN 318,443. Mediterranean Importing Co., Inc., Long Island City, N.Y. Filed Feb. 5, 1969.

PATRICIAN

For Liqueurs (Int. Cl. 33).
First use Dec. 16, 1968.

SN 325,059. Mediterranean Importing Co., Inc., Long Island City, N.Y. Filed Apr. 21, 1969.

PATRIGIAN

For Liqueurs (Int. Cl. 33).
First use Dec. 17, 1968.

SN 333,304. Seguin & Co., Machecoul, Loire-Atlantique, France. Filed July 23, 1969.

SEGUIN

No claim is made to the representation of the three stars apart from the mark as shown. Owner of French Reg. No. 14,616, dated Oct. 26, 1964 (Cognac); Natl. Inst. No. 236,888 and Reg. No. 774,699.
For Brandy (Int. Cl. 33).

SN 339,018. Charles Jacquin et Cie., Inc., d.b.a. Coventry Distillers Company, Philadelphia, Pa. Filed Sept. 26, 1969.

COVENTRY

For Scotch Whiskey (Int. Cl. 33).
First use Aug. 11, 1969.

SN 345,065. Crown Distillers Limited, London, England. Filed Dec. 2, 1969.

KOH-I-NOOR

Priority claimed under Sec. 44(d) on British Reg. No. 943,500, dated June 3, 1969.
For Vodka (Int. Cl. 33).

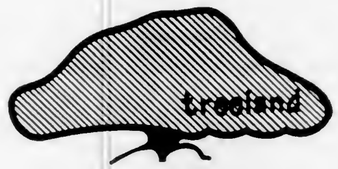
Class 50 — Merchandise Not Otherwise Classified

SN 317,340. Griffolyn Co., Inc., Houston, Tex. Filed Jan. 23, 1969.

MOB-L-WRAP

For Reinforced Plastic Tarpaulins Especially Adapted for Wrapping Mobile Homes (Int. Cl. 22).
First use at least as early as Dec. 17, 1968.

SN 319,691. Boething Treeland Nursery Co., Woodland Hills, Calif. Filed Feb. 20, 1969.



The drawing is lined for the color green but no claim is made to color.
For Statues, Statuettes, Figurines, Animal Figures, Artificial Fruits, and Sculptures (Int. Cls. 20 and 26).
First use at least as early as June 1960.

Class 51 — Cosmetics and Toilet Preparations

SN 308,669. Amway Corporation, Ada, Mich. Filed Oct. 2, 1968.

Touché'

For Colognes and Perfumes (Int. Cl. 3).
First use on or about Aug. 26, 1968.
Subj. to Intf. with SN 337,544.

SN 348,928. Foremost-McKesson, Inc., d.b.a. McKesson Laboratories, New York, N.Y. Filed Jan. 19, 1970.

Anti-Plus

For Anti-Perspirant Plus Deodorant (Int. Cl. 5).
First use at least as early as Jan. 7, 1970.

SN 353,081. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Mar. 4, 1970.

RATED G

For Men's Cologne (Int. Cl. 3).
First use Jan. 12, 1970.
Subj. to Intf. with SN 356,928.

SN 353,082. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Mar. 4, 1970.

RATED R

For Men's Cologne (Int. Cl. 3).
First use Jan. 12, 1970.
Subj. to Intf. with SN 356,928.

SN 353,083. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Mar. 4, 1970.

RATED M

For Men's Cologne (Int. Cl. 3).
First use Jan. 12, 1970.
Subj. to Intf. with SN 356,928.

SN 357,896. Mark Allen Co., Detroit, Mich. Filed Apr. 27, 1970.

7:45

For Tooth Polish (Int. Cl. 3).
First use Apr. 8, 1970.

Class 52 — Detergents and Soaps

SN 326,286. Bio Span Industries, Los Angeles, Calif. Filed May 5, 1969.

FRESH HAIR

The word "Hair" is disclaimed apart from the mark as shown.
For Hair Shampoo (Int. Cl. 3).
First use Apr. 10, 1969.
Subj. to Intf. with SN 325,163.

SN 334,824. Elizabeth Arden Sales Corporation, d.b.a. Elizabeth Arden, New York, N.Y. Filed Aug. 8, 1969.

RED DOOR

For Hand, Face, and Body Soaps (Int. Cl. 3).
First use 1960.

SN 349,310. Armour-Dial, Inc., Chicago, Ill. Filed Jan. 22, 1970.

COCOPLEXION

For Toilet Soap (Int. Cl. 3).
First use on or prior to Dec. 30, 1969.

SN 349,312. Armour-Dial, Inc., Chicago, Ill. Filed Jan. 22, 1970.

COCOLA

For Toilet Soap (Int. Cl. 3).
First use on or prior to Dec. 30, 1969.

SERVICE MARKS

Class 100 — Miscellaneous

SN 284,774. Wienerwald Third Avenue, Inc., New York, N.Y., by change of name from Wienerwald at the Walldorfkeller, Inc., New York, N.Y. Filed Nov. 13, 1967.

Wienerwald

Translation of the word "Wienerwald" is "Vienna woods."
For Restaurant Services (Int. Cl. 42).
First use Apr. 25, 1964.

SN 284,775. Wienerwald Third Avenue, Inc., New York, N.Y., by change of name from Wienerwald at the Walldorfkeller, Inc., New York, N.Y. Filed Nov. 13, 1967.



The mark is stippled for purposes of shading only and does not indicate color. The representation of a chicken apart from the mark as shown is disclaimed. Translation of the word "Wienerwald" is "Vienna woods."
For Restaurant Services (Int. Cl. 42).
First use Apr. 25, 1964.

SN 291,066. Gollob Analytical Service Corp., Berkeley Heights, N.J., assignee of Gollob Analytical Service, Inc., Berkeley Heights, N.J. Filed Feb. 14, 1968.



Applicant disclaims the term "Gas" apart from the mark as a whole, without waiving any of its common law rights therein.
For Analyzing Gas and Gas Systems by Means of Mass Spectrometry and Gas Chromotography and the Detection of Leaks in Gas Systems (Int. Cl. 42).
First use September 1964.

SN 295,176. Robin Products Company, Warren, Mich. Filed Apr. 8, 1968.

RPC

For Engineering Consultation and Product Development Services Relating to Fasteners for Industrial Applications (Int. Cl. 42).
First use Jan. 31, 1964.

SN 302,136. Farmer's Daughter, Inc., Evansville, Ind., by merger from Sir Beef Industries, Inc., Evansville, Ind. Filed July 5, 1968.

FARMER'S DAUGHTER

For Restaurant Services (Int. Cl. 42).
First use 1940.

SN 304,359. Litchfield Park Properties, Litchfield Park, Ariz. Filed Aug. 5, 1968.

Litchfield Park

The term "Park" is disclaimed apart from the mark as shown.
For Residential, Commercial and Industrial Land Development for Others (Int. Cl. 42).
First use Oct. 9, 1966.

SN 309,952. Big Scoop International, Inc., Dallas, Tex. Filed Oct. 18, 1968.



Without prejudice to any common law rights, the words "Big Scoop Ice Cream" and "36 Exotic Sundaes," and the representation of the ice cream cone are disclaimed apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use Sept. 15, 1968.

SN 313,185. Micron, Incorporated, Wilmington, Del. Filed Nov. 27, 1968.



Applicant disclaims the word "Incorporated" apart from the mark as shown.
For Qualitative and Quantitative Micro-Analysis Using Electron and X-Ray Spectroscopy (Int. Cl. 42).
First use Mar. 18, 1967.

SN 314,635. Ultrachem Corporation, Walnut Creek, Calif. Filed Dec. 16, 1968.



For Chemical Laboratory Services (Int. Cl. 42).
First use July 19, 1968.

SN 314,816. The People-To-People Health Foundation, Inc., Washington, D.C. Filed Dec. 18, 1968.

PROJECT HOPE

Owner of Reg. Nos. 575,511, 757,512, and 757,513.
For Health and Medical Services Provided Without Charge to People of Other Countries On and From a Floating Hospital and Clinic and Medical Teaching Center (Int. Cl. 42).
First use on or about Oct. 1, 1968.

SN 325,528. Farm Bureau Services, Inc., Lansing, Mich. Filed Apr. 24, 1969.

PLAN-A-YIELD

For Agronomy Services Featuring Specialized Information for Farmers' Crop Yield, Fertilizing, Plant Patterns, Control for Pests and the Like (Int. Cl. 42).
First use Jan. 1, 1968.

SN 329,381. Pizza Pal, Inc., Thomaston, Conn. Filed June 6, 1969.

PIZZA PAL

Applicant makes no exclusive claim to the word "Pizza" apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use July 21, 1967.
Subj. to Intf. with SN 325,636.

SN 330,591. Dippy Donuts, Inc., Omaha, Nebr. Filed June 20, 1969.



Applicant disclaims the term "Donuts" apart from the mark as shown.
For Restaurant and Catering Services (Int. Cl. 42).
First use at least as early as Oct. 3, 1965.

SN 332,812. Dialog Computing, Inc., Fairfield, Conn. Filed July 17, 1969.

DIALOG

For Computer Time-Sharing Services (Int. Cl. 35).
First use December 1968.

SN 333,898. William A. Barnes, d.b.a. Barnacle Bill's, Erie, Pa. Filed July 30, 1969.



For Restaurant Services (Int. Cl. 42).
First use 1939.
Subj. to Intf. with SN 329,596.

SN 334,661. Howard Worthington, Inc., Elk Grove, Ill. Filed Aug. 6, 1969.



For Rental of Construction Equipment (Int. Cl. 42).
First use Apr. 1, 1969.

SN 334,705. Forum Restaurants, Inc., Kansas City, Mo. Filed Aug. 7, 1969.

FORUM CAFETERIA

The term "Cafeteria" is disclaimed apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use during 1928.

SN 335,010. Forum Restaurants, Inc., Kansas City, Mo. Filed Aug. 11, 1969.



For Restaurant Services (Int. Cl. 42).
First use Oct. 1, 1962.

SN 335,076. The Thin Man, Incorporated, New Haven, Conn. Filed Aug. 11, 1969.



For Preparing, Serving and Dispensing Food, Beverages, and Drinks in Restaurants (Int. Cl. 42).
First use Aug. 7, 1969.

SN 336,901. Scientific Time Sharing Corporation, Washington, D.C. Filed Sept. 3, 1969.

APL PLUS

For Computer Time Sharing Services (Int. Cl. 35).
First use July 18, 1969.

SN 340,058. Albert Urbina, d.b.a. Fat Albert's Fried Chicken, Lafayette, La. Filed Oct. 7, 1969.



No claim is made to the wording "Fried Chicken."
For Restaurant Services (Int. Cl. 42).
First use Sept. 6, 1969; June 11, 1969, as to "Fat Albert's Fried Chicken."

SN 347,377. Interstate United Corporation, Chicago, Ill. Filed Dec. 30, 1969.



For Restaurant Services (Int. Cl. 42).
First use Aug. 29, 1969.

SN 352,474. Hungry Fisherman, Indian Rocks Beach, Fla. Filed Feb. 26, 1970.

HUNGRY FISHERMAN

For Restaurant Services (Int. Cl. 42).
First use Feb. 25, 1969.
Subj. to Intf. with SN 348,350 and SN 351,730.

SN 358,657. Food Facilities Management Corporation, Chicago, Ill. Filed May 4, 1970.

JEREMY'S

For Restaurant Services (Int. Cl. 42).
First use Nov. 1, 1969.

SN 359,064. TCR Service, Inc., Englewood Cliffs, N.J. Filed May 7, 1970.

TRADEMARK TRACER

Applicant disclaims the word "Trademark" apart from the mark as shown. Owner of Reg. No. 872,595.
For Searching Service (Int. Cl. 42.)
First use on or about Apr. 10, 1970.

Class 101 — Advertising and Business

SN 275,528. Innovations & Inventions, Inc., d.b.a. Innoventions, Hicksville, N.Y. Filed July 7, 1967.

INNOVENTIONS

For Analyzing the Problems of Business Firms and Suggesting Feasible Means or Means by Which To Solve Them (Int. Cl. 35).
First use Apr. 14, 1967.

SN 287,265. Anglo American Aviation Company, North Hollywood, Calif. Filed Dec. 20, 1967.



For Manufacturer's Representative in the Field of Aircraft and Missile Parts and Components (Int. Cl. 35).
First use Jan. 1, 1967.

SN 311,308. John G. Sessoms, d.b.a. Adtek Associates, Palo Alto, Calif. Filed Nov. 4, 1968.

ADTEK

For Manufacturer's Representative in the Fields of Electronics, Geophysics, and Optics (Int. Cl. 35).
First use June 1964.
Subj. to Intf. with SN 309,003.

SN 322,301. Kampgrounds of America, Inc., Billings, Mont. Filed Mar. 20, 1969.

IF IT'S A KOA . . . IT'S A-OK!

Owner of Reg. No. 781,522.
For Aid in the Establishment and Operation of Campsites for Others (Int. Cl. 35).
First use March 1968.

SN 324,377. Jack Lawton Webb, d.b.a. International Shows, Joplin, Mo. Filed Apr. 14, 1969.

INTERNATIONAL SHOWS



For Antique Dealers and Buyers in the Promotion and Management of Antique Shows (Int. Cl. 35).
First use in or before 1962.

SN 326,737. Alexandria Board of Trade, Alexandria, Va. Filed May 8, 1969.



The drawing illustrates a silhouette profile of George Washington. The drawing is lined for red or pink but color is not claimed as a feature of the mark.
For Providing Advertising Services for Tourist Sites and Facilities and for Association Services—Namely, Promoting Business and Tourism in the Area of Alexandria, Virginia, said Services Including Furnishing Information Relative to Historic Sites and Points of Interest of the American Heritage, Maps, Directions, and Advertisement of Tours, and All Types of Other Services Available to Tourists, and Other Type Information (Int. Cl. 35).
First use Mar. 26, 1969.

SN 329,736. Language and Systems Development, Inc., Newark, N.J. Filed June 11, 1969.



The mark consists of the letters "LSD" in fanciful form.
For Computer Programming Services (Int. Cl. 35).
First use Apr. 28, 1969.

SN 339,955. Farm Journal, Inc., Philadelphia, Pa. Filed Oct. 7, 1969.



Owner of Reg. No. 775,394.
For Marketing and Promotion of the Publications of Others (Int. Cl. 35).
First use Oct. 29, 1963.

SN 340,288. Stenocomp Incorporated, Silver Spring, Md. Filed Oct. 9, 1969.

STENOCOMP Inc.



For Stenographic Reporting and Transcribing; Computer Transcribed Reporting; Transcribing the Output of Shorthand Machines Through Translation by Computers; Providing Data Input Sub-Systems for Computer Information and Processing Systems (Int. Cl. 35).
First use August 1969; January 1969 as to "Stenocomp Inc."

SN 341,995. Payless Cashways, Inc., Iowa Falls, Iowa. Filed Oct. 29, 1969.



For Retail Building Materials Store Services (Int. Cl. 35).
First use at least as early as June 1957.

SN 342,070. Savecard Associated Enterprises, New Haven, Conn. Filed Oct. 29, 1969.



For Promoting the Sale of Goods and Services of Various Business Establishments by Arranging for Discounts To Be Given to Persons Identified by Cards Issued by Applicant (Int. Cl. 35).
First use on or about Sept. 17, 1969.

SN 359,961. Mars Bargainland, Inc., New Bedford, Mass. Filed May 18, 1970.



For Retail Department Store Services (Int. Cl. 35).
First use Mar. 13, 1970.

Class 102 — Insurance and Financial

SN 340,019. Inter-Monetary, Inc., St. Louis, Mo. Filed Oct. 7, 1969.

INTER-MONETARY

For Extending Credit Based Upon the Borrower's Equity in Real Estate (Int. Cl. 36).
First use May 1967.

Class 103 — Construction and Repair

SN 309,003. Adtek, Inc., Kansas City, Mo. Filed Oct. 7, 1968.

ADTEK

For Construction of Chemical, Gas, Petroleum and Cryogenic Processing Plants and Facilities to the Order of Others (Int. Cl. 37).
First use Aug. 1, 1968.
Subj. to Intf. with SN 311,308.

SN 337,236. Motorist Auto Care Inc., Minneapolis, Minn. Filed Sept. 8, 1969.



For Estimating Automotive Accident Damage and Automotive Repair Services—Namely, Automotive Frame Straightening Services (Int. Cl. 37).
First use July 24, 1969.

Class 104 — Communication

SN 330,860. TCI Tele-Communications Consultants, Inc., New York, N.Y. Filed June 24, 1969.



For Advice and Consultation in the Establishment and Operation of Communications Systems (Int. Cl. 38).
First use Oct. 1, 1967.

Class 105 — Transportation and Storage

SN 360,273. Instar, Inc., Wilmington, Mass. Filed May 20, 1970.

instar

For Records Storage and Retrieval Service (Int. Cl. 39).
First use Feb. 1, 1970.

Class 106 — Material Treatment

SN 300,203. Clifford J. Knight, Sharon, Pa. Filed June 11, 1968.

CERREFCO

For Application of Ceramic Paint to the Goods of Others (Int. Cl. 40).
First use June 22, 1967.

Class 107 — Education and Entertainment

SN 312,580. Famous Artists Schools, Inc., New York, N.Y. Filed Nov. 19, 1968.

CAREER DIRECTIONS

For Vocational Correspondence Courses in Office and Secretarial Skills (Int. Cl. 41).
First use Sept. 30, 1968.

SN 321,828. The Scottish Games Association of Delaware, Wilmington, Del. Filed Mar. 14, 1969.

DELAWARE HIGHLAND GATHERING

For Conducting of Games, Contests and Related Events (Int. Cl. 41).
First use October 1962.

SN 333,508. The Voice of Orange Empire, Inc., Ltd., Santa Ana, Calif. Filed July 25, 1969.

THE WEAVER SOUND

For Entertainment Services Rendered Through the Medium of a Radio Program Directed to the Adult Male/Female Audience and Consisting Primarily of Specially Selected Music (Int. Cl. 41).
First use May 1969.

SN 333,509. The Voice of Orange Empire, Inc., Ltd., Santa Ana, Calif. Filed July 25, 1969.

WEAVER APPROACH

For Entertainment Services Rendered Through the Medium of a Radio Program Directed to the Adult Male/Female Audience and Consisting Primarily of Specially Selected Music (Int. Cl. 41).
First use June 1968.

SN 352,709. American Child Centers, Inc., Nashville, Tenn. Filed Mar. 2, 1970.



For Daily Child Care Facilities Designed To Aid in the Development of the Personality and Intellect of Children (Int. Cl. 41).
First use Sept. 1, 1969.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 340,582. National Association of Plumbing-Heating-Cooling Contractors, Washington, D.C. Filed Oct. 13, 1969.

PHCC

For Indicating Membership in Applicant.
First use June 26, 1968.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

896,690. ISOCHEM. H-S Enterprises, Inc. MULTIPLE CLASS (Classes 1, 5, 6, 16, and 52). SN 299,124. Pub. 3-31-70. Filed 5-27-68.

896,691. EPICLON. Dainippon Ink Kagaku Kogyo Kabushiki Kaisha (Dainippon Ink & Chemicals, Inc.). SN 301,205. Pub. 6-2-70. Filed 6-24-68.

896,692. UNIWOOD. International Paper Company. SN 306,780. Pub. 6-2-70. Filed 9-6-68.

896,693. HUGHES HYBRIDS AND DESIGN. Hughes Hybrids, Inc. SN 311,369. Pub. 6-2-70. Filed 11-5-68.

896,694. RLS. Robert L. Shuffett. SN 339,380. Pub. 6-2-70. Filed 9-30-69.

Class 2 — Receptades

896,695. E-Z POUR. Gulf States Paper Corporation. SN 330,280. Pub. 6-2-70. Filed 6-17-69.

896,696. ANIMEALS. Maryland Cup Corporation. SN 348,560. Pub. 6-2-70. Filed 1-14-70.

896,697. GOLD-N-HOT. Zenith Specialty Bag Co., Inc. SN 349,034. Pub. 6-2-70. Filed 1-19-70.

896,698. AMF. American Machine & Foundry Company. SN 350,446. Pub. 6-2-70. Filed 2-4-70.

896,699. WESTERN WOODS. Germain's, Inc. SN 350,904. Pub. 6-2-70. Filed 2-9-70.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

896,700. MEETINGMASTER. Coniker Enterprises, Inc. MULTIPLE CLASS (Classes 3 and 37). SN 300,907. Pub. 6-2-70. Filed 6-20-68.

896,701. FLITE-RITE. Seward Luggage Manufacturing Company, Inc. SN 326,138. Pub. 4-7-70. Filed 5-1-69.

896,702. RED LION. Gail Leather Products, Inc. SN 329,848. Pub. 6-2-70. Filed 6-12-69.

Class 4 — Abrasives and Polishing Materials

896,703. TO-AIR. Tobey's Rasp Service Inc. MULTIPLE CLASS (Classes 4 and 23). SN 276,262. Pub. 6-2-70. Filed 7-18-67.

896,704. A (DESIGN). Amicon Corporation. MULTIPLE CLASS (Classes 5, 21, and 31). SN 304,845. Pub. 6-2-70. Filed 8-12-68.

Class 5 — Adhesives

896,690. (See Class 1 for this trademark.)

896,705. FORMULA 33. Plumbcraft Manufacturing Corporation. SN 325,381. Pub. 6-2-70. Filed 4-23-69.

Class 6 — Chemicals and Chemical Compositions

896,690. (See Class 1 for this trademark.)

896,706. BIOTEST AND DESIGN. Biotest Serum-Institut G.m.b.H. MULTIPLE CLASS (Classes 6, 18, 44, and 52). SN 287,998. Pub. 1-13-70. Filed 1-3-68.

896,707. VANSEAL CS. R. T. Vanderbilt Company, Inc. SN 313,751. Pub. 6-2-70. Filed 12-5-68.

896,708. GALVASEAL. R. H. Miller Company. SN 315,778. Pub. 6-2-70. Filed 1-3-69.

896,709. DOXOMEAN. Wyandotte Chemicals Corporation. SN 318,846. Pub. 6-2-70. Filed 2-10-69.

896,710. ASTROCON. Bison Corporation. SN 319,030. Pub. 6-2-70. Filed 2-13-69.

896,711. WEL-CHLOR. Cotey Chemical Corporation. SN 324,178. Pub. 6-2-70. Filed 4-10-69.

896,712. DENKA. Denki Kagaku Kogyo Kabushiki Kaisha. SN 324,334. Pub. 3-10-70. Filed 4-14-69.

896,713. KOBAN. Mallinckrodt Chemical Works. SN 324,924. Pub. 3-3-70. Filed 4-18-69.

896,714. CIBACRON PRONT. Ciba Limited. SN 326,348. Pub. 6-2-70. Filed 5-5-69.

896,715. CHEMOSOL. American Chemosol Corporation. SN 329,176. Pub. 6-2-70. Filed 6-4-69.

896,716. MUPCO. Hercules Incorporated. SN 329,860. Pub. 6-2-70. Filed 6-12-69.

896,717. HYGAS. Institute of Gas Technology. SN 342,590. Pub. 6-2-70. Filed 11-4-69.

896,718. CARE COAT. Cleaner Care, Inc. MULTIPLE CLASS (Classes 6 and 23). SN 345,743. Pub. 6-2-70. Filed 12-10-69.

Class 7 — Cordage

896,719. VELTEX. Berwick Industries Incorporated, by change of name from Berwick Textile Products Co., Inc. SN 330,705. Pub. 4-7-70. Filed 6-23-69.

Class 8 — Smokers' Articles, Not Including Tobacco Products

896,720. FIREBIRD. Colibri Corporation of America. SN 338,226. Pub. 6-2-70. Filed 9-18-69.

Class 10 — Fertilizers

896,721. VERDYOL. Betocel International Ltd. SN 328,614. Pub. 6-2-70. Filed 5-29-69.

896,722. AMDAL AND DESIGN. Abbott Laboratories. SN 339,407. Pub. 6-2-70. Filed 10-1-69.

Class 11 — Inks and Inking Materials

896,723. OSCAR. Pacific Industries, Inc. SN 324,217. Pub. 6-2-70. Filed 4-10-69.

Class 12 — Construction Materials

896,724. LITE-BEAMS. Urethane Fabricators, Inc., by merger from Am-Finn Sauna, Inc. SN 285,807. Pub. 6–2–70. Filed 11–29–67.

896,725. PRESTIGE. Lumaside, Inc. SN 290,501. Pub. 6–2–70. Filed 2–7–68.

896,726. DORIC. Unitec Products, Inc. SN 305,504. Pub. 6–2–70. Filed 8–19–68.

896,727. MISCELLANEOUS DESIGN. American Timber Homes, Inc. SN 323,076. Pub. 6–2–70. Filed 3–28–69.

896,728. LUMA TRIM. Aluminum Trim Company of America. SN 324,155. Pub. 6–2–70. Filed 4–10–69.

896,729. PERMA-FIT. Andersen Corporation. SN 324,997. Pub. 6–2–70. Filed 4–21–69.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

896,730. FAUCET MAGIC. Unipak, Inc. SN 320,880. Pub. 6–2–70. Filed 3–5–69.

896,731. TOWER. The Midland Metal Spinning Company Limited. SN 322,079. Pub. 5–12–70. Filed 3–18–69.

896,732. SANI-SHEEN. FMC Corporation. SN 323,282. Pub. 6–2–70. Filed 4–1–69.

896,733. ADS. Advanced Drainage Systems, Inc. SN 323,663. Pub. 6–2–70. Filed 4–4–69.

896,734. ERLAU ROCK-X13. Eisen-und Drahtwerk Erlau AG. SN 323,690. Pub. 6–2–70. Filed 4–4–69.

896735. ERLAU ROCK-SPECIAL. Eisen-und Drahtwerk Erlau AG. SN 323,692. Pub. 6–2–70. Filed 4–4–69.

896,736. ERLAU ROCK-SUPER. Eisen-und Drahtwerk Erlau AG. SN 323,694. Pub. 6–2–70. Filed 4–4–69.

896,737. SHELVES UNLIMITED. Rockware, Inc. MULTIPLE CLASS (Classes 13 and 32). SN 324,232. Pub. 6–2–70. Filed 4–10–69.

896,738. CRYSTAL QUEEN. Plumbcraft Manufacturing Corporation. SN 325,382. Pub. 6–2–70. Filed 4–23–69.

896,739. WATERSAVER AND DESIGN. Plumbcraft Manufacturing Corporation. SN 325,385. Pub. 6–2–70. Filed 4–23–69.

896,740. GC (DESIGN). Griswold Controls. SN 328,546. Pub. 3–17–70. Filed 5–28–69.

896,741. TIVOLI. Cathrineholm, Ltd. SN 345,304. Pub. 6–2–70. Filed 12–4–69.

896,742. ELECTRA MAGIC. Thetford Corporation. SN 345,692. Pub. 6–2–70. Filed 12–8–69.

Class 14 — Metals and Metal Castings and Forgings

896,743. CERMOTHERM. Metallwerk Plansee Aktiengesellschaft. SN 313,181. Pub. 2–10–70. Filed 11–27–68.

896,744. PORCELLOY. Alcan Aluminum Corporation. SN 332,678. Pub. 6–2–70. Filed 7–16–69.

896,745. INSPIROD. Inspiration Consolidated Copper Company. SN 343,286. Pub. 6–2–70. Filed 11–12–69.

Class 15 — Oils and Greases

896,746. LUBTEC MPL. The Standard Oil Company. SN 296,208. Pub. 12–2–69. Filed 4–22–68.

896,747. MISCELLANEOUS DESIGN. Acheson Industries, Inc. SN 312,171. Pub. 6–2–70. Filed 11–14–68.

896,748. PIT STOP AND DESIGN. Astro-Matic Lubricare, Inc. SN 332,181. Pub. 3–10–70. Filed 7–7–69.

896,749. CANDLE CABIN AND DESIGN. Candle Cabins of America, Inc. SN 338,468. Pub. 6–2–70. Filed 9–22–69.

896,750. INLAND. Southwest Georgia Oil Company, Inc. SN 340,287. Pub. 6–2–70. Filed 10–9–69.

896,751. DN 600. Continental Oil Company. SN 342,143. Pub. 6–2–70. Filed 10–30–69.

896,752. ECONOMIST. Percy Harms Corporation. SN 343,055. Pub. 6–2–70. Filed 11–10–69.

896,753. FARM-OYL. The Farm-Oyl Company. SN 351,073. Pub. 6–2–70. Filed 2–11–70.

Class 16 — Protective and Decorative Coatings

896,690. (See Class 1 for this trademark.)

896,754. TEBONY. Hayden Corporation West Springfield. SN 274,834. Pub. 6–2–70. Filed 6–27–67.

896,755. LIBERTY BELL STORES AND DESIGN. Liberty Bell Stores, Inc. SN 292,113. Pub. 6–2–70. Filed 2–28–68.

896,756. POLITEC. Politec International, S.A. SN 317,605. Pub. 6–2–70. Filed 1–27–69.

896,757. STANDOX. Dr. Kurt Herberts & Co. SN 321,720. Pub. 6–2–70. Filed 3–14–69.

896,758. RALLY. E. I. du Pont de Nemours and Company. SN 331,818. Pub. 3–3–70. Filed 7–7–69.

Class 17 — Tobacco Products

896,759. AROMA TIP. Bayuk Cigars Incorporated. SN 305,110. Pub. 11–18–69. Filed 8–14–68.

896,760. POLYVENT. Philip Morris Incorporated. SN 306,687. Pub. 3–3–70. Filed 9–5–68.

896,761. ERNTE 23. Reemtsma Cigarettenfabriken G.m.b.H. SN 318,821. Pub. 6–2–70. Filed 2–10–69.

896,762. DON CESAR. Havatampa Cigar Corporation. SN 320,950. Pub. 6–2–70. Filed 3–6–69.

896,763. HUMI-SOFT POUCH. R. J. Reynolds Tobacco Company. SN 327,794. Pub. 6–2–70. Filed 3–25–69.

896,764. BEECH-NUT. Lorillard Corporation. SN 327,829. Pub. 6–2–70. Filed 5–21–69.

Class 18 — Medicines and Pharmaceutical Preparations

896,706. (See Class 6 for this trademark.)

896,765. MISCELLANEOUS DESIGN. Philips Roxane, Inc. SN 279,331. Pub. 6–2–70. Filed 8–29–67.

896,766. CERUBIDINE. Societe des Usines Chimiques Rhone-Poulenc. SN 285,261. Pub. 12–24–68. Filed 11–20–67.

896,767. HYDROCARE. Allergan Pharmaceuticals. SN 315,526. Pub. 6–2–70. Filed 1–2–69.

896,768. C-T-B. The Upjohn Company. SN 317,402. Pub. 6–2–70. Filed 1–23–69.

896,769. ASCOR-B-SOL. Baxter Laboratories, Inc. SN 318,286. Pub. 6–2–70. Filed 2–4–69.

896,770. HEMOFIL. Baxter Laboratories, Inc. SN 318,287. Pub. 6–2–70. Filed 2–4–69.

896,771. LOMUDAL. Fisons Pharmaceuticals Limited. SN 325,859. Pub. 6–2–70. Filed 4–29–69.

896,772. GLOBULACTIN. Byk-Gulden Lomberg Chemische Fabrik G.m.b.H. SN 327,228. Pub. 6–2–70. Filed 5–14–69.

896,773. UROVALIDIN. Bracco Industria Chimica S.p.A. SN 327,352. Pub. 6–2–70. Filed 5–15–69.

896,774. M.S. PAK. Reid-Provident Laboratories Inc. SN 331,483. Pub. 2–24–70. Filed 7–1–69.

896,775. BENZEDREX. Smith Kline & French Laboratories. SN 340,742. Pub. 6–2–70. Filed 10–15–69.

896,776. NULCA. Carter-Wallace, Inc. SN 341,573. Pub. 6–2–70. Filed 10–24–69.

896,777. BORN FREE. Johnson & Johnson. SN 344,622. Pub. 4–7–70. Filed 11–26–69.

896,778. NUCON. Smith Kline & French Laboratories. SN 345,052. Pub. 4–7–70. Filed 12–2–69.

896,779. ENURETROL. Cooper Laboratories, Inc. SN 349,134. Pub. 6–2–70. Filed 1–21–70.

Class 19 — Vehicles

896,780. DRAW TITE. Hoover Ball and Bearing Company, assignee of Draw-Tite Company. SN 324,897. Pub. 6–2–70. Filed 4–18–69.

896,781. BRIDGESTONE 175 DUAL TWIN. Bridgestone Tire Company Limited. SN 329,795. Pub. 6–2–70. Filed 6–12–69.

896,782. MOTO BROUSSE AND DESIGN. Atelier Mecanique D'Alma Ltee (Ltd). SN 332,441. Pub. 6–2–70. Filed 7–14–69.

896,783. FLXIBLE. The Flxible Company. SN 332,471. Pub. 6–2–70. Filed 7–14–69.

896,784. IMTCO AND DESIGN. Iowa Mold Tooling Company, Inc. MULTIPLE CLASS (Classes 19 and 23). SN 334,163. Pub. 6–2–70. Filed 8–1–69.

896,785. CORONADO. Columbia Yacht Corporation. SN 344,819. Pub. 3–31–70. Filed 11–28–69.

896,786. SIX-PAC. Benson Industries, Inc. SN 345,790. Pub. 6–2–70. Filed 12–10–69.

Class 20 — Linoleum and Oiled Cloth

896,787. MURANO. Congoleum Industries, Inc. SN 322,044. Pub. 6–9–70. Filed 3–18–69.

896,788. FORTUNA. American Biltrite Rubber Co., Inc. SN 345,281. Pub. 6–2–70. Filed 12–4–69.

896,789. NIEU AMSTERDAM. American Biltrite Rubber Co., Inc. SN 345,282. Pub. 6–2–70. Filed 12–4–69.

Class 21 — Electrical Apparatus, Machines, and Supplies

896,704. (See Class 5 for this trademark.)

896,790. KRIMPTITE. ETC., Incorporated. SN 251,402. Pub. 6–2–70. Filed 8–1–66.

896,791. M AND G IN BLOCK AND CIRCLE. Etablissements Merlin & Gerin, Societe Anonyme. SN 282,449. Pub. 6–2–70. Filed 10–13–67.

896,792. WEED. General Dynamics Corporation. SN 300,580. Pub. 6–2–70. Filed 6–17–68.

896,793. 1/ONE. Superior Continental Corporation. SN 303,359. Pub. 6–2–70. Filed 7–22–68.

896,794. 1/1. Superior Continental Corporation. SN 303,361. Pub. 6–2–70. Filed 7–22–68.

896,795. ONE OVER ONE AND DESIGN. Superior Continental Corporation. SN 303,362. Pub. 6–2–70. Filed 7–22–68.

896,796. CRYDOMATIC. International Rectifier Corporation. SN 312,473. Pub. 6–2–70. Filed 11–18–68.

896,797. CRYDATROL. International Rectifier Corporation. SN 312,474. Pub. 6–2–70. Filed 11–18–68.

896,798. INDALLOY. Electronic Memories & Magnetics Corporation, assignee of Indiana General Corporation. SN 315,922. Pub. 6–2–70. Filed 1–6–69.

896,799. JEAN ROCHET. Jean Rochet Societe Anonyme. SN 317,619. Pub. 6–2–70. Filed 1–27–69.

896,800. KENNEDY & COHEN. Kennedy & Cohen, Inc. MULTIPLE CLASS (Classes 21, 24, 31, and 34). SN 318,429. Pub. 6–2–70. Filed 2–5–69.

896,801. ECONOCODER. Formulabs Industrial Inks, Incorporated. SN 322,159. Pub. 6–2–70. Filed 3–9–69.

896,802. FORUM. Fairchild Recording Equipment Corporation. SN 325,966. Pub. 6–2–70. Filed 4–30–69.

896,803. LDV AND DESIGN. LDV Electro Science Industries, Inc. SN 325,979. Pub. 6–2–70. Filed 4–30–69.

896,804. SUPER WEE-DUCTOR. Nytronics, Inc. SN 327,087. Pub. 6–2–70. Filed 5–12–69.

896,805. MU GUARD. Magnetics, Inc. SN 327,936. Pub. 6–2–70. Filed 5–21–69.

896,806. STEINERFILM. Steiner KG. SN 328,456. Pub. 6–2–70. Filed 5–27–69.

896,807. JI. Jennings Industries, Inc. SN 329,191. Pub. 6–2–70. Filed 6–5–69.

896,808. AQUA LINK. Boston Insulated Wire & Cable Co. SN 329,331. Pub. 6–2–70. Filed 6–6–69.

896,809. LECTRO-PRINT AND DESIGN. Lectro-Print, Inc. SN 330,155. Pub. 3–3–70. Filed 6–16–69.

896,810. VACPAC. Powerdyne Inc. SN 330,533. Pub. 6–2–70. Filed 6–19–69.

896,811. X X-ACT COPY AND DESIGN. X-Act Copy Corporation. SN 331,465. Pub. 6–2–70. Filed 6–30–69.

896,812. CONNECTRON INC. Connectron Incorporated. SN 331,670. Pub. 6–2–70. Filed 7–2–69.

896,813. AFCOA. Alumina Ferrite Corporation of America. SN 331,708. Pub. 6–2–70. Filed 7–3–69.

896,814. AFCOA AND DESIGN. Alumina Ferrite Corporation of America. SN 331,709. Pub. 6–2–70. Filed 7–3–69.

896,815. THERMOKRAFT. Allmanna Svenska Elektriska Aktiebolaget. SN 334,189. Pub. 6–2–70. Filed 8–1–69.

896,816. PERFECT PARTS PP AND DESIGN. Perfect Parts, Inc. SN 335,704. Pub. 6–2–70. Filed 8–19–69.

896,817. COLORMATIC. Fedtro, Inc. SN 341,978. Pub. 6–2–70. Filed 10–29–69.

896,818. AVS. Audio Visual Systems of America, Inc. SN 342,788. Pub. 6–2–70. Filed 11–6–69.

896,819. WINEGARD. Winegard Company. SN 343,610. Pub. 6–2–70. Filed 11–14–69.

Class 22 — Games, Toys, and Sporting Goods

896,820. JUMBO. Milton Bradley Company. SN 293,546. Pub. 6–2–70. Filed 3–18–68.

896,821. JARTS. R. B. Jarts, Inc. SN 318,964. Pub. 6–2–70. Filed 2–12–69.

896,822. SKARNEY. John Scarne Games, Inc. SN 322,348. Pub. 6–2–70. Filed 3–20–69.

896,823. GLO-STICKS. Kenner Products Company. SN 323,304. Pub. 6–2–70. Filed 4–1–69.

896,824. EASY CURL. Kenner Products Company. SN 323,318. Pub. 6–2–70. Filed 4–1–69.

896,825. LOVABLE LEGS. Kelmoore Industries, assignee of The Kelmon Company. SN 325,494. Pub. 6–2–70. Filed 4–24–69.

896,826. RAPCO ETC. AND DESIGN. Rapco, Inc. SN 326,686. Pub. 6–2–70. Filed 5–7–69.

896,827. MOHAWK. Columbia Industries, Inc. SN 326,852. Pub. 6–2–70. Filed 5–9–69.

896,828. BAD. Mattel, Inc. SN 337,230. Pub. 6–2–70. Filed 9–8–69.

896,829. VISION. Mattel, Inc. SN 337,231. Pub. 6–2–70. Filed 9–8–69.

896,830. DIEGO. Mattel, Inc. SN 337,233. Pub. 6–2–70. Filed 9–8–69.

896,831. WESTERN HERITAGE (DESIGN). Kusan, Inc. SN 351,761. Pub. 6–2–70. Filed 2–19–70.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

896,703. (See Class 4 for this trademark.)

896,718. (See Class 6 for this trademark.)

896,784. (See Class 19 for this trademark.)

896,832. DEEP STEAM. Deep Steam Extraction Ltd. SN 283,993. Pub. 10–15–68. Filed 11–2–67.

896,833. HERCULES GALION AND DESIGN. Peabody Galion Corporation, by change of name from Hercules Galion Products, Inc. SN 295,337. Pub. 6–2–70. Filed 4–10–68.

896,834. WORD PROCESSOR. Intercontinental Systems, Inc. SN 308,109. Pub. 6–2–70. Filed 9–24–68.

896,835. DUST-TEX. American Uniform Company. SN 311,810. Pub. 6–2–70. Filed 11–12–68.

896,836. COTTRELL. Harris-Intertype Corporation. SN 318,778. Pub. 6–2–70. Filed 2–10–69.

896,837. DEEP STEAM. Deep Steam Carpet Cleaners, Inc. SN 322,841. Pub. 10–21–69. Filed 3–26–69.

896,838. F FULGHUM AND DESIGN. Fulghum Enterprises, Inc. SN 323,096. Pub. 6–2–70. Filed 3–28–69.

896,839. HO-PAC AND DESIGN. Allied Steel & Tractor Products, Inc. SN 324,154. Pub. 6–2–70. Filed 4–10–69.

896,840. SP AND SOLDIER (DESIGN). Sentry Products, Inc. SN 326,137. Pub. 6–2–70. Filed 5–1–69.

896,841. MODURA. Modern Handling Systems. SN 327,037. Pub. 6–2–70. Filed 5–12–69.

896,842. QUADRAMATIC. Excellon Industries. SN 327,248. Pub. 6–2–70. Filed 5–14–69.

896,843. UBM. Universal Business Machines, Inc. SN 330,024. Pub. 6–2–70. Filed 6–13–69.

896,844. SOS. Nlerad Industries, Inc. SN 330,178. Pub. 4–14–70. Filed 6–16–69.

896,845. ATKINS ETC. AND DESIGN. Nicholson File Company. SN 330,616. Pub. 6–2–70. Filed 6–20–69.

896,846. TORINO. United Silver and Cutlery Company. SN 333,462. Pub. 6–2–70. Filed 7–24–69.

896,847. ADD+VISE. The Sheffield Twist Drill and Steel Company Limited. SN 333,607. Pub. 6–2–70. Filed 7–25–69.

896,848. TURBO-DOME. M & W Gear Company. SN 333,731. Pub. 6–2–70. Filed 7–28–69.

896,849. PORTERMATION. C. O. Porter Machinery Company. SN 334,741. Pub. 6–2–70. Filed 8–7–69.

896,850. PRUF-PAK AND DESIGN. Clark Equipment Company. SN 334,988. Pub. 6–2–70. Filed 8–11–69.

896,851. SWIBO. Wenger S.A. SN 335,631. Pub. 6–2–70. Filed 8–18–69.

896,852. COLISEUM. Oneida Ltd. SN 336,152. Pub. 6–2–70. Filed 8–25–69.

896,853. TOTAL TORQUE. Electro Engineering Products Co., Inc. SN 336,430. Pub. 6–2–70. Filed 8–27–69.

896,854. DIASINKER. Mitsubishi Electric Corporation. SN 338,853. Pub. 6–2–70. Filed 9–25–69.

896,855. LIFELINE. Mobile Drilling Company, Inc. SN 340,727. Pub. 6–2–70. Filed 10–15–69.

896,856. MOLE (DESIGN). McLaughlin Manufacturing Company. SN 343,577. Pub. 6–2–70. Filed 11–14–69.

896,857. MSL. MSL Industries, Inc. SN 345,477. Pub. 6–2–70. Filed 12–5–69.

896,858. TOBEY'S AND DESIGN. Tobey's Rasp Service, Inc. SN 346,782. Pub. 6–2–70. Filed 12–19–69.

Class 24 — Laundry Appliances and Machines

896,800. (See Class 21 for this trademark.)

896,859. BLACK BEAUTY. Ever-Ready Appliance Manufacturing Co. SN 345,319. Pub. 6–2–70. Filed 12–4–69.

896,860. BLACK PRIDE. Ever-Ready Appliance Manufacturing Co. SN 345,320. Pub. 6–2–70. Filed 12–4–69.

Class 26 — Measuring and Scientific Appliances

896,861. AS. Aden Supply Company. SN 297,016. Pub. 11–4–69. Filed 5–1–68.

896,862. CINEMARINE. Rebikoff Underwater Products, Inc., assignee of Dimitri Rebikoff. SN 309,100. Pub. 6–2–70. Filed 10–7–68.

896,863. SATEC. Satec Systems, Inc. SN 309,199. Pub. 1–20–70. Filed 10–9–68.

896,864. COMPUTEK. Computek, Inc. SN 312,565. Pub. 1–13–70. Filed 11–19–68.

896,865. HYCEL MARK X. Hycel Inc. SN 319,447. Pub. 6–2–70. Filed 2–18–69.

896,866. DYNAPAR. The Louis Allis Company. SN 321,374. Pub. 5–5–70. Filed 3–11–69.

896,867. LS (DESIGN). Laser Sciences, Inc. MULTIPLE CLASS (Classes 26 and 100). SN 329,404. Pub. 6–2–70. Filed 6–9–69.

896,868. DYNALCO. Dynalco Corporation. SN 332,927. Pub. 6–2–70. Filed 7–18–69.

896,869. OXYTIMER. Oxyair Engineering, Inc. SN 334,365. Pub. 6–2–70. Filed 8–4–69.

896,870. COMPUTERVISION. Computervision Corporation. SN 334,814. Pub. 6–2–70. Filed 8–8–69.

896,871. SCRIBE-PLEX. Custom Tool & Machine Co., Inc. SN 336,426. Pub. 6–2–70. Filed 8–27–69.

896,872. ORIENTER. Southwestern Industries, Inc. SN 340,436. Pub. 6–2–70. Filed 10–10–69.

896,873. VISUSQUARE. South Bend Tool & Die Co., Inc. SN 347,178. Pub. 6–2–70. Filed 12–29–69.

Class 27 — Horological Instruments

896,874. TRANSMATIC. Kabushiki Kaisha Hattori Tokeiten. SN 309,262. Pub. 6–2–70. Filed 10–9–68.

896,875. QUARTZ-CHRON. Longines-Wittnauer Watch Co., Inc. SN 333,277. Pub. 3–10–70. Filed 7–23–69.

Class 28 — Jewelry and Precious-Metal Ware

896,876. HALIFAX. Exclusive China Company, Inc. SN 324,432. Pub. 6–2–70. Filed 4–14–69.

896,877. ML & S (DESIGN). Big M, L and S Import & Export Company. SN 334,970. Pub. 3–17–70. Filed 8–11–69.

Class 29 — Brooms, Brushes, and Dusters

896,878. MOD. Modish Imports, Inc. MULTIPLE CLASS (Classes 29, 40, and 51). SN 314,159. Pub. 11–18–69. Filed 12–11–68.

896,879. MONICA SIMONE. Monica Simone Cosmetics, Inc. SN 341,705. Pub. 6–2–70. Filed 10–24–69.

Class 31 — Filters and Refrigerators

896,704. (See Class 5 for this trademark.)

896,800. (See Class 21 for this trademark.)

896,880. BENDIX AND DESIGN. The Bendix Corporation. SN 306,874. Pub. 6–2–70. Filed 9–9–68.

896,881. JANITOR DUMP. Henry Manufacturing Co., Inc. SN 329,981. Pub. 6–2–70. Filed 6–13–69.

896,882. VICTOR. Victor Equipment Company, by merger and change of name from Victor Equipment Company. MULTIPLE CLASS (Classes 31 and 34). SN 331,802. Pub. 6–2–70. Filed 7–7–69.

896,883. SUPER LIFE. Pako Corporation. SN 333,430. Pub. 6–2–70. Filed 7–24–69.

896,884. PURITAN. Puritan Industries, Inc. SN 354,264. Pub. 6–2–70. Filed 3–17–70.

Class 32 — Furniture and Upholstery

896,737. (See Class 13 for this trademark.)

896,885. SLYD-IN. Slyd-In Products. SN 298,824. Pub. 6–2–70. Filed 5–22–68.

896,886. ECLIPSE AND DESIGN. Eclipse Sleep Products Inc. SN 330,918. Pub. 6–2–70. Filed 6–25–69.

896,887. CAMBRIDGE. W. & J. Sloane, Inc. SN 336,718. Pub. 6–2–70. Filed 8–29–69.

896,888. MASTERCRAFT AND DESIGN. Mastercraft, Inc. SN 341,828. Pub. 6–2–70. Filed 10–27–69.

896,889. SOFETTE. La-Z-Boy Chair Company. SN 342,054. Pub. 6–2–70. Filed 10–29–69.

896,890. REVEAL. JG Furniture Company, Inc. SN 347,751. Pub. 6–2–70. Filed 1–5–70.

896,891. BED·A·MATIC. Lectrabed Corp. SN 348,668. Pub. 6–2–70. Filed 1–15–70.

896,892. HI-LO. Metalstand Company. SN 349,365. Pub. 6–2–70. Filed 1–22–70.

896,893. AIR GLIDE. Montgomery Ward & Co., Incorporated. SN 349,927. Pub. 6–2–70. Filed 1–29–70.

Class 34 — Heating, Lighting, and Ventilating Apparatus

896,800. (See Class 21 for this trademark.)

896,882. (See Class 31 for this trademark.)

896,894. BORWELD. Stoody Company. SN 281,325. Pub. 6–2–70. Filed 9–27–67.

896,895. GAZAL. L'Air Liquide, Société Anonyme pour l'Etude et l'Exploitation des Procédés Georges Claude. SN 281,900. Pub. 6–2–70. Filed 10–5–67.

896,896. ADAPTOPAK. Fedders Corporation. SN 304,082. Pub. 6–2–70. Filed 8–1–68.

896,897. BUSYBEE. Air Reduction Company, Incorporated. SN 319,791. Pub. 6–2–70. Filed 2–24–69.

896,898. ARVIN. Arvin Industries, Inc. SN 321,149. Pub. 6–2–70. Filed 3–10–69.

896,899. RANGE GUARD. American Enclosures Company. SN 321,449. Pub. 6–2–70. Filed 3–12–69.

896,900. WARMING CHEF. Magic Chef, Inc. SN 334,481. Pub. 6–2–70. Filed 8–5–69.

896,901. EDG E. D. GREEN CORP AND DESIGN. E. D. Green Corp. SN 334,926. Pub. 6–2–70. Filed 8–11–69.

896,902. CARNES. Wehr Corporation. SN 335,480. Pub. 6–2–70. Filed 8–15–69.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

896,903. STEEL GRIP. K-Line Tool Company. SN 302,501. Pub. 12–2–69. Filed 7–11–68.

896,904. BRAVA. J. C. Penney Company, Inc. SN 329,184. Pub. 6–2–70. Filed 6–3–69.

896,905. LXX. The Firestone Tire & Rubber Company. SN 341,377. Pub. 6–2–70. Filed 10–22–69.

Class 36 — Musical Instruments and Supplies

896,906. HELIGONKA. John F. Kuchar, d.b.a. John Kuchar Sales. SN 241,006. Pub. 6–2–70. Filed 1–17–66.

896,907. MR. JEW'S HARP. Thomas P. Bilyeu. SN 341,135. Pub. 6–2–70. Filed 10–20–69.

896,908. VISION. Flint West Production, Inc. SN 352,125. Pub. 6–2–70. Filed 2–24–70.

896,909. LITTLE DAVID AND DESIGN. Little David Record Co., Inc. SN 352,354. Pub. 6–2–70. Filed 2–25–70.

896,910. NOTABLE RECORDS. Notable Productions, Inc. SN 353,834. Pub. 6–2–70. Filed 3–12–70.

Class 37 — Paper and Stationery

896,700. (See Class 3 for this trademark.)

896,911. FRENCH ETC. AND DESIGN. French Paper Company. SN 302,313. Pub. 6–2–70. Filed 7–9–68.

896,912. SHELBY. GAF Corporation. SN 317,219. Pub. 6–2–70. Filed 1–22–69.

896,913. TI-BIND AND DESIGN. Thomas R. Smith. SN 321,290. Pub. 6–2–70. Filed 3–10–69.

896,914. BORDER. Top Flight Paper Products, Inc. SN 323,742. Pub. 6–2–70. Filed 4–4–69.

896,915. VUMARK. Vumark Industries, Inc. SN 324,855. Pub. 6–2–70. Filed 4–17–69.

896,916. VAGABOND. Vumark Industries, Inc. SN 324,950. Pub. 6–2–70. Filed 4–18–69.

896,917. LUXRI "10." Wisconsin Tissue Mills. SN 326,163. Pub. 6–2–70. Filed 5–1–69.

896,918. LUXRI-"15" AND DESIGN. Wisconsin Tissue Mills. SN 326,271. Pub. 6–2–70. Filed 5–2–69.

896,919. LAURENTIAN. Consolidated-Bathurst Limited. SN 330,981. Pub. 6–2–70. Filed 6–25–69.

896,920. Z-22. American Can Company. SN 330,087. Pub. 6–2–70. Filed 6–16–69.

896,921. VINTAGE. The Northwest Paper Company. SN 335,601. Pub. 6–2–70. Filed 8–18–69.

896,922. SILVER ORBIT. Maloney Enterprises, Inc. SN 348,480. Pub. 6–2–70. Filed 1–14–70.

896,923. GOLDEN ORBIT. Maloney Enterprises, Inc. SN 348,481. Pub. 6–2–70. Filed 1–14–70.

Class 38 — Prints and Publications

896,924. AMEX. American Stock Exchange. MULTIPLE CLASS (Classes 38 and 102). SN 290,569. Pub. 7–8–69. Filed 2–8–68.

896,925. COORDINATED AEROSPACE SUPPLIER EVALUATION CASE AND DESIGN. Aerojet-General Corporation. SN 305,294. Pub. 6–2–70. Filed 8–16–68.

896,926. FORMATTER. Hoskyns Systems Research Limited. SN 324,066. Pub. 6–2–70. Filed 4–9–69.

896,927. JOT N' SHOP. Shedd-Brown, Inc. SN 324,659. Pub. 6–2–70. Filed 4–16–69.

896,928. WORLD'S WHO'S WHO IN SCIENCE. Marquis-Who's Who, Inc. SN 326,112. Pub. 6–2–70. Filed 5–1–69.

896,929. THE GOOD NEWS OF TOMORROW'S WORLD. Ambassador College. SN 330,086. Pub. 6–2–70. Filed 6–16–69.

896,930. ALL CLEAR. All Clear Incorporated. SN 332,433. Pub. 6–2–70. Filed 7–14–69.

896,931. SCAN-A-TAB. Scan-A-Tab Systems, Inc. SN 333,186. Pub. 6–2–70. Filed 7–22–69.

896,932. IDEAS AND DESIGN. The Jewish Society of America, Inc. SN 334,090. Pub. 6–2–70. Filed 7–31–69.

896,933. MISCELLANEOUS DESIGN. The Walter Reade Organization, Inc. MULTIPLE CLASS (Classes 38 and 107). SN 337,611. Pub. 6–2–70. Filed 9–11–69.

896,934. CRITICAL PATHFINDER. Continental Oil Company. SN 338,135. Pub. 6–2–70. Filed 9–17–69.

896,935. EMBLEM EDITIONS. Charles Scribner's Sons. SN 338,438. Pub. 6–2–70. Filed 9–19–69.

896,936. THERAPEUTIC NOTES ILLUSTRATED. Parke, Davis & Company. SN 338,807. Pub. 6–2–70. Filed 9–24–69.

896,937. GOLDEN PRESS. Western Publishing Company, Inc. SN 338,827. Pub. 6–2–70. Filed 9–24–69.

896,938. THE TAMPA TRIBUNE. The Tribune Company. SN 341,296. Pub. 6–2–70. Filed 10–21–69.

896,939. ALASKA. Alaska Northwest Publishing Company. SN 341,500. Pub. 6–2–70. Filed 10–23–69.

896,940. THE DEALER OUTLOOK. Lion Uniform, Inc. SN 341,932. Pub. 6–2–70. Filed 10–28–69.

896,941. GEYER GUIDE AND DESIGN. Geyer Guides, Incorporated. SN 342,260. Pub. 6–2–70. Filed 10–31–69.

896,942. WORLD TRAVELER. Alexander Graham Bell Association for the Deaf, Inc. SN 342,393. Pub. 6–2–70. Filed 11–3–69.

896,943. CONTEXT. The Thomas More Association. SN 342,657. Pub. 6–2–70. Filed 11–4–69.

896,944. INNER CIRCLE. Ceco Publishing Company. SN 342,698. Pub. 6–2–70. Filed 11–5–69.

896,945. CAL-A-BAND. Brite Industries Inc. SN 343,074. Pub. 6–2–70. Filed 11–10–69.

896,946. COUNTRY LIVING IN THE WEST. Lane Magazine & Book Company. SN 343,218. Pub. 6–2–70. Filed 11–12–69.

896,947. EDUCATIONAL TECHNOLOGY. Educational Technology Publications, Inc. SN 343,959. Pub. 6–2–70. Filed 11–19–69.

896,948. "SLIDE-SHOWS." H. Clifton Morse & Associates, Inc. SN 345,843. Pub. 6–2–70. Filed 12–10–69.

896,949. SKIERS BIBLE. E. J. Delaney Corporation. SN 348,766. Pub. 6–2–70. Filed 1–16–70.

896,950. COMBINATOR AND DESIGN. Designware Industries, Inc. SN 348,909. Pub. 6–2–70. Filed 1–19–70.

896,951. CAG (DESIGN). Richard A. Hourigan, d.b.a. Casualty Adjuster's Guide. SN 349,076. Pub. 6–2–70. Filed 1–20–70.

896,952. GUEST GUIDE. Hawaii Universal Services, Ltd. SN 349,181. Pub. 6–2–70. Filed 1–21–70.

896,953. COLLEGE CHUCKLERS. College Seal & Crest Company, Inc. SN 349,422. Pub. 6–2–70. Filed 1–23–70.

896,954. SPIRITUAL VITAMINS. Ralph W. Neighbour. SN 349,498. Pub. 6–2–70. Filed 1–23–70.

896,955. ANTIQUARIAN BOOKMAN. Solomon M. Malkin. SN 349,989. Pub. 6–2–70. Filed 1–29–70.

896,956. THE FORECASTER. The Forecaster Publishing Company, Inc. SN 350,160. Pub. 6–2–70. Filed 1–28–70.

896,957. DI (DESIGN). Diversified Industries, Inc. SN 352,721. Pub. 6–2–70. Filed 3–2–70.

Class 39 — Clothing

896,958. THE GAZEBO AND DESIGN. The Gazebo, Inc. SN 316,427. Pub. 6–2–70. Filed 1–13–69.

896,959. VIBRATIONS. Robert-Walters Corp. SN 324,231. Pub. 6–2–70. Filed 4–10–69.

896,960. PICKLES. Robert P. Huffman. SN 324,459. Pub. 6–2–70. Filed 4–14–69.

896,961. SOF-EEZ BY DISPO. Dispoz-Sani Products, Ltd. SN 328,421. Pub. 6–2–70. Filed 5–27–69.

896,962. IMPERIAL WEAR NEW YORK. Imperial Outfitters To Large Men, Inc. SN 330,510. Pub. 6–2–70. Filed 6–19–69.

896,963. IMPERIAL WEAR NEW YORK. Imperial Outfitters To Large Men, Inc. SN 330,511. Pub. 6–2–70. Filed 6–19–69.

896,964. BIZET AND DESIGN. Bizet Imports, Limited. (New York corporation), by assignment and change of name from Bizet Imports, Limited, (Delaware corporation). SN 330,579. Pub. 6–2–70. Filed 6–20–69.

896,965. IRISH SQUIRES. Intercontinent Shoe Corporation. SN 333,275. Pub. 6–2–70. Filed 7–23–69.

896,966. SUPER WEMLON AND PIN DESIGN. Wembley, Inc. SN 334,656. Pub. 6–2–70. Filed 8–6–69.

896,967. LEE RIDERS AND DESIGN. The H. D. Lee Company, Inc. SN 336,579. Pub. 6–2–70. Filed 8–28–69.

896,968. SLUMBERAIRE. Slumbertogs, Inc. SN 338,187. Pub. 6–2–70. Filed 9–17–69.

896,969. INSTANT PANTY HOSE. U.S. Industries, Inc. SN 338,196. Pub. 5–12–70. Filed 9–17–69.

896,970. DANNY BOY. H. Nasshorn, Inc. SN 340,414. Pub. 6–2–70. Filed 10–10–69.

896,971. MISS EDWARDS. Edwards' Shoes, Inc. SN 341,896. Pub. 6–2–70. Filed 10–28–69.

896,972. ELYSIAN. The May Department Stores Company. SN 343,728. Pub. 6–2–70. Filed 11–17–69.

896,973. INVINCIBLE AND DESIGN. Spartans Industries, Inc. SN 344,448. Pub. 6–2–70. Filed 11–24–69.

896,974. DARBYS AND DESIGN. Hurd Shoe Company, Inc. SN 348,839. Pub. 6–2–70. Filed 1–19–70.

896,975. K (DESIGN). B. Kuppenheimer & Co., Inc. SN 348,840. Pub. 6–2–70. Filed 1–19–70.

896,976. ADOR-EASE. Joshua Lipman Corporation, d.b.a. Adorable Co. of California. SN 349,550. Pub. 6–2–70. Filed 1–26–70.

896,977. TRISSINE. Latest Trends, Inc. SN 350,184. Pub. 6–2–70. Filed 2–2–70.

Class 40 — Fancy Goods, Furnishings, and Notions

896,878. (See Class 29 for this trademark.)

896,978. MONICA SIMONE. Monica Simone Cosmetics, Inc. SN 342,324. Pub. 6–2–70. Filed 10–31–69.

896,979. HAIR FIRE THE COIFFURE OF LIGHT BY CURIEL. Curiel Products Corporation. SN 349,544. Pub. 6–2–70. Filed 1–26–70.

896,980. INSTA LOCK. Cournoyer Industries, Inc. SN 350,812. Pub. 6–2–70. Filed 2–9–70.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

896,981. FLOOR GUARD. Jefferson Surplus Sales Co. SN 322,668. Pub. 6–2–70. Filed 3–24–69.

896,982. PORALIN. Klopman Mills, Inc. SN 342,284. Pub. 6–2–70. Filed 10–31–69.

896,983. LUSTRE SHADOWS. Deering Milliken, Inc. SN 342,699. Pub. 6–2–70. Filed 11–5–69.

896,984. LACY DAISY. Deering Milliken, Inc. SN 347,682. Pub. 6–2–70. Filed 1–5–70.

896,985. ALL ABOARD. Deering Milliken, Inc. SN 347,683. Pub. 6–2–70. Filed 1–5–70.

896,986. MILLIKEN. Deering Milliken, Inc. SN 348,831. Pub. 6–2–70. Filed 1–19–70.

896,987. CHAMBALLOU. E. T. Barwick Industries, Inc. SN 349,102. Pub. 6–2–70. Filed 1–21–70.

896,988. CLASSIC TOUCH. E. T. Barwick Industries, Inc. SN 349,103. Pub. 6–2–70. Filed 1–21–70.

896,989. CONTEMPRA. E. T. Barwick Industries, Inc. SN 349,104. Pub. 6–2–70. Filed 1–21–70.

896,990. FASHIONWALL. E. T. Barwick Industries, Inc. SN 349,106. Pub. 6–2–70. Filed 1–21–70.

896,991. LUNARITE. E. T. Barwick Industries, Inc. SN 352,710. Pub. 6–2–70. Filed 3–2–70.

Class 43 — Thread and Yarn

896,992. ZEFSTAT. Dow Badische Company. SN 339,073. Pub. 6–2–70. Filed 9–29–69.

896,993. SPI AND DESIGN. Sheerspan Products, Inc. SN 349,806. Pub. 6–2–70. Filed 1–28–70.

Class 44 — Dental, Medical, and Surgical Appliances

896,706. (See Class 6 for this trademark.)

896,994. SORENSEN. Beam-Matic Hospital Supply, Inc. SN 325,281. Pub. 6–2–70. Filed 4–23–69.

896,995. CHEMIFLEX. Harold J. Searer, d.b.a. Searer Rubber Company. SN 325,515. Pub. 6–2–70. Filed 4–24–69.

Class 45 — Soft Drinks and Carbonated Waters

896,996. HYDE PARK AND DESIGN. Malone & Hyde, Inc. SN 342,751. Pub. 6–2–70. Filed 11–5–69.

896,997. CAPTAIN'S PARADISE. General Foods Corporation. SN 348,526. Pub. 6–2–70. Filed 1–14–70.

Class 46 — Foods and Ingredients of Foods

896,998. PETIT FOODS AND DESIGN. Geo. I. Petit, Inc. SN 290,321. Pub. 6–2–70. Filed 2–5–68.

896,999. YEE FU MEN AND DESIGN. Akira Abe, d.b.a. Ace Distributing Co. SN 293,677. Pub. 6–2–70. Filed 3–20–68.

897,000. CAPTAIN HAAB'S. Mexican Gulf Fisheries, Inc. SN 296,972. Pub. 6–2–70. Filed 4–30–68.

897,001. FUNNY FLASH CARDS. Topps Chewing Gum, Incorporated. SN 301,469. Pub. 6–2–70. Filed 6–26–68.

897,002. MESSING. Veroba Realty Corporation. SN 311,083. Pub. 6–2–70. Filed 10–31–68.

897,003. KONDITOREI RITZER AND DESIGN. Ritzer of Austria, Inc., assignee of Konditorei Ritzer, Inc. SN 311,277. Pub. 2–24–70. Filed 11–4–68.

897,004. CHARLIE. Star-Kist Foods, Inc. SN 315,113. Pub. 6–2–70. Filed 12–23–68.

897,005. PARKS. H. G. Parks, Inc. SN 315,954. Pub. 6–2–70. Filed 1–6–69.

897,006. BUTCHER BOY (DESIGN). Fearn International Inc., by change of name from Fearn Foods Inc. SN 317,331. Pub. 6–2–70. Filed 1–23–69.

897,007. U.S. U.S. Sugar Company, Inc. SN 319,403. Pub. 6–2–70. Filed 2–17–69.

897,008. BRENTWOOD. Royal City Foods Ltd. SN 321,986. Pub. 4–14–70. Filed 3–17–69.

897,009. MIRACLE. Miracle Pet Products, Inc. SN 322,895. Pub. 6–2–70. Filed 3–26–69.

897,010. F AND FANCIFUL FEMALE (DESIGN). The Fasweet Company. SN 324,059. Pub. 6–2–70. Filed 4–9–69.

897,011. NUTTY FINGERS. A. H. Robins Company, Incorporated. SN 325,394. Pub. 6–2–70. Filed 4–22–69.

897,012. DOUBLE R AND DESIGN. Runciman & Runciman. SN 325,780. Pub. 6–2–70. Filed 4–28–69.

897,013. BEEF CHEF. Burger Chef Systems, Inc. SN 325,955. Pub. 6–2–70. Filed 4–30–69.

897,014. MARTIAN. Heublein, Inc. SN 327,761. Pub. 6–2–70. Filed 5–20–69.

897,015. SUNRISE FRESH AND DESIGN. The Kroger Co. SN 327,930. Pub. 6–2–70. Filed 5–21–69.

897,016. KARP'S AND DESIGN. L. Karp & Sons, Inc. SN 328,306. Pub. 6–2–70. Filed 5–26–69.

897,017. MISCELLANEOUS DESIGN. Executive Chef, Inc. SN 328,682. Pub. 6–2–70. Filed 5–29–69.

897,018. NINA. Fleer Corp. SN 329,070. Pub. 6–2–70. Filed 6–4–69.

897,019. LA REGINA. Long Island Macaroni Co., Inc. SN 329,370. Pub. 6–2–70. Filed 6–6–69.

897,020. BUT-R-SALT AND DESIGN. James R. Kennedy, d.b.a. J. R. Kennedy & Co. SN 329,866. Pub. 6–2–70. Filed 6–12–69.

897,021. DEAR HEARTS. Four Star Candy Co., Inc. SN 330,126. Pub. 6–2–70. Filed 6–16–69.

897,022. TENDER-RITE. Albert M. Briggs Company. SN 330,348. Pub. 6–2–70. Filed 6–18–69.

897,023. VITA-CUP. Coleman & Company Limited. SN 330,548. Pub. 6–2–70. Filed 6–19–69.

897,024. HUNGRY JACK. The Pillsbury Company. SN 330,771. Pub. 6–2–70. Filed 6–23–69.

897,025. MISCELLANEOUS DESIGN. Taylor Food Products, Inc. SN. 330,963. Pub. 6–2–70. Filed 6–25–69.

897,026. BITE 'A BITS. Sternco Industries, Inc. SN 331,545. Pub. 6–2–70. Filed 7–1–69.

897,027. TROYER FARMS AND DESIGN. Troyer Potato Products, Inc. SN 331,555. Pub. 6–2–70. Filed 7–1–69.

897,028. CLINICARE. Pfizer Inc., by change of name from Chas. Pfizer & Co., Inc. SN 333,344. Pub. 6–2–70. Filed 7–24–69.

897,029. SMOKEHOUSE. California Almond Growers Exchange. SN 334,302. Pub. 4–14–70. Filed 8–4–69.

897,030. MAR-KES. Mar-Kes Foods. SN 336,064. Pub. 6–2–70. Filed 8–25–69.

897,031. AUNT JEMIMA HOMESTYLE. The Quaker Oats Company. SN 337,140. Pub. 6–2–70. Filed 9–5–69.

897,032. MORTON BREAKFAST RACK. Morton International, Inc. SN 338,727. Pub. 6–2–70. Filed 9–24–69.

897,033. TOOTSIE POP DROPS. Tootsie Roll Industries, Inc. SN 341,224. Pub. 6–2–70. Filed 10–20–69.

897,034. 5th SEASON. McCormick & Company, Incorporated. SN 341,333. Pub. 6–2–70. Filed 10–22–69.

897,035. FOUR LEAF CLOVERS. Kellogg Company. SN 341,396. Pub. 6–2–70. Filed 10–22–69.

897,036. NESCAFE GOLD. The Nestlé Company, Inc. SN 341,407. Pub. 6–2–70. Filed 10–22–69.

897,037. REGAL HARVEST. Delta Food Processing Corporation. SN 341,917. Pub. 6–2–70. Filed 10–28–69.

897,038. REDDI-EGG. Reddi-Wip, Inc. SN 341,944. Pub. 6–2–70. Filed 10–28–69.

897,039. ROMANO-CHIK. Pierce Pre-Cooked Foods, Inc. SN 342,892. Pub. 6–2–70. Filed 11–6–69.

897,040. HIP-CHIK. Pierce Pre-Cooked Foods, Inc. SN 342,893. Pub. 6–2–70. Filed 11–6–69.

897,041. COLORICOS. Philip Morris Incorporated. SN 344,135. Pub. 6–2–70. Filed 11–20–69.

897,042. SURFSTIX. Duffy-Mott Company, Inc. SN 344,225. Pub. 6–2–70. Filed 11–21–69.

897,043. ZOODLES. Borden, Inc. SN 344,321. Pub. 6-2-70. Filed 11-24-69.

897,044. TENDER-RITE. Albert M. Briggs Company. SN 345,060. Pub. 6-2-70. Filed 12-2-69.

897,045. EVANGELINE. International Minerals & Chemical Corporation. SN 351,377. Pub. 6-2-70. Filed 2-16-70.

897,046. MISCELLANEOUS DESIGN. Ralston Purina Company. SN 351,766. Pub. 6-2-70. Filed 2-19-70.

897,047. THE GRUMPY DOG AND DESIGN. Ralston Purina Company. SN 351,767. Pub. 6-2-70. Filed 2-19-70.

Class 47 — Wines

897,048. TORRES. Miguel Torres. MULTIPLE CLASS (Classes 47 and 49). SN 318,686. Pub. 6-2-70. Filed 2-7-69.

897,049. COLD PIGEON. Michigan Wineries, Inc. SN 324,298. Pub. 6-2-70. Filed 4-11-69.

897,050. COLD SWAN. Michigan Wineries, Inc. SN 324,301. Pub. 6-2-70. Filed 4-11-69.

897,051. LEJON WAIKIKI DUCK. United Vintners, Inc., d.b.a. Lejon Champagne Cellars. SN 338,498. Pub. 6-2-70. Filed 9-22-69.

897,052. PAUL MASSON. Paul Masson, Inc., d.b.a. Paul Masson Vineyards. SN 350,031. Pub. 6-2-70. Filed 1-30-70.

Class 49 — Distilled Alcoholic Liquors

897,048. (See Class 47 for this trademark.)

897,053. BUNNAHABHAIN. The Highland Distilleries Company Limited. SN 333,566. Pub. 6-2-70. Filed 7-25-69.

897,054. MASTER'S RARE. Glenmore Distilleries Company. SN 339,011. Pub. 6-2-70. Filed 9-26-69.

Class 50 — Merchandise Not Otherwise Classified

897,055. DECO-VIN. Litton Business Systems, Inc., by merger from Fitchburg Paper Company. SN 277,159. Pub. 5-20-69. Filed 7-31-67.

897,056. STAND-OUT. Heyer Inc. SN 340,919. Pub. 6-2-70. Filed 10-16-69.

Class 51 — Cosmetics and Toilet Preparations

896,878. (See Class 29 for this trademark.)

897,057. TANELL. Humphreys Medicine Company, Incorporated. SN 270,251. Pub. 4-2-68. Filed 4-28-67.

897,058. COBB & CO. Dupon Laboratories Pty. Limited. SN 294,267. Pub. 6-2-70. Filed 3-27-68.

897,059. EDGE. S. C. Johnson & Son, Inc. SN 313,705. Pub. 6-2-70. Filed 12-5-68.

897,060. CROWNING TOUCH. Clairol Incorporated, assignee of Colgate-Palmolive Company. SN 314,489. Pub. 5-6-69. Filed 12-16-68.

897,061. TOTIZO AND DESIGN. Totizo, Inc. SN 327,995. Pub. 6-2-70. Filed 4-24-69.

897,062. SAARLEO AND DESIGN. Totizo, Inc. SN. 327,996. Pub. 6-2-70. Filed 4-24-69.

897,063. GELIQUA AND DESIGN. Totizo, Inc. SN 327,997. Pub. 6-2-70. Filed 4-24-69.

897,064. TAVICA AND DESIGN. Totizo, Inc. SN 327,999. Pub. 6-2-70. Filed 4-24-69.

897,065. JUST-IN-CASE. Holiday Magic. SN 331,751. Pub. 6-2-70. Filed 7-3-69.

897,066. ETUDE. Les Parfums de Dana, Inc., d.b.a. Dana. SN 336,580. Pub. 6-2-70. Filed 8-28-69.

897,067. ALTA. Waverly Beauty Products Inc. SN 336,624. Pub. 6-2-70. Filed 8-28-69.

897,068. SUPERSIL. Johnson & Johnson. SN 337,175. Pub. 6-2-70. Filed 9-5-69.

897,069. GR-20. GR-20 Hair Products, Inc. SN 337,535. Pub. 6-2-70. Filed 9-10-69.

897,070. AUTUMN MORNING. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 339,639. Pub. 6-2-70. Filed 10-3-69.

897,071. MONICA SIMONE. Monica Simone Cosmetics, Inc. SN 341,706. Pub. 6-2-70. Filed 10-24-69.

Class 52 — Detergents and Soaps

896,690. (See Class 1 for this trademark.)

896,706. (See Class 6 for this trademark.)

897,070. (See Class 51 for this trademark.)

897,072. MASTER PLUMBER. Products Chemical Company. SN 283,951. Pub. 1-2-68. Filed 11-6-67.

897,073. SPEC-SPRAY. J. I. Morris Company. SN 284,494. Pub. 6-2-70. Filed 11-9-67.

897,074. TONIC. Wyandotte Chemicals Corporation. SN 323,613. Pub. 6-2-70. Filed 4-3-69.

897,075. ACID-KLENZ. Economics Laboratory, Inc. SN 323,879. Pub. 6-2-70. Filed 4-4-69.

897,076. LEDICAR. Wyandotte Chemicals Corporation. SN 324,257. Pub. 6-2-70. Filed 4-10-69.

897,077. MEDI-MAID. Lanewood Laboratories, Inc. SN 328,558. Pub. 6-2-70. Filed 5-28-69.

897,078. METAL-MAID. Lanewood Laboratories, Inc. SN 328,559. Pub. 6-2-70. Filed 5-28-69.

897,079. MAN FRIDAY. Lanewood Laboratories, Inc. SN 328,560. Pub. 6-2-70. Filed 5-28-69.

897,080. VANSEB. Allergan Pharmaceuticals. SN 330,082. Pub. 6-2-70. Filed 6-16-69.

897,081. HOSIERY MATE. The Hosiery Mate Company. SN 334,085. Pub. 6-2-70. Filed 7-31-69.

897,082. 4 POWER AND DESIGN. Conklin Company, Inc. SN 339,499. Pub. 6-2-70. Filed 10-2-69.

Service Marks

Class 100 — Miscellaneous

896,867. (See Class 26 for this trademark.)

897,083. VEDA. Veda Incorporated. SN 258,738. Pub. 6-2-70. Filed 11-15-66.

897,084. GENERAL JACKSON'S. Manuel Page Lapaz, d.b.a. General Jackson's Dixie Fried Chicken. SN 282,281. Pub. 6-2-70. Filed 10-11-67.

897,085. SWIFT INDUSTRIES, INC. AND ENCIRCLED S. Swift Industries, Inc. SN 284,418. Pub. 6-2-70. Filed 11-9-67.

897,086. SAFARI SERVICE. Universal Oil Products Company. SN 288,896. Pub. 6-2-70. Filed 1-15-68.

897,087. BIO-TEST. Industrial Bio-Test Laboratories, Inc. SN 296,693. Pub. 2-18-69. Filed 4-26-68.

897,088. DUNKIN' DONUTS AND DESIGN. Dunkin' Donuts of America, Inc. SN 301,212. Pub. 6-2-70. Filed 6-24-68.

897,089. SIZZLING STEER AND DESIGN. Franchek, Inc., assignee of Sizzling Steer Franchise, Inc. SN 307,950. Pub. 6-2-70. Filed 9-23-68.

897,090. NATIONAL NURSING HOME AND DESIGN. National Nursing Home, Inc. SN 310,030. Pub. 1-6-70. Filed 10-21-68.

897,091. BRIDGEMAN. Land O'Lakes Creameries, Inc. SN 310,567. Pub. 6-2-70. Filed 10-25-68.

897,092. HARVEY SERVICE SYSTEMS. Harvey Service Systems, Inc. SN 313,293. Pub. 6-2-70. Filed 11-29-68.

897,093. CHILI-INN AND DESIGN. Chili-Inn, Ltd. SN 314,530. Pub. 6-2-70. Filed 12-16-68.

897,094. SIRLOIN & SADDLE. Marriott Corporation. SN 316,014. Pub. 6-2-70. Filed 1-7-69.

897,095. HOMEDIC. Homedic, Inc. MULTIPLE CLASS (Classes 100 and 101). SN 317,450. Pub. 6-2-70. Filed 1-24-69.

897,096. AMERICAN TYPE CULTURE COLLECTION. American Type Culture Collection. SN 318,023. Pub. 6-2-70. Filed 1-31-69.

897,097. MR. CONEY ISLAND ETC. AND DESIGN. Louis Stohl, d.b.a. Stohl's Coney Island Restaurant. SN 319,391. Pub. 6-2-70. Filed 2-17-69.

897,098. CHALLENGER AND DESIGN. Challenger Research Inc. SN 320,794. Pub. 6-2-70. Filed 3-5-69.

897,099. NHL AND DESIGN. The National Hockey League. SN 328,242. Pub. 2-10-70. Filed 5-26-69.

897,100. ADTEC. Advanced Technology Consultants Corp. MULTIPLE CLASS (Classes 100 and 101). SN 329,031. Pub. 2-24-70. Filed 6-4-69.

897,101. AO (DESIGN). American Optical Corporation. SN 335,672. Pub. 6-2-70. Filed 8-19-69.

Class 101 — Advertising and Business

897,095. (See Class 100 for this trademark.)

897,100. (See Class 100 for this trademark.)

897,102. GREAT STATE PERSONNEL SYSTEM. K-H Associates of Evansville, Inc. SN 288,328. Pub. 6-2-70. Filed 1-8-68.

897,103. PO (DESIGN). Process Operators, Inc. SN 290,013. Pub. 6-2-70. Filed 1-31-68.

897,104. APS. Alphanumeric, Incorporated. SN 292,462. Pub. 6-2-70. Filed 3-5-68.

897,105. ECONOTAX AND DESIGN. Econotax of Mississippi, Inc. SN 305,931. Pub. 6-2-70. Filed 8-26-68.

897,106. REQUEST. Request, Inc. SN 309,102. Pub. 6-2-70. Filed 10-7-68.

897,107. MISCELLANEOUS DESIGN. South Carolina Tricentennial Commission. SN 309,413. Pub. 6-2-70. Filed 10-11-68.

897,108. TELEMATIC. A. C. Nielsen Company. SN 311,693. Pub. 6-2-70. Filed 11-8-68.

897,109. FUR-LIKE FASHION. Russell G. Stutting, d.b.a. Bear River Manufacturing Co. SN 317,263. Pub. 6-2-70. Filed 1-22-69.

897,110. CBM AND DESIGN. Regensteiner Publishing Enterprises, Inc. MULTIPLE CLASS (Classes 101 and 106). SN 317,693. Pub. 6-2-70. Filed 1-28-69.

897,111. COMPU-RX AND DESIGN. Rogers Wholesalers, Inc. SN 321,276. Pub. 6-2-70. Filed 3-10-69.

897,112. AI (DESIGN). Associometrics, Incorporated. SN 321,451. Pub. 6-2-70. Filed 3-12-69.

897,113. MISCELLANEOUS DESIGN. Real Estate Central, Inc. SN 322,621. Pub. 6-2-70. Filed 3-24-69.

897,114. GENUINE IM-GRAVING. Fine Impressions, Inc. SN 324,337. Pub. 6-2-70. Filed 4-14-69.

897,115. DIGS LTD. R. H. Macy & Co., Inc. SN 324,732. Pub. 6-2-70. Filed 4-16-69.

897,116. COIN FAIR. Wendale Corporation, d.b.a. Best Equipment Company. SN 325,417. Pub. 6-2-70. Filed 4-23-69.

897,117. HERO CITY U.S.A. Hero City U.S.A. Restaurant Corp. SN 325,870. Pub. 6-2-70. Filed 4-29-69.

897,118. BIG GAME. The Franklin Mint, Inc. SN 339,007. Pub. 6-2-70. Filed 9-26-69.

Class 102 — Insurance and Financial

896,924. (See Class 38 for this trademark.)

897,119. COMPUTER CREDIT SYSTEMS INC. ETC. AND DESIGN. Computer Credit Systems, Inc. SN 302,224. Pub. 6-2-70. Filed 7-8-68.

897,120. INCOMPUTER. American Financial Planning Corporation. SN 304,292. Pub. 6-2-70. Filed 8-5-68.

897,121. MISCELLANEOUS DESIGN. Assumption Mutual Life Insurance Company. SN 321,747. Pub. 6-2-70. Filed 3-14-69.

Class 103 — Construction and Repair

897,122. DEEP STEAM. Deep Steam Extraction Ltd. SN 283,992. Pub. 3-25-69. Filed 11-2-67.

897,123. DEEP STEAM. Deep Steam Carpet Cleaners, Inc. SN 310,607. Pub. 3-25-69. Filed 10-30-68.

897,124. CUSTOM FLO. Custom Flo, Inc. SN 318,294. Pub. 6-2-70. Filed 2-4-69.

897,125. LIEN AND CROSS AND CIRCLE (DESIGN). Lien Chemical Company. SN 342,985. Pub. 6-2-70. Filed 11-7-69.

Class 105 — Transportation and Storage

897,126. AMERICAN SIGHTSEEING. American Sightseeing Association, Inc. SN 312,004. Pub. 6-2-70. Filed 11-13-68.

897,127. GLOBAL AND GLOBE DESIGN. Global Van Lines, Inc. SN 316,095. Pub. 6-2-70. Filed 1-8-69.

897,128. CLUB BASTILLE AND CAT FACE (DESIGN). Young World Corporation. SN 327,709. Pub. 6-2-70. Filed 5-19-69.

Class 106 — Material Treatment

897,110. (See Class 101 for this trademark.)

897,129. COPAC. Avco Corporation. SN 317,705. Pub. 6-2-70. Filed 1-28-69.

Class 107 — Education and Entertainment

896,933. (See Class 38 for this trademark.)

897,130. 2-R OR-ALERT. Florence Schale Reading Systems, Ltd. SN 315,598. Pub. 6-2-70. Filed 1-2-69.

897,131. CHRISTIAN SCIENCE. The Christian Science Board of Directors of the Mother Church, The First Church of Christ, Scientist, in Boston, Massachusetts. SN 335,200. Pub. 6-2-70. Filed 8-13-69.

897,132. MISCELLANEOUS DESIGN. George E. Mattson Enterprises, Inc. SN 335,924. Pub. 6-2-70. Filed 8-22-69.

897,133. COWBOYS. Dallas Cowboys Football Club., Inc. SN 341,894. Pub. 6-2-70. Filed 10-28-69.

Collective Membership Mark

Class 200

897,134. AMERICAN TRAVELERS MOTOR CLUB AND DESIGN. American Travelers Motor Club, Inc. SN 325,154. Pub. 6-2-70. Filed 4-22-69.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 22 — Games, Toys, and Sporting Goods

897,135. Mini-Gym, Inc., Independence, Mo. SN 298,237. Filed P.R. 5–15–68; Am. S.R. 5–8–70.



For Exercising Apparatus Comprising a Mechanism for Pulling a Rope Therethrough Against a Selected Sliding Frictional Resistance (Int. Cl. 28).
First use Apr. 18, 1968.

Class 28 — Jewelry and Precious-Metal Ware

897,136. Benedict Seidelle, Woodside, N.Y. SN 319,510. Filed P.R. 2–18–69; Am. S.R. 2–2–70.

SEIDELLE

For Jewelry (Pendants) (Int. Cl. 14).
First use Dec. 1, 1968.

Class 38 — Prints and Publications

897,137. The Society of Technical Writers and Publishers, Inc., Washington, D.C. SN 307,050. Filed P.R. 9–10–68; Am. S.R. 6–2–70.

TECHNICAL COMMUNICATIONS

Journal of the Society of Technical Writers and Publishers

For Magazine (Int. Cl. 16).
First use Jan. 1, 1967.

897,138. Jobber News & Products Publishing Corp., Chicago, Ill. SN 314,797. Filed P.R. 12–18–68; Am. S.R. 6–4–70.



For Monthly Column in a Magazine Directed to Automotive Wholesalers and Jobbers Published in a Trade Newspaper (Int. Cl. 16).
First use Aug. 1, 1967.

897,139. Educational Media, Inc., Fort Worth, Tex. SN 326,084. Filed P.R. 5–1–69; Am. S.R. 5–28–70.



For Magazine Devoted to Media Utilized in Education (Int. Cl. 16).
First use Jan. 15, 1969.

897,140. Putman Publishing Company, Chicago, Ill. SN 329,269. Filed P.R. 6–5–69; Am. S.R. 6–1–70.

CHEMICALS OF TOMORROW

For Magazine (Int. Cl. 16).
First use May 22, 1969.

897,141. The Continental Press, Inc., Elizabethtown, Pa. SN 344,221. Filed P.R. 11–21–69; Am. S.R. 6–4–70.

READING AND WRITING MUSIC

For Set of Music Teaching Books (Int. Cl. 16).
First use Sept. 12, 1968.

Class 39 — Clothing

897,142. Wembley, Inc., New Orleans, La. SN 318,842. Filed P.R. 2–10–69; Am. S.R. 5–8–70.

SHIRT GUIDE

For Men's Neckwear (Int. Cl. 25).
First use Dec. 1, 1968.

897,143. Cleveland Cotton Products Co., Cleveland, Ohio. SN 318,891. Filed P.R. 2–11–69; Am. S.R. 5–7–70.

DISPOS-A-KLOZ

For Wrap-Around Smocks, Work Coats, and Coveralls (Int. Cl. 25).
First use July 1, 1968.

Class 50 — Merchandise Not Otherwise Classified

897,144. Acme Supply & Sales, Inc., Fort Lauderdale, Fla. SN 314,166. Filed 12–11–68.

STIK-ON

For Plastic Letters, Punctuation Marks, and Similar Characters for Use on Merchandising and Other Display Signs (Int. Cl. 16).
First use Mar. 1, 1967.

TRADEMARK REGISTRATIONS RENEWED

35,089. GE. Cl. 21 (Int. Cls. 7, 9, and 11). 9–18–1900.
35,261. MIN-NE-HA-HA. Cl. 46 (Int. Cls. 29 and 30). 10–16–1900.
78,556. JOHNNIE WALKER. Cl. 49 (Int. Cl. 33). 6–21–10.
78,559. WARRENITE. Cl. 12 (Int. Cl. 19). 6–21–10.
79,219. SALADA. Cl. 46 (Int. Cl. 30). 8–16–10.
79,622. ASTRINGOSOL. Cl. 18 (Int. Cl. 5). 9–20–10.
80,097. WETTER. Cl. 26 (Int. Cl. 16). 11–1–10.
268,939. AKUPPA. Cl. 46 (Int. Cl. 30). 3–25–30.
270,042. TRESURELAND. Cl. 38 (Int. Cl. 16). 4–22–30.
270,227. DRISUDZ. Cl. 52 (Int. Cl. 3). 4–29–30.
270,831. TROPICAL. Cl. 16 (Int. Cl. 2). 5–13–30.
271,019. TRU-BILT. Cl. 32 (Int. Cl. 20). 5–20–30.
271,048. CLOVER VALLEY. Cl. 46 (Int. Cl. 29). 5–20–30.
271,460. "GE" AND DESIGN. Cl. 13 (Int. Cl. 6). 6–3–30.
272,781. "ENKA" AND DESIGN. Cl. 43 (Int. Cl. 23). 7–15–30.
272,897. "ROYAL" AND DESIGN. Cl. 46 (Int. Cl. 30). 7–15–30.
273,291. DAGGETT AND RAMSDELL'S. Cl. 51 (Int. Cl. 3). 7–29–30.
273,973. DAGELLE. Cl. 51 (Int. Cls. 3 and 5). 8–19–30.
273,974. "D AND R" AND DESIGN. Cl. 51 (Int. Cls. 3 and 5). 8–19–30.
275,079. RAYONIER. Cl. 1 (Int. Cl. 1). 9–16–30.
275,775. KEM. Cl. 16 (Int. Cl. 2). 9–30–30.
275,811. DAILY PACIFIC BUILDER AND DESIGN. Cl. 38 (Int. Cl. 16). 9–30–30.
276,577. RED SKIN. Cl. 46 (Int. Cl. 31). 10–21–30.
276,694. CHATEAU. Cl. 37 (Int. Cl. 16). 10–28–30.
277,053. "ACTIVE MAID" AND DESIGN. Cl. 39 (Int. Cl. 25). 11–4–30.
277,117. ELASTIC. Cl. 12 (Int. Cl. 17). 11–4–30.
277,243. CAROID. Cl. 6 (Int. Cl. 5). 11–11–30.
277,312. "SPEIR" AND DESIGN. Cl. 23 (Int. Cl. 8). 11–11–30.
443,944. ENKA. Cl. 39 (Int. Cl. 25). 4–25–50.
443,945. FIBRENKA. Cl. 39 (Int. Cl. 25). 4–25–50.
444,002. RAYAMO. Cl. 1 (Int. Cl. 1). 5–30–50.
518,176. BRAUMEISTER. Cl. 46 (Int. Cl. 29). 11–29–49.
521,406. DEE AND DESIGN. Cl. 44 (Int. Cl. 5). 2–28–50.
521,413. CAPE LOOKOUT. Cl. 46 (Int. Cl. 31). 2–28–50.
521,780. SURE-FIT. Cl. 32 (Int. Cl. 24). 3–7–50.
521,786. DUO CRAFT. Cl. 39 (Int. Cl. 25). 3–7–50.
521,796. LITHOTONE. Cl. 37 (Int. Cl. 16). 3–7–50.
522,121. LYNDEN. Cl. 46 (Int. Cl. 29). 3–14–50.
522,181. DEPENDABLY SERVING INDUSTRY ETC. AND DESIGN. Cl. 14 (Int. Cl. 9). 3–14–50.
523,854. BAIRNS-WEAR ETC. AND DESIGN. Cl. 39 (Int. Cl. 25). 4–11–50.
524,775. GRO-UP GROUP. Cl. 32 (Int. Cl. 20). 5–2–50.
524,898. CONOVER. Cl. 36 (Int. Cl. 14). 5–9–50.
524,943. EXEL-O-CRAFT. Cl. 13 (Int. Cl. 20). 5–9–50.
525,010. BARUM AND DESIGN. Cl. 35 (Int. Cl. 12). 5–9–50.
525,044. X-L-O. Cl. 32 (Int. Cls. 6 and 20). 5–9–50.
525,528. FLOWTILE. Cl. 16 (Int. Cl. 2). 5–23–50.
525,578. GEORG JENSEN INC. GR AND DESIGN. Cl. 23 (Int. Cl. 8). 5–30–50.
525,579. GEORG JENSEN INC. AND DESIGN. Cl. 23 (Int. Cls. 8 and 21). 5–30–50.
525,589. PORTADRILL. Cl. 23 (Int. Cl. 7). 5–30–50.
525,598. BLUE DIAMOND BRAND AND DESIGN. Cl. 46 (Int. Cl. 31). 5–30–50.
525,599. DIAMOND AND DESIGN. Cl. 46 (Int. Cl. 31). 5–30–50.
525,600. MISCELLANEOUS DESIGN. Cl. 46 (Int. Cl. 31). 5–30–50.
525,643. PEER. Cl. 23 (Int. Cl. 8). 5–30–50.
525,786. COFFEEMASTER. Cl. 46 (Int. Cl. 30). 5–30–50.
525,836. GEORG JENSEN INC. GR AND DESIGN. Cl. 37 (Int. Cl. 16). 6–6–50.
525,892. O-SO-EZY. Cl. 4 (Int. Cl. 3). 6–6–50.
525,921. TWIST. Cl. 51 (Int. Cl. 3). 6–6–50.
526,019. GUYANDOT RED. Cl. 16 (Int. Cl. 2). 6–6–50.
526,144. SOLVITAX. Cl. 18 (Int. Cl. 5). 6–6–50.
526,203. ESSKOL. Cl. 16 (Int. Cl. 2). 6–13–50.
526,232. MAERAIN. Cl. 39 (Int. Cl. 25). 6–13–50.
526,234. ROYAL NORTHERN CREAM. Cl. 49 (Int. Cl. 33). 6–13–50.
526,330. EDELWEISS. Cl. 48 (Int. Cl. 32). 6–13–50.
526,408. WESTERN UNION. Cl. 104 (Int. Cl. 38). 6–13–50.
526,485. GEORG JENSEN INC. AND DESIGN. Cl. 30 (Int. Cl. 21). 6–20–50.
526,570. GRIPPER. Cl. 13 (Int. Cl. 26). 6–20–50.
526,618. WHITMORE'S. Cl. 15 (Int. Cl. 4). 6–20–50.
526,664. BLACK FLAG BANDERA NEGRA AND DESIGN. Cl. 6 (Int. Cl. 5). 6–20–50.
526,977. MISCELLANEOUS DESIGN. Cl. 28 (Int. Cl. 14). 6–27–50.
527,348. ALPHA. Cl. 14 (Int. Cl. 6). 7–4–50.
527,634. STRING' EM. Cl. 22 (Int. Cl. 28). 7–18–50.
527,778. SERGEANT'S SKIP-STAIN. Cl. 52 (Int. Cl. 52). 7–18–50.
527,865. GOODY'S. Cl. 18 (Int. Cl. 5). 7–18–50.
528,033. WEAVER OF PIRU. Cl. 46 (Int. Cl. 31). 7–25–50.
528,304. RACO. Cl. 21 (Int. Cl. 9). 8–1–50.
528,483. SUPLIGOL. Cl. 98 (Int. Cl. 5). 8–11–50.
528,517. AMAX. Cl. 6 (Int. Cl. 1). 8–1–50.
528,641. PENNZIP AND DESIGN. Cl. 15 (Int. Cl. 4). 8–8–50.
528,683. PENNZIP. Cl. 15 (Int. Cl. 4). 8–8–50.
528,789. MARSHA JORDAN. Cl. 39 (Int. Cl. 25). 8–8–50.
528,934. DR. SCHOLL'S FOOT COMFORT SHOES ETC. AND DESIGN. Cl. 39 (Int. Cl 25). 8–15–50.
528,964. ALFRED ANGELO. Cl. 39 (Int. Cl. 25). 8–15–50.
529,122. O. F. MOSSBERG & SONS, INC. AND DESIGN. Cl. 26 (Int. Cl. 9). 8–15–50.
529,133. ASPREY. Cl. 3 (Int. Cl. 18). 8–15–50.
529,322. VENICE MAID. Cl. 46 (Int. Cls. 29 and 30). 8–22–50.
529,323. SAFTBAK. Cl. 39 (Int. Cl. 25). 8–22–50.
529,337. JOY. Cl. 51 (Int. Cl. 3). 8–22–50.
529,343. DIAPARENE. Cl. 18 (Int. Cl. 5). 8–22–50.
529,873. GOLD BOND. Cl. 39 (Int. Cl. 25). 8–29–50.
530,121. WHIP CORD. Cl. 35 (Int. Cl. 17). 9–5–50.
530,332. ORTAC. Cl. 35 (Int. Cl. 17). 9–5–50.
530,428. FEARONCE INDIAN SAGE AND DESIGN. Cl. 51 (Int. Cl. 3). 9–5–50.
530,890. FLUID GOLD. Cl. 18 (Int. Cl. 18). 9–19–50.
531,185. LIFT-O-MATIC. Cl. 41 (Int. Cl. 18). 9–26–50.
531,217. FLORCO. Cl. 1 (Int. Cl. 4). 9–26–50.
531,231. FOAMLITE. Cl. 1 (Int. Cl. 17). 9–26–50.
531,364. TOWER. Cl. 106 (Int. Cl. 40). 9–26–50.
531,501. GEMEX. Cl. 28 (Int. Cl. 14). 10–3–50.
531,510. WYDANE. Cl. 18 (Int. Cl. 5). 10–3–50.
531,609. INVENTORY. Cl. 37 (Int. Cl. 16). 10–10–50.
531,707. KING KELLY. Cl. 46 (Int. Cl. 29). 10–10–50.
531,765. TRITHENE. Cl. 1. 10–10–50.
531,897. LO-SET. Cl. 12 (Int. Cl. 19). 10–10–50.
531,996. HEDDON AND DESIGN. Cl. 22 (Int. Cl. 28). 10–17–50.
532,111. CRESCENT. Cl. 23 (Int. Cl. 8). 10–17–50.
532,140. WEBER. Cl. 23 (Int. Cl. 7). 10–17–50.
532,141. LEADER. Cl. 46 (Int. Cl. 30). 10–17–50.
532,142. SUNSET. Cl. 46 (Int. Cl. 30). 10–17–50.
532,329. LO-X. Cl. 21 (Int. Cl. 9). 10–24–50.
532,590. KLONDIKE. Cl. 46 (Int. Cl. 30). 10–24–50.
532,684. EPITEX. Cl. 16 (Int. Cl. 16). 10–31–50.
532,722. AMERICAINE. Cl. 18 (Int. Cl. 5). 10–31–50.
532,750. CAPCO. Cl. 46 (Int. Cl. 29). 10–31–50.
532,804. TRU-PLAY THE DREIER CO. AND DESIGN. Cl. 22 (Int. Cl. 28). 10–28–50.
533,037. NESTLE LITE. Cl. 51 (Int. Cl. 3). 11–7–50.
533,069. SERGEANT'S. Cl. 52 (Int. Cl. 3). 11–7–50.
533,111. STEWART'S. Cl. 16 (Int. Cl. 2). 11–7–50.
533,200. HAMM'S. Cl. 48 (Int. Cl. 32). 11–7–50.
533,218. DU-BORE. Cl. 23 (Int. Cl. 7). 11–7–50.

533,377. ROTRTWIST. Cl. 23 (Int. Cls. 7 and 8). 11–14–50.
533,505. GOLDEN STATE. Cl. 46 (Int. Cl. 29). 11–14–50.
533,533. SEXAUER. Cl. 23 (Int. Cl. 8). 11–21–50.
533,538. PAPER ART. Cl. 37 (Int. Cl. 16). 11–21–50.
533,542. MID-PACIFIC. Cl. 46 (Int. Cl. 29). 11–21–50.
533,588. DOUBLE DUTY. Cl. 37 (Int. Cl. 16). 11–21–50.
533,603. PHYSICAL CULTURE. Cl. 32 (Int. Cl. 20). 11–21–50.
533,648. ELECTROGRAPHIC. Cl. 37 (Int. Cl. 16). 11–21–50.
533,652. RED RANGER. Cl. 46 (Int. Cl. 31). 11–21–50.
533,675. CADMINATE. Cl. 6 (Int. Cl. 5). 11–21–50.
533,730. PLASTISHADE. Cl. 32 (Int. Cl. 19). 11–21–50.

TRADEMARK REGISTRATIONS CANCELED

Section 8

746,898. BLACK HILLS GOLD J CO. Cl. 28. 3–19–63.

The following registrations issued June 30, 1964

772,042. ZOY-GREEN. Cl. 1.
772,043. FLOC SEAL. Cl. 1.
772,051. WING LOCK. Cl. 2.
772,059. US PLASTICS AND DESIGN. Cl. 5.
772,062. DM–2, 6–N. Cl. 6.
772,063. PYROSTOP. Cl. 6.
772,072. VITASOLV. Cl. 6.
772,079. CIPCO AND DESIGN. Cl. 12.
772,081. A IN·SIL·ATOR AND DESIGN. Cl. 12.
772,082. REAL SEAL. Cl. 12.
772,083. CHALLENGER. Cl. 12.
772,087. CONCLAD. Cl. 12.
772,088. ORGANIT. Cl. 12.
772,094. SECUTRONIC. Cls. 13, 25, and 26.
772,099. SEAMARBLE. Cl. 13.
772,121. "CREEPO." Cl. 15.
772,126. CADAR. Cl. 16.
772,127. WISDOM AND DESIGN. Cl. 16.
772,129. TAMMS AND DESIGN. Cl. 16.
772,135. DELICOTE. Cl. 18.
772,137. CHILD STAR. Cl. 18.
772,138. VESPERDEX. Cl. 18.
772,139. ATTAPECTIN. Cl. 18.
772,142. DR. CALDWELL'S. Cl. 18.
772,144. DECA-TAB. Cl. 18.
772,145. RIKOSPRAY. Cl. 18.
772,151. TRO-HIB. Cl. 18.
772,158. PUBERTONE. Cl. 18.
772,159. PRIMARUB. Cl. 18.
772,160. PAK-JAK. Cl. 19.
772,162. SELECTRAULIC. Cl. 19.
772,163. AIROLL. Cl. 19.
772,167. COMPASS AND ARROW DESIGN. Cl. 19.
772,168. FLEXOBRAKE. Cl. 19.
772,172. RELIANT. Cl. 19.
772,176. FARBERIZED. Cl. 20.
772,177. AMTICO BROCADE AND DESIGN. Cl. 20.
772,179. ELECTRADA. Cl. 21.
772,180. MODUPLEX. Cl. 21.
772,183. TUNGSRAM. Cl. 21.
772,185. EECOLITE. Cl. 21.
772,186. UDS AND DESIGN. Cl. 21.
772,188. MERCIL. Cl. 21.
772,189. STATI-GRIP. Cl. 21.
772,190. REVOHM. Cl. 21.
772,191. XXX. Cl. 21.
772,201. GDI NANOCOM AND DESIGN. Cl. 21.
772,203. AMPLEX E-Z-GLIDE. Cl. 21.
772,206. GOO-GOO. Cl. 22.
772,208. RAZZ-MA-TAZZ. Cl. 22.
772,210. BOUND-A-ROUND. Cl. 22.
772,212. SEA STAR. Cl. 22.
772,214. POWERIDE-LINE. Cl. 23.
772,215. CAPRI. Cl. 23.
772,216. AQUA-FLUORIDATOR. Cl. 23.
772,220. STRUTMASTER. Cl. 23.
772,232. CC AND DESIGN. Cl. 23.
772,235. RAINBOW. Cl. 23.
772,236. RENEWED RESTYLED AND DESIGN. Cl. 23.
772,240. COBRA. Cl. 23.
772,241. RO-VAC. Cl. 23.
772,242. MINUTE MAN (DESIGN). Cl. 24.
772,245. NUMERIK. Cl. 26.
772,246. TELEMATIC. Cl. 26.
772,249. ROTRAC. Cl. 26.
772,250. AUTOSET. Cl. 26.
772,253. QUEEN OF HEARTS. Cl. 26.
772,254. SCENTRY. Cl. 26.
772,257. NEXUS AND DESIGN. Cl. 26.
772,258. TINI CHEKR. Cl. 26.
772,259. SHARP AND DESIGN. Cl. 26.
772,265. REEF AIR ETC. AND DESIGN. Cl. 26.
772,267. LITTLE DIPPER. Cl. 26.
772,269. WEDGELITE. Cl. 26.
772,273. RICHARDSON AND DESIGN. Cl. 26.
772,274. SYNTEC. Cl. 26.
772,275. DUO-MATIC. Cl. 26.
772,277. MINITEST. Cl. 26.
772,280. FUEL-O-VAC. Cl. 26.
772,282. RADIR. Cl. 26.
772,285. POSIGRIP. Cl. 26.
772,286. SPAN. Cl. 26.
772,287. D AND DESIGN. Cl. 26.
772,290. DEPENDATHERM. Cl. 26.
772,292. SCINTI-MATIC. Cl. 26.
772,293. TIME OF THE YEAR. Cl. 26.
772,296. PEARL. Cl. 26.
772,297. "PERMALAB." Cl. 26.
772,300. SANITANKER. Cl. 29.
772,304. PERMASTONE. Cl. 30.
772,306. CHEC-K-IT. Cl. 32.
772,312. PAVILION GROUP. Cl. 32.
772,315. COLOR DUET. Cl. 32.
772,316. DURA-SPAN AND DESIGN. Cl. 32.
772,319. PERMALITE. Cl. 34.
772,322. VAPOR INTRANSIT AND DESIGN. Cl. 34.
772,326. BLOXHAM. Cl. 34.
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Electronic Component Importers, Inc., Englewood, N.J. 772,183, canc. Cl. 21.
Electronic Engineering Co. of California, Santa Ana, Calif. 772,185, canc. Cl. 21.
Electronic Memories & Magnetics Corp., Hawthorne, Calif., from Indiana General Corp., Valparaiso, Ind. 896,798, pub. 6–2–70. Cl. 21.
Empire Machinery Co., Phoenix, Ariz. 772,527, canc. Cl. 23.
Empire Machinery Co., Phoenix, Ariz. 772,554, canc. Cl. 103.
Enka N.V., Arnhem, Netherlands. 272,781, ren. 8–18–70. Cl. 43.
Enka N.V., Arnhem, Netherlands. 443,944–5, ren. 8–18–70. Cl. 39.
Enterprise Mfg. Co., The, Akron, Ohio. 772,212, canc. Cl. 22.
Eskimo Pie Corp., Richmond, Va. 532,590, ren. 8–18–70. Cl. 46.

Etablissements Merlin & Gerin, Societe Anonyme, Grenoble, France. 896,791, pub. 6–2–70. Cl. 21.
Ethicon, Inc., Bridgewater Township, N.J. 772,428, canc. Cl. 44.
Everseal Mfg. Co., Inc., Ridgefield, N.J. 525,528, ren. 8–18–70. Cl. 16.
Ever-Ready Appliance Mfg. Co., St. Louis, Mo. 896,859–60, pub. 6–2–70. Cl. 24.
Excelion Industries, Torrance, Calif. 896,842, pub. 6–2–70. Cl. 23.
Exclusive China Co., Inc., New York, N.Y. 896,876, pub. 6–2–70. Cl. 28.
Executive Chef, Inc., Westport, Conn. 897,017, pub. 6–2–70. Cl. 46.
Explorer Research Co., San Jose, Calif. 772,168, canc. Cl. 19.
FMC Corp., San Jose, Calif. 896,732, pub. 6–2–70. Cl. 13.
Factory Agencies, Chicago, Ill. 772,316, canc. Cl. 32.
Fairchild Recording Equipment Corp., Long Island City, N.Y. 896,802, pub. 6–2–70. Cl. 21.
Fairfield Laboratories, Inc., d.b.a. Econo Laboratories, Pasadena, Calif. 772,481, canc. Cl. 51.
Far Eastern Commerce Corp., New York, N.Y. 772,191, canc. Cl. 21.
Farber, L., Co., Worcester, Mass. 772,176, canc. Cl. 20.
Farm-Oyl Co., The, St. Paul, Minn. 896,753, pub. 6–2–70. Cl. 15.
Fasweet Co., The, Jonesboro, Ark. 897,010, pub. 6–2–70. Cl. 46.
Fearn Foods Inc.: *See*—
Fearn International Inc.
Fearn International Inc., from Fearn Foods Inc., Franklin Park, Ill. 897,006, pub. 6–2–70. Cl. 46.
Fearonce, W. H., Co., Philadelphia, Pa. 530,428, ren. 8–18–70. Cl. 51.
Fedders Corp., Edison, N.J. 896,896, pub. 6–2–70. Cl. 34.
Fedtro, Inc., Rockville Centre, N.Y. 896,817, pub. 6–2–70. Cl. 21.
Feinson, David, Inc., New York, N.Y. 772,429, canc. Cl. 44.
Fieldcrest Mills, Inc., Spray, N.C. 772,416, canc. Cl. 42.
Fin-Dell Hosiery Co., San Francisco, Calif. 772,401, canc. Cl. 39.
Fine Impressions, Inc., Columbus Junction, Iowa. 897,144, pub. 6–2–70. Cl. 101.
Finkel Outdoor Products, Inc., Garfield, N.J. 531,185, ren. 8–18–70. Cl. 41.
Firestone Tire & Rubber Co., The, Akron, Ohio. 896,905, pub. 6–2–70. Cl. 35.
First Texas Pharmaceuticals, Inc., Dallas, Tex. 772,158, canc. Cl. 18.
Fisher, Edwin A., d.b.a. Aztec Engineering Co., Lebanon, N.J. 772,277, canc. Cl. 26.
Fisons Pharmaceutical Ltd. Loughborough, England. 896,771, pub. 6–2–70. Cl. 18.
Fitchburg Paper Co.: *See*—
Litton Business Systems, Inc.
Fit-Rite Pants Co., Inc., New York, N.Y. 772,357, canc. Cl. 39.
Fleer Corp., Philadelphia, Pa. 897,018, pub. 6–2–70. Cl. 46.
Flint West Production, Inc., New York, N.Y. 896,908, pub. 6–2–70. Cl. 36.
Floridin Co., Hancock, W. Va. 531,217, ren. 8–18–70. Cl. 1.
Flexible Co., The, Loudonville, Ohio. 896,783, pub. 6–2–70. Cl. 19.
Forecaster Publishing Co., Inc., The, Los Angeles, Calif. 896,956, pub. 6–2–70. Cl. 38.
Formulabs Industrial Inks, Inc., Escondido, Calif. 896,801, pub. 6–2–70. Cl. 21.
Four Star Candy Co., Inc., Newark, N.J. 897,021, pub. 6–2–70. Cl. 46.
Frabill Mfg. Co., Milwaukee, Wis. 527,634, ren. 8–18–70. Cl. 22.
Franchek, Inc., Atlanta, Ga., from Sizzling Steer Franchise, Inc., Chattanooga, Tenn. 897,089, pub. 6–2–70. Cl. 100.
Frackville Pajama Corp., New York, N.Y. 772,403, canc. Cl. 39.
Franklin Mint, Inc., The, Yeadon, Pa. 897,118, pub. 6–2–70. Cl. 101.
French Paper Co., Niles, Mich. 896,911, pub. 6–2–70. Cl. 37.
Fulghum Enterprises, Inc., Wadley, Ga. 896,838, pub. 6–2–70. Cl. 23.
Futorian Mfg. Co., Chicago, Ill. 772,312, canc. Cl. 32.
GAF Corp., New York, N.Y. 896,912, pub. 6–2–70. Cl. 37.
GR-20 Hair Products, Inc., Chicago, Ill. 897,069, pub. 6–2–70. Cl. 51.
Gail Leather Products, Inc., New York, N.Y. 896,702, pub. 6–2–70. Cl. 3.
Gane's Chemical Works, Inc., New York, N.Y. 772,516, canc. Cl. 6.
Gazebo, Inc., The, Memphis, Tenn. 896,958, pub. 6–2–70. Cl. 39.
Gedney, M. A., Co., Cheska, Minn. 35,261, ren. 8–18–70. Cl. 46.
Germain's, Inc., Los Angeles, Calif. 896,699, pub. 6–2–70. Cl. 2.
General Auto Wash Systems, Inc., Grand Rapids, Mich. 772,235, canc. Cl. 23.
General Devices, Inc., Princeton, N.J. 772,201, canc. Cl. 21.
General Dynamics Corp., Rochester, N.Y. 896,792, pub. 6–2–70. Cl. 21.
General Electric Co., Schenectady, N.Y. 35,089, ren. 8–18–70. Cl. 21.
General Electric Co., Schenectady, N.Y. 271,460, ren. 8–18–70. Cl. 13.
General Foods Corp., White Plains, N.Y. 896,997, pub. 6–2–70. Cl. 45.
General Latex and Chemical Corp., Cambridge, Mass. 531,231, ren. 8–18–70. Cl. 1.
General Tire & Rubber Co., The, Akron, Ohio. 772,414, canc. Cl. 42.
Geri-Chase, Inc., New Canaan, Conn. 772,386, canc. Cl. 39.
Geyer Guides, Inc., St. Louis, Mo. 896,941, pub. 6–2–70. Cl. 38.
Giant Key Corp., Lynn, Mass. 772,379, canc. Cl. 39.
Glenmore Distilleries Co., Louisville, Ky. 897,054, pub. 6–2–70. Cl. 49.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 528,517, ren. 8–18–70. Cl. 6.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 530,332, ren. 8–18–70. Cl. 35.
Goody's Ltd., Winston-Salem, N.C. 527,865, ren. 8–18–70. Cl. 18.
Grace, W. R., & Co., Cambridge, Mass. 772,363, canc. Cl. 39.
Great Atlantic & Pacific Tea Co., Inc., New York, N.Y. 772,464, canc. Cl. 46.
Green, E. D., Corp., Forest Park, Ga. 896,901, pub. 6–2–70. Cl. 34.
Griswold Controls, Santa Ana, Calif. 896,740, pub. 3–17–70. Cl. 13.
Grow Chemicals Coatings Corp., New York, N.Y. 270,831, ren. 8–18–70. Cl. 16.
Grumman Allied Industries, Inc., Garden City, N.Y. 772,520, canc. Cl. 19.
Gulf States Paper Corp., Tuscaldosa, Ala. 896,695, pub. 6–2–70. Cl. 2.
H-S Enterprise, Inc., d.b.a. Isochem Resins Co., Lincoln, R.I. 896,690, pub. 3–31–70. Multiple Class (Classes 1, 5, 6, 16, and 52).
Hallicrafters Co., The, Chicago, Ill. 772,282, canc. Cl. 26.
Hamm, Theodore, Brewing Co., St. Paul, Minn. 533,200, ren. 8–18–70. Cl. 48.
Hammel, Riglander, & Co., Inc., New York, N.Y. 525,643, ren. 8–18–70. Cl. 23.
Harf, Inc., Hatfield, Pa. 525,921, ren. 8–18–70. Cl. 51.
Harms, Percy, Corp., Skokie, Ill. 896,752, pub. 6–2–70. Cl. 15.
Harris-Intertype Corp., Cleveland, Ohio. 896,836, pub. 6–2–70. Cl. 23.
Harvey Service Systems, Inc., Los Angeles, Calif. 897,092, pub. 6–2–70. Cl. 100.
Havatampa Cigar Corp., Tampa, Fla. 896,762, pub. 6–2–70. Cl. 17.
Hawaii Universal Services, Ltd., Honolulu, Hawaii. 896,952, pub. 6–2–70. Cl. 38.
Hayden Corp. West Springfield, West Springfield, Mass. 896,754, pub. 6–2–70. Cl. 16.
Heneson, Rae, Baltimore, Md. 772,389, canc. Cl. 39.
Henry Mfg. Co., Inc., Bowling Green, Ohio. 896,881, pub. 6–2–70. Cl. 31.
Herberts, Dr. Kurt, & Co., Wuppertal-Barmen, Germany. 896,757, pub. 6–2–70. Cl. 16.
Hercules Gallon Products, Inc.: *See*—
Peabody Gallon Corp.
Hercules Inc., Wilmington, Del. 896,716, pub. 6–2–70. Cl. 6.
Hero City U.S.A. Restaurant Corp., New York, N.Y. 897,117, pub. 6–2–70. Cl. 101.
Heublein, Inc., Hartford, Conn. 897,014, pub. 6–2–70. Cl. 46.
Heyer Inc., Chicago, Ill. 897,056, pub. 6–2–70. Cl. 50.
Highland Distilleries Co. Ltd., The, Glasgow, Scotland. 897,053, pub. 6–2–70. Cl. 49.
Hi-Shear Corp., Torrance, Calif. 772,220, canc. Cl. 23.
Hobart Laboratories, Inc., Chicago, Ill. 772,159, canc. Cl. 18.
Hobrecker, Eduard, G.m.b.H., Westphalia, Germany. 772,094, canc. Multiple Class (Classes 13, 25, and 26).
Hoffmann Co., Hollis, N.Y. 772,280, canc. Cl. 26.
Holiday Magic, San Rafael, Calif. 897,065, pub. 6–2–70. Cl. 51.
Homedic, Inc., Ferndale, Mich. 897,095, pub. 6–2–70. Multiple Class (Classes 100 and 101).
Hoover Ball & Bearing Co., Saline, from Draw-Tite Co., Belleville, Mich. 896,780, pub. 6–2–70. Cl. 19.
Hosiery Mate Co., The, Chicago, Ill. 897,081, pub. 6–2–70. Cl. 52.
Hoskyns Systems Research Ltd., London, England. 896,926, pub. 6–2–70. Cl. 38.
Hourigan, Richard A., Minneapolis, Minn. 896,951, pub. 6–2–70. Cl. 38.
Howe Richardson Scale Co., Clifton, N.J. 772,273, canc. Cl. 26.
Howmet Corp., Greenwich, Conn. 521,406, ren. 8–18–70. Cl. 44.
Hubley Mfg. Co., The, Lancaster, Pa. 772,208, canc. Cl. 22.
Huffman, Robert P., Laguna Beach, Calif. 896,960, pub. 6–2–70. Cl. 39.
Hughes Hybrids, Inc., Woodstock, Ill. 896,693, pub. 6–2–70. Cl. 1.
Humphreys Medicine Co., Inc., Rutherford, N.J. 897,057, pub. 4–2–68. Cl. 51.
Hurd Shoe Co., Inc., Utica, N.Y. 896,974, pub. 6–2–70. Cl. 39.
Hycel Inc., Houston, Tex. 896,865, pub. 6–2–70. Cl. 26.
Hydro-Line Mfg. Co., Rockford, Ill. 772,331, canc. Cl. 35.
I-T-E Imperial Corp., Philadelphia, Pa. 532,329, ren. 8–18–70. Cl. 21.
ITT Rayonier Inc., New York, N.Y. 444,002, ren. 8–18–70. Cl. 1.
Imperial Outfitters to Large Men, Inc., New York, N.Y. 896,962–3, pub. 6–2–70. Cl. 39.
Imperial Type Metal Co., Philadelphia, Pa. 772,072, canc. Cl. 6.
Indiana General Corp.: *See*—
Electronic Memories & Magnetics Corp.
Industrial Bio-Test Laboratories, Inc., Northbrook, Ill. 897,087, pub. 2–18–69. Cl. 100.
Ingersoll-Rand Co., New York, N.Y. 772,506, canc. Cl. 103.
Inn Keepers Supply Co., Memphis, Tenn. 772,349, canc. Cl. 37.
Inspiration Consolidated Copper Co., New York, N.Y. 896,745, pub. 6–2–70. Cl. 14.

Institute of Gas Technology, Chicago, Ill. 896,717, pub. 6–2–70. Cl. 6.
International Business Machines Corp., Armonk, N.Y. 533,648, ren. 8–18–70. Cl. 37.
International Minerals & Chemical Corp., Skokie, Ill. 897,045, pub. 6–2–70. Cl. 46.
International Paper Co., New York, N.Y. 896,692, pub. 6–2–70. Cl. 1.
International Rectifier Corp., Los Angeles, Calif. 896,796–7, pub. 6–2–70. Cl. 21.
Intercontinent Shoe Corp., New York, N.Y. 896,965, pub. 6–2–70. Cl. 39.
Intercontinental Systems, Inc., Los Angeles, Calif. 896,834, pub. 6–2–70. Cl. 23.
Iowa Mold Tooling Co., Inc., Garner, Iowa. 896,784, pub. 6–2–70. Multiple Class (Classes 19 and 23).
JG Furniture Co., Inc., New York, N.Y. 896,890, pub. 6–2–70. Cl. 32.
Jacoby-Bender, Inc., Woodside, N.Y. 531,501, ren. 8–18–70. Cl. 28.
James River Paper Co., Richmond, Va. 521,796, ren. 8–18–70. Cl. 37.
Janis, Stephen, d.b.a. Schicago Music Publisher, Sake Villa, Ill. 772,531, canc. Cl. 38.
Jarts, R. B., Inc., South Glens Falls, N.Y. 896,821, pub. 6–2–70. Cl. 22.
Jefferson Surplus Sales Co., Chicago, Ill. 896,981, pub. 6–2–70. Cl. 42.
Jerant Co., Inc., d.b.a. The Jerant Co., Inc., Los Angeles, Calif. 772,478, canc. Cl. 51.
Jennings Industries, Inc., Santa Cruz, Calif. 896,807, pub. 6–2–70. Cl. 21.
Jensen, Georg, Inc., New York, N.Y. 525,578–9, ren. 8–18–70. Cl. 23.
Jensen, Georg, Inc., New York, N.Y. 525,836, ren. 8–18–70. Cl. 37.
Jensen, Georg, Inc., New York, N.Y. 526,485, ren. 8–18–70. Cl. 30.
Jewish Society of America, Inc., The, New York, N.Y. 896,932, pub. 6–2–70. Cl. 38.
Johnson & Johnson, New Brunswick, N.J. 897,068, pub. 6–2–70. Cl. 51.
Johnson & Johnson, New Brunswick, N.J. 896,777, pub. 4–7–70. Cl. 18.
Johnson, S. C., & Son, Inc., Racine, Wis. 897,059, pub. 6–2–70. Cl. 51.
Jones, Samuel Manly, New Bern, N.C. 521,413, ren. 8–18–70. Cl. 46.
Jordan Marsh Co., Boston, Mass. 528,789, ren. 8–18–70. Cl. 39.
K.G.M. Electronics Ltd., Richmond, England. 772,245, canc. Cl. 26.
K-H Associates of Evansville, Inc., Evansville, Ind. 897,102, pub. 6–2–70. Cl. 101.
K-Line Tool Co., Holland, Mich. 896,903, pub. 12–2–69. Cl. 35.
Kabushiki Kaisha Hattori Tokeiten, Chuo-ku, Tokyo, Japan. 896,874, pub. 6–2–70. Cl. 27.
Kaiser Aluminum & Chemical Corp., Oakland, Calif. 531,897, ren. 8–18–70. Cl. 12.
Kanematsu New York, Inc., New York, N.Y. 772,296, canc. Cl. 26.
Karp, L., & Sons, Inc, Chicago, Ill. 897,016, pub. 6–2–70. Cl. 46.
Kellogg Co., Battle Creek, Mich. 897,035, pub. 6–2–70. Cl. 46.
Kelmon Co., The: *See*— Kelmoore Industries.
Kelmoore Industries, Redwood City, from The Kelmon Co., Palo Alto, Calif. 896,825, pub. 6–2–70. Cl. 22.
Kennedy & Cohen, Inc., Hallendale, Fla. 896,800, pub. 6–2–70. Multiple Class (Classes 21, 24, 31, and 34).
Kennedy, James R., d.b.a. J. R. Kennedy & Co., Denver, Colo. 897,020, pub. 6–2–70. Cl. 46.
Kenner Products Co., Cincinnati, Ohio. 896,823–4, pub. 6–2–70. Cl. 22.
Kentucky Valley Farms, Jersey City, N.J. 772,042, canc. Cl. 1.
King Kelly Marmalade Co., Inc., Cerritos, Calif. 531,707, ren. 8–18–70. Cl. 46.
Klefot, Benjamin F., d.b.a. Bennie's Coin Shop, Dayton, Ohio. 772,497, canc. Cl. 52.
Klopman Mills, Inc., Rockleigh, N.J. 896,982, pub. 6–2–70. Cl. 42.
Konditorei Ritzer, Inc.: *See*— Ritzer of Austria, Inc.
Kroger Co., The, d.b.a. Wesco Foods Co., Cincinnati, Ohio. 271,048, ren. 8–18–70. Cl. 46.
Kroger Co., The, Cincinnati, Ohio. 897,015, pub. 6–2–70. Cl. 46.
Kuchar, John F., d.b.a. John Kuchar Sales, New Lothrop, Mich. 896,906, pub. 6–2–70. Cl. 36.
Kuppenheimer, B., & Co., Inc., Chicago, Ill. 896,975, pub. 6–2–70. Cl. 39.
Kusan, Inc., Nashville, Tenn. 896,831, pub. 6–2–70. Cl. 22.
LDV Electro Science Industries, Inc., Syracuse, N.Y. 896,803, pub. 6–2–70. Cl. 21.
L'Air Liquide, Société Anonyme pour l'Etude et l'Exploitation des Procedes Georges Claude, Paris, France. 896,895, pub. 6–2–70. Cl. 34.
Land O'Lakes Creameries, Inc., Minneapolis, Minn. 897,091, pub. 6–2–70. Cl. 100.
Lane Magazine & Book Co., Menlo Park, Calif. 896,946, pub. 6–2–70. Cl. 38.
Lanewood Laboratories, Inc., Framingham, Mass. 897,077–9, pub. 6–2–70. Cl. 52.
Lapaz, Mannel Page, d.b.a. General Jackson's Dixie Fried Chicken, Columbus, Ga. 897,084, pub. 6–2–70. Cl. 100.
Larsen, William H., Racine, Wis. 772,206, canc. Cl. 22.
Laser Sciences, Inc., Bethel, Conn. 896,867, pub. 6–2–70. Multiple Class (Classes 26 and 100).
Latest Trends, Inc., Rutherford, N.J. 896,977, pub. 6–2–70. Cl. 39.
Lauder, Archibald, & Co. Ltd., Dumbarton, Scotland. 526,234, ren. 8–18–70. Cl. 49.
La-Z-Boy Chair Co., Monroe, Mich. 896,889, pub. 6–2–70. Cl. 32.
Lectrabed Corp., Los Angeles, Calif. 896,891, pub. 6–2–70. Cl. 32.
Lectro-Print, Inc., Levittown, Pa. 896,809, pub. 3–3–70. Cl. 21.
Lee, H. D., Co., Inc., The, Shawnee Mission, Kans. 896,967, pub. 6–2–70. Cl. 39.
Len, Robby, Inc., New York, N.Y. 772,375, canc. Cl. 39.
Les Parfums-De-Dana Inc., d.b.a., Dana, New York, N.Y. 897,066, pub. 6–2–70. Cl. 51.
Liberty Bell Stores, Inc., Indianapolis, Ind. 896,755, pub. 6–2–70. Cl. 16.
Linear Alpha, Inc., Evanston, Ill. 772,274, canc. Cl. 26.
Linexter Clothing Co., Empoli, Italy. 772,534, canc. Cl. 39.
Lion Uniform, Inc., Dayton, Ohio. 896,940, pub. 6–2–70. Cl. 38.
Lipman, Joshua, Corp., d.b.a. Adorable Co. of California, North Hollywood, Calif. 896,976, pub. 6–2–70. Cl. 39.
Little David Record Co., Inc., New York, N.Y. 896,909, pub. 6–2–70. Cl. 36.
Litton Business Systems, Inc., Orange, N.J., from Fitchburg Paper Co., Fitchburg, Mass. 897,055, pub. 5–20–69. Cl. 50.
Livengood Industries, Inc., Denver, Colo. 772,504, canc. Cl. 103.
Lone Star Boat Co., Plano, Tex. 772,172, canc. Cl. 19.
Longines-Wittnauer Watch Co., Inc., New York, N.Y. 896,875, pub. 3–10–70. Cl. 27.
Long Island Macaroni Co., Inc., Deer Park, N.Y. 897,019, pub. 6–2–70. Cl. 46.
Lorillard Corp., New York, N.Y. 896,764, pub. 6–2–70. Cl. 17.
Lowenstein, M., & Sons, Inc., New York, N.Y. 772,421, canc. Cl. 42.
Lumaside, Inc., Milwaukee, Wis. 896,725, pub. 6–2–70. Cl. 12.
M & W Gear Co., Gibson City, Ill. 896,848, pub. 6–2–70. Cl. 23.
MSL Industries, Inc., Chicago, Ill. 896,857, pub. 6–2–70. Cl. 23.
Macy, R. H., & Co., Inc., New York, N.Y. 897,115, pub. 6–2–70. Cl. 101.
Maenson Clothes Ltd., Leeds, England. 526,232, ren. 8–18–70. Cl. 39.
Magic Chef, Inc., Cleveland, Tenn. 896,900, pub. 6–2–70. Cl. 34.
Magnetics, Inc., East Butler, Pa. 896,805, pub. 6–2–70. Cl. 21.
Malkin, Solomon M., Newark, N.J. 896,955, pub. 6–2–70. Cl. 38.
Mallinckrodt Chemical Works, St. Louis, Mo. 533,675, ren. 8–18–70. Cl. 6.
Mallinckrodt Chemical Works, St. Louis, Mo. 896,713, pub. 3–3–70. Cl. 6.
Malone & Hyde, Inc., Memphis, Tenn. 896,996, pub. 6–2–70. Cl. 45.
Maloney Enterprises, Inc., Bloomingdale, N.J. 896,922–3, pub. 6–2–70. Cl. 37.
Maradel Products, Inc., New York, N.Y. 772,483, canc. Cl. 51.
Maradel Products, Inc., New York, N.Y. 772,549, canc. Cl. 51.
Marco Electronic Products, Inc., Sonoma, Calif. 772,180, canc. Cl. 21.
Marfleet Refining Co. Ltd., Hull, England. 526,144, ren. 8–18–70. Cl. 18.
Mark Systems, Inc., Santa Clara, Calif. 772,286, canc. Cl. 26.
Mar-Kes Foods, Compton, Calif. 897,030, pub. 6–2–70. Cl. 46.
Marlboro Shirt Co., Inc., New York, N.Y. 772,404, canc. Cl. 39.
Marquis-Who's Who, Inc., Chicago, Ill. 896,928, pub. 6–2–70. Cl. 38.
Marriott Corp., Washington, D.C. 897,094, pub. 6–2–70. Cl. 100.
Martinoni, E., Co., d.b.a. National Bottlers Ltd., San Francisco, Calif. 772,470, canc. Cl. 49.
Maryland Cup Corp., Owings Mills, Md. 896,696, pub. 6–2–70. Cl. 2.
Masson, Paul, Inc., d.b.a. Paul Masson Vineyards, San Francisco, Calif. 897,052, pub. 6–2–70. Cl. 47.
Mattel, Inc., Hawthorne, Calif. 896,828–30, pub. 6–2–70. Cl. 22.
May Department Stores Co., The, St. Louis, Mo. 896,972, pub. 6–2–70. Cl. 39.
Mavers, L. & C., Co., Inc., New York, N.Y. 772,370, canc. Cl. 39.
McCormick & Co., Inc., Cockeysville, Md. 897,034, pub. 6–2–70. Cl. 46.
McGraw-Hill, Inc., New York, N.Y. 275,811, ren. 8–18–70. Cl. 38.
McLaughlin Mfg. Co., Plainfield, Ill. 896,856, pub. 6–2–70. Cl. 23.
Mercil Plating Equipment Co., Chicago, Ill. 772,188, canc. Cl. 21.
Merco Stores, Inc., Jamaica, N.Y. 772,445, canc. Cl. 46.
Metallwerk Plansee Aktiengesellschaft, Reutte Tirol, Austria. 896,743, pub. 2–10–70. Cl. 14.
Metalstand Co., Philadelphia, Pa. 896,892, pub. 6–2–70. Cl. 32.
Mexican Gulf Fisheries, Inc., Coden, Ala. 897,000, pub. 6–2–70. Cl. 46.
Michels, Peter J., Inc., Brooklyn, N.Y. 277,312, ren. 8–18–70. Cl. 23.

Michigan Wineries, Inc., Paw Paw, Mich. 897,049, pub. 6–2–70. Cl. 47.
Michigan Wineries, Inc., Paw Paw, Mich. 897,050, pub. 6–2–70. Cl. 47.
Midland Metal Spinning Co. Ltd., The, Wombourn, Wolverhampton, England. 896,731, pub. 5–12–70. Cl. 13.
Miller, R. H., Co., Homer, N.Y. 896,708, pub. 6–2–70. Cl. 6.
Miracle Pet Products, Inc., Jersey City, N.J. 897,009, pub. 6–2–70. Cl. 46.
Mitsubishi Electric Corp., Chiyoda-ku, Tokyo, Japan. 896,854, pub. 6–2–70. Cl. 23.
Mobile Drilling Co., Inc., Indianapolis, Ind. 896,855, pub. 6–2–70. Cl. 23.
Modern Handling Systems, Alabaster, Ala. 896,841, pub. 6–2–70. Cl. 23.
Modish Imports, Inc., Brooklyn, N.Y. 896,878, pub. 11–18–69. Multiple Class (Classes 29, 40, and 51).
Moneymakers, Inc., Kansas City, Mo. 772,210, canc. Cl. 22.
Monocraft, Inc., New York, N.Y. 526,977, ren. 8–18–70. Cl. 28.
Montgomery Ward & Co., Inc., Chicago, Ill. 896,893, pub. 6–2–70. Cl. 32.
Moore, Benjamin, & Co., New York, N.Y. 277,117, ren. 8–18–70. Cl. 12.
Moore, Erwin L., Oakland, Calif. 772,505, canc. Cl. 103.
More, Thomas, Association, The, Chicago, Ill. 896,943, pub. 6–2–70. Cl. 38.
Morris, J. I., Co., Southbridge, Mass. 897,073, pub. 6–2–70. Cl. 52.
Morris, Philip, Inc., New York, N.Y. 896,760, pub. 3–3–70. Cl. 17.
Morris, Philip, Inc., New York, N.Y. 897,041, pub. 6–2–70. Cl. 46.
Morse, H. Clifton, & Associates, Inc., Chicago, Ill. 896,948, pub. 6–2–70. Cl. 38.
Morton International, Inc., Chicago, Ill. 897,032, pub. 6–2–70. Cl. 46.
Mossberg, O. F., & Sons, Inc., North Haven, Conn. 529,122, ren. 8–18–70. Cl. 26.
Nasshorn, H., Inc., New York, N.Y. 896,970, pub. 6–2–70. Cl. 39.
National Alcar, Inc., Washington, D.C. 772,509, canc. Cl. 105.
National Hockey League, The, Montreal, Quebec, Canada. 897,099, pub. 2–10–70. Cl. 100.
National Nursing Home, Inc., Indianapolis, Ind. 897,090, pub. 1–6–70. Cl. 100.
Neighbour, Ralph W., Elyria, Ohio. 896,954, pub. 6–2–70. Cl. 38.
Neirad Industries, Inc., Saugatuck, Conn. 896,844, pub. 4–14–70. Cl. 23.
Nestle Co., Inc., The, White Plains, N.Y. 897,036, pub. 6–2–70. Cl. 46.
Nestle Le Mur Co., The, New York, N.Y. 533,037, ren. 8–18–70. Cl. 51.
Newberry, J. J., New York, N.Y. 772,392, canc. Cl. 39.
Nexus Research Laboratory, Inc., Canton, Mass. 772,257, canc. Cl. 26.
Nichimen Co., Inc., New York, N.Y. 772,304, canc. Cl. 30.
Nicholson File Co., Providence, R.I. 896,845, pub. 6–2–70. Cl. 23.
Nielsen, A. C., Co., Chicago, Ill. 897,108, pub. 6–2–70. Cl. 101.
Northeastern Distributors, Inc., Cambridge, Mass. 772,167, canc. Cl. 19.
Northwest Paper Co., The, Cloquet, Minn. 896,921, pub. 6–2–70. Cl. 37.
Northwestern Upholstering Co., Minneapolis, Minn. 271,019, ren. 8–18–70. Cl. 32.
Notable Productions, Inc., New York, N.Y. 896,910, pub. 6–2–70. Cl. 36.
Noxzema Chemical Co., The, Baltimore, Md. 772,544–8, canc. Cl. 51.
Nytronics, Inc., Pelham Manor, N.Y. 896,804, pub. 6–2–70. Cl. 21.
Oneida Ltd., Oneida, N.Y. 896,852, pub. 6–2–70. Cl. 23.
Ox Fibre Brush Co., Inc., Frederick, Md. 772,300, canc. Cl. 29.
Oxyair Engineering, Inc., Los Angeles, Calif. 896,869, pub. 6–2–70. Cl. 26.
Pacific Industries, Inc., New York, N.Y. 896,723, pub. 6–2–70. Cl. 11.
Pako Corp., Minneapolis, Minn. 896,883, pub. 6–2–70. Cl. 31.
Pan-Am Ceramic Sales Corp., Brownsville, Tex. 772,083, canc. Cl. 12.
Pan American Metal Products Co., Inc., Miami, Fla. 772,319, canc. Cl. 34.
Paper Art Co., Inc., Indianapolis, Ind. 533,538, ren. 8–18–70. Cl. 37.
Parham, B. Esther, d.b.a. National Beauty Supply Co., New York, N.Y. 772,482, canc. Cl. 51.
Parke, Davis, & Co., Detroit, Mich. 896,936, pub. 6–2–70. Cl. 38.
Parks, H. G., Inc., Baltimore, Md. 897,005, pub. 6–2–70. Cl. 46.
Patou, Jean, Inc., New York, N.Y. 529,337, ren. 8–18–70. Cl. 51.
Paxton Originals Ltd., New York, N.Y. 772,513, canc. Cl. 3.
Peabody Galion Corp., from Hercules Galion Products, Inc., Galion, Ohio. 896,833, pub. 6–2–70. Cl. 23.
Penney, J. C., Co., Inc., New York, N.Y. 896,904, pub. 6–2–70. Cl. 35.
Pennzoil United, Inc., Oil City, Pa. 528,641, ren. 8–18–70. Cl. 15.
Pennzoil United, Inc., Oil City, Pa. 528,683, ren. 8–18–70. Cl. 15.
Perfect Bloomer Co., Brooklyn, N.Y. 772,373, canc. Cl. 39.
Perfect Parts, Inc., Carlstadt, N.J. 896,816, pub. 6–2–70. Cl. 21.
Permalab-Metalab Equipment Corp., Los Angeles, Calif. 772,297, canc. Cl. 26.
Peterson, Charles A., Co., The, Cleveland, Ohio. 532,750, ren. 8–18–70. Cl. 46.
Petroleum Engineering Co., Inc., Baltimore, Md. 772,236, canc. Cl. 23.
Petit, Geo. I., Inc., Doylestown, Ohio. 896,998, pub. 6–2–70. Cl. 46.
Pfizer, Chas., & Co., Inc.: *See*— Pfizer Inc.
Pfizer Inc., New York, from Chas. Pfizer & Co., Inc., New York, N.Y. 897,028, pub. 6–2–70. Cl. 46.
Pierce Pre-Cooked Foods, Inc., Moorefield, W. Va. 897,039–40, pub. 6–2–70. Cl. 46.
Pillsbury Co., The, Minneapolis, Minn. 897,024, pub. 6–2–70. Cl. 46.
Piru Citrus Association, Piru, Calif. 528,033, ren. 8–18–70. Cl. 46.
Plumbcraft Mfg. Corp., Bedford Heights, Ohio. 896,705, pub. 6–2–70. Cl. 5.
Plumbcraft Mfg. Corp., Bedford Heights, Ohio. 896,738–9, pub. 6–2–70. Cl. 13.
Politec International, S.A., Mexico City, Mex. 896,756, pub. 6–2–70. Cl. 16.
Porter, C. O., Machinery Co., Grand Rapids, Mich. 896,849, pub. 6–2–70. Cl. 23
Potthelf, Theodore J., New York, N.Y. 268,939, ren. 8–18–70. Cl. 46.
Powerdyne Inc., Lake Oswego, Oreg. 896,810, pub. 6–2–70. Cl. 21.
Process Operators, Inc., Houston, Tex. 897,103, pub. 6–2–70. Cl. 101.
Procter & Gamble Co., The, Cincinnati, Ohio. 533,588, ren. 8–18–70. Cl. 37.
Procter & Gamble Co., The, Cincinnati, Ohio. 772,493–4, canc. Cl. 52.
Products Chemical Co., Cleveland, Ohio. 897,072, pub. 1–2–68. Cl. 52.
Puritan Industries, Inc., Chicago, Ill. 896,884, pub. 6–2–70. Cl. 31.
Quaker Oats Co., The, Chicago, Ill. 897,031, pub. 6–2–70. Cl. 46.
Radiation Instrument Development Laboratory, Melrose Park, Ill. 772,292–3, canc. Cl. 26.
Rainier Pulp & Paper Co., New York, N.Y. 275,079, ren. 8–18–70. Cl. 1.
Ralston Purina Co., St. Louis, Mo. 897,046–7, pub. 6–2–70. Cl. 46.
Rapco, Inc., Chicago, Ill. 896,826, pub. 6–2–70. Cl. 22.
Rapid Printing Co., Dayton, Ohio. 772,306, canc. Cl. 32.
Ravbestos-Manhattan, Inc., Passaic, N.J. 530,121, ren. 8–18–70. Cl. 35.
Reade, Walter, Organization, Inc., The, Oakhurst, N.J. 896,933, pub. 6–2–70. Multiple Class (Classes 38 and 107).
Real Estate Central, Inc., Washington, D.C. 897,113, pub. 6–2–70. Cl. 101.
Rebikoff, Dimitri: *See*— Rebikoff Underwater Products, Inc.
Rebikoff Underwater Products, Inc., from Dimitri Rebikoff, Fort Lauderdale, Fla. 896,862, pub. 6–2–70. Cl. 26.
Reddi-Wip, Inc., Los Angeles, Calif. 897,038, pub. 6–2–70. Cl. 46.
Reemtsma Cigarettenfabriken G.m.b.H., Hamburg, Germany. 896,761, pub. 6–2–70. Cl. 17.
Regensteiner Publishing Enterprises, Inc., Chicago, Ill. 897,110, pub. 6–2–70. Multiple Class (Classes 101 and 106).
Reid-Provident Laboratories Inc., Atlanta, Ga. 896,774, pub. 2–24–70. Cl. 18.
Reply O-Letter Co., New York, N.Y. 772,530, canc. Cl. 38.
Request, Inc., Tulsa, Okla. 897,106, pub. 6–2–70. Cl. 101.
Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 896,763, pub. 6–2–70. Cl. 17.
Rialto Orange Co., Rialto, Calif. 276,577, ren. 8–18–70. Cl. 46.
Richardson Co., The, Melrose Park, Ill. 772,063, canc. Cl. 6.
Ritzer of Austria, Inc., from Konditorei Ritzer, Inc., Cleveland, Ohio. 897,003, pub. 2–14–70. Cl. 46.
Robert-Walters Corp., Chicago, Ill. 896,959, pub. 6–2–70. Cl. 39.
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Robins, A. H., Co, Inc., Richmond, Va. 533,069, ren. 8–18–70. Cl. 52.
Robins, A. H., Co., Inc., Richmond, Va. 897,011, pub. 6–2–70. Cl. 46.
Rochet, Jean, Societe Anonyme, Asnieres, France. 896,799, pub. 6–2–70. Cl. 21.
Rockware, Inc., Rockford, Ill. 896,737, pub. 6–2–70. Multiple Class (Classes 13 and 32).
Rogers Wholesalers, Inc., Jamaica, N.Y. 897,111, pub. 6–2–70. Cl. 101.
Rose-Derry Co., Newton, Mass. 772,328, canc. Cl. 34.
Roxane, Phillips, Inc., New York, N.Y. 896,765, pub. 6–2–70. Cl. 18.
Royal City Foods Ltd., New Westminster, British Columbia, Canada. 897,008, pub. 4–14–70. Cl. 46.
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Saf-T-Bak, Inc., Altoona, Pa. 529,323, ren. 8–18–70. Cl. 39.
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Scarne, John, Games, Inc., North Bergen, N.J. 896,822, pub. 6–2–70. Cl. 22.
Scholl Mfg. Co., Inc., The, Chicago, Ill. 528,934, ren. 8–18–70. Cl. 39.
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Seward Luggage Mfg. Co., Inc., Petersburg, Va. 896,701, pub. 4–7–70. Cl. 3.
Sexauer, J. A., Mfg. Co., Inc., White Plains, N.Y. 533,533, ren. 8–18–70. Cl. 23.
Shedd-Brown, Inc., Minneapolis, Minn. 896,927, pub. 6–2–70. Cl. 38.
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Sheffield Twist Drill & Steel Co. Ltd., Sheffield, England. 896,847, pub. 6–2–70. Cl. 23.
Sherwin-Williams Co., The, Cleveland, Ohio. 275,775, ren. 8–18–70. Cl. 16.
Shuffett, Robert L., Greensburg, Ky. 896,694, pub. 6–2–70. Cl. 1.
Simone, Monica, Cosmetics, Inc., Brooklyn, N.Y. 896,879, pub. 6–2–70. Cl. 29.
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Slumbertogs, Inc., New York, N.Y. 896,968, pub. 6–2–70. Cl. 39.
Slyd-In Products, Greensboro, N.C. 896,885, pub. 6–2–70. Cl. 32.
Smith International, Inc., Newport Beach, Calif. 525,589, ren. 8–18–70. Cl. 23.
Smith Kline & French Laboratories, Philadelphia, Pa. 896,775, pub. 6–2–70. Cl. 18.
Smith Kline & French Laboratories, Philadelphia, Pa. 896,778, pub. 4–7–70. Cl. 18.
Smith, Thomas R., Newtown, Conn. 896,913, pub. 6–2–70. Cl. 37.
Societe Des Usines Chimiques Rhone-Poulenc French Joint Stock Co., Paris, France. 896,766, pub. 12–24–68. Cl. 18.
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South Carolina Tricentennial Commission, Columbia, S.C. 897,107, pub. 6–2–70. Cl. 101.
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Southwest Georgia Oil Co., Inc., Bainbridge, Ga. 896,750, pub. 6–2–70. Cl. 15.
Southwestern Industries, Inc., Los Angeles, Calif. 896,872, pub. 6–2–70. Cl. 26.
Spartans Industries, Inc., New York, N.Y. 896,973, pub. 6–2–70. Cl. 39.
Standard Oil Co., The, Cleveland, Ohio. 896,746, pub. 12–2–69. Cl. 15.
Star Expansion Co., Mountainville, N.Y. 533,377, ren. 8–18–70. Cl. 23.
Star-Kist Foods, Inc., Terminal Island, Calif. 897,004, pub. 6–2–70. Cl. 46.
Star-New Era, Inc., Hawthorne, N.J. 80,097, ren. 8–18–70. Cl. 26.
Stauffer Chemical Co., New York, N.Y. 270,227, ren. 8–18–70. Cl. 52.
Steiner KG, Schameder bei Erndtebruck, Germany. 896,806, pub. 6–2–70. Cl. 21.
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Stewart Paint Mfg. Co., Minneapolis, Minn. 533,111, ren. 8–18–70. Cl. 16.
Stillman, William F., Los Angeles, Calif. 772,082, canc. Cl. 12.
Stoffel Seals Corp., Tuckahoe, N.Y. 772,351, canc. Cl. 37.
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Tamms Industries Co., Chicago, Ill. 772,129, canc. Cl. 16.
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Taylor Food Products, Inc., El Segundo, Calif. 897,025, pub. 6–2–70. Cl. 46.
Textron, Inc., Providence, R.I. 526,203, ren. 8–18–70. Cl. 16.
Thayer, Inc., Gardner, Mass. 524,775, ren. 8–18–70. Cl. 32.
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Tobey's Rasp Service, Inc., Santa Cruz, Calif. 896,858, pub. 6–2–70. Cl. 23.
Tootsie Roll Industries, Inc., Chicago, Ill. 897,033, pub. 6–2–70. Cl. 46.
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Topps Chewing Gum, Inc., Brooklyn, N.Y. 897,001, pub. 6–2–70. Cl. 46.
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Totizo, Inc., Beverly Hills, Calif. 897,061–4, pub. 6–2–70. Cl. 51.
Trans World Shoe Corp., New York, N.Y. 772,376, canc. Cl. 39.
Tribune Co., The, Tampa, Fla. 896,038, pub. 6–2–70. Cl. 38.
Troyer Potato Products, Inc., Waterford, Pa. 897,027, pub. 6–2–70. Cl. 46.
Unitec Products, Inc., Timonium, Md. 896,726, pub. 6–2–70. Cl. 12.
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Unipak, Inc., Boston, Mass. 896,730, pub. 6–2–70. Cl. 13.
United Newspapers Magazine Corp., New York, N.Y. 772,533, canc. Cl. 38.
United Silver & Cutlery Co., Los Angeles, Calif. 896,846, pub. 6–2–70. Cl. 23.
U.S. Industries, Inc., New York, N.Y. 896,969, pub. 5–12–70. Cl. 39.
United States Plastics, Inc., Hialeah, Fla. 772,059, canc. Cl. 5.
U.S. Plywood-Champion Papers Inc., Hamilton, Ohio. 531,609, ren. 8–18–70. Cl. 37.
U.S. Sugar Co., Inc., Buffalo, N.Y. 897,007, pub. 6–2–70. Cl. 46.
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Universal Business Machines, Inc., Columbia, S.C. 896,843, pub. 6–2–70. Cl. 23.
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Urethane Fabricators, Inc., from Am-Finn Sauna, Inc., Camden, N.J. 896,724, pub. 6–2–70. Cl. 12.
Vanderbilt, R. T., Co., Inc., New York, N.Y. 896,707, pub. 6–2–70. Cl. 6.
Van Slyke, Albert L., Redding, Calif. 772,374, canc. Cl. 39.
Vantorex Ltd., d.b.a. Riker Laboratories, Loughborough, England. 772,145, canc. Cl. 18.
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Venice Maid Co., Inc., Vineland, N.J. 529,322, ren. 8–18–70. Cl. 46.
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Victor Equipment Co., from Victor Equipment Co., San Francisco, Calif. 896,882, pub. 6–2–70. Multiple Class (Classes 31 and 34).
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Waters Mfg., Inc., Wayland, Mass. 772,267, canc. Cl. 26.
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Webr Corp., Milwaukee, Wis. 896,902, pub. 6–2–70. Cl. 34.
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Wendale Corp., d.b.a. Best Equipment Co., Philadelphia, Pa. 897,116, pub. 6–2–70. Cl. 101.

Wenger S.A., Delemont, Bern, Switzerland. 896,851, pub. 6–2–70. Cl. 23.
Western Farmers Association, Seattle, Wash. 522,121, ren. 8–18–70. Cl. 46.
Western Publishing Co., Inc., Racine, Wis. 896,937, pub. 6–2–70. Cl. 38.
Western Union Telegraph Co., The, New York, N.Y. 526,408, ren. 8–18–70. Cl. 104.
Westinghouse Electric Corp., Buffalo, N.Y. 772,249, canc. Cl. 26.
Whitmore Mfg. Co., The, Cleveland, Ohio. 526,618, ren. 8–18–70. Cl. 15.
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Woolmark Corp., New York, N.Y. 772,412, canc. Cl. 42.
Wyandotte Chemicals Corp., Wyandotte, Mich. 897,074, pub. 6–2–70. Cl. 52.
Wyandotte Chemicals Corp., Wyandotte, Mich. 897,076, pub. 6–2–70. Cl. 52.
Wyandotte Chemicals Corp., Wyandotte, Mich. 896,709, pub. 6–2–70. Cl. 6.
X-Act Copy Corp., Montvale, N.J. 896,811, pub. 6–2–70. Cl. 21.
Zenith Specialty Bag Co., Inc., South El Monte, Calif. 896,697, pub. 6–2–70. Cl. 2.

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NOTICES

Board of Appeals Decisions Rendered in the Month of July 1970

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Patents Available for Licensing or Sale

D. 215,183. FLEXIBLE TRANSMISSION COUPLING FOR THREE-WHEELED VEHICLE. James H. Mayland, 173 Southwood Drive, Old Bridge, N.J., 08857.

3,030,964. SMOKE FILTERS. USM Corporation, 140 Federal St., Boston, Mass., 02107.

3,332,106. FOOD TOOL, PATTY FORMER. Gunther Zoefeld, 305 Brittany Drive, West Hurley, N.Y., 12491.

3,504,832. FOOD AND DRINK SERVING TRAY. Pat Corvetti, 811 Elmont Road, Elmont, N.Y., 11003.

3,513,653. WORLD TIME WRISTWATCH. William G. Denardo, 1684 9th Ave., San Francisco, Calif., 94122.

3,515,384. HAND OPERATED FRICTION TYPE EXERCISING DEVICE. David D. Alexander, 214 E. Hermosa Drive, San Antonio, Tex., 78212.

3,516,438. MULTI-WAY FLUID CONTROL VALVE. Marmorek & Bierman, 420 Lexington Ave., New York, N.Y., 10017.

3,520,148. SELF-COOLING CONTAINER. Richard D. Fuerle, 263 Filbert Ave., Elsmere, Del., 19805.

The following 2 design patents are offered by: Susan M. Peoples, 701 Portland St., Baltimore, Md., 21230.

D. 213,627. PORTABLE ONE WAY COIN OPERATED TELEPHONE FOR INSTITUTIONS AND HOSPITALS.

D. 217,156. PORTABLE TWO-WAY COIN OPERATED TELEPHONE.

The following 2 patents are offered by: Lavinia G. Klempay. Correspondence should be directed to: Peter L. Klempay, 1310 Mahoning Bank Bldg., Youngstown, Ohio, 44503.

3,192,865. HYDRAULICALLY ACTUATED PUMP.

3,215,316. POWER SPRAYING EQUIPMENT.

The following 3 patents are offered by: John W. Barnd, 32 Hollybrook Road, Paramus, N.J.

3,351,128. MULTI-ZONE TEMPERATURE CONTROL.

3,496,991. FLUID TEMPERATURE REGULATING METHOD AND APPARATUS.

3,515,345. MULTI-ZONE TEMPERATURE CONTROL.

The following 4 patents are offered by: Albert Meszaros, 24 Eastern Ave., Ossining, N.Y., 10562.

3,447,827. ROAST LIFTER.

3,453,676. DUSTPAN.

3,500,477. THUMB PLIER GLOVE.

3,507,599. ATTACHED SELF-SUPPORT COMPRESSED TOOTHBRUSH.

General Motors Corporation is prepared to grant non-exclusive licenses under the following patent upon reasonable terms.

Applications for license may be addressed to: The Director, Patent Section, General Motors Building, 3044 West Grand Blvd., Detroit, Mich., 48202.

3,384,442. COMBUSTION APPARATUS.

General Electric Company is prepared to grant non-exclusive licenses under the following 3 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following patent may be addressed to: Patent Counsel, Metallurgical Products Department, General Electric Company, Box 237–GPO, Detroit, Mich., 48232.

3,410,733. METHOD OF TREATING P–6 ALLOYS IN THE FORM OF ARTICLES OF SUBSTANTIAL THICKNESS INCLUDING THE STEP OF WARM WORKING.

Applications for license under the following 2 patents may be addressed to: Patent Counsel, Electronic Systems Division, General Electric Company, Legal Section, Bldg. 1, Room 36, Court Street Plant, Syracuse, N.Y., 13201.

3,086,178. DIRECTIONAL COUPLER FOR INDIVIDUALLY CONNECTING EACH OF PLURAL INPUTS, WITHOUT CROSS TALK, TO ALL PLURAL OUTPUTS.

3,117,282. MASER RECOVERY SYSTEM.

Eastman Kodak Company announces that, in accordance with its policy, nonexclusive licenses upon reasonable terms (under the circumstances prevailing at the time) are available to responsible domestic applicants under the following 14 patents.

Applications for license may be addressed to: The Director, Patent Department, Eastman Kodak Company, 343 State St., Rochester, N.Y., 14650.

3,240,550. MOTION PICTURE APPARATUS WITH AUTOMATIC REWIND.

3,253,923. PROCESS FOR INTENSIFYING AND FIXING PRINT-OUT IMAGES.

3,265,458. ELECTRIC DRIVE CAMERA STOP.

3,300,155. AUTOMATIC REWINDING MECHANISM FOR FILM OR THE LIKE.

3,352,673. MULTILAYER COLOR PHOTOGRAPHIC ELEMENT.

New Applications Received During May 1970

Patents	8198
Designs	462
Plant Patents	9
Reissues	38
	8707

Issue—August 25, 1970

Patents	901	No. 3,525,103 to No. 3,526,003, incl.
Designs	34	No. 218,512 to No. 218,545, incl.
Reissues	5	No. 26,941 to No. 26,945, incl.
Total	940	

3,394,901. AUTOMATIC LATCHING MECHANISM AND FILM GUIDE ARM FOR A CARTRIDGE-LOADED MOTION PICTURE PROJECTOR.

3,429,518. DEVICE FOR STRIPPING AND FEEDING STRIP MATERIAL FROM A ROLL.

3,468,664. HEAT PROCESSABLE PHOTOGRAPHIC ELEMENTS HAVING WATER VAPOR-IMPERMEABLE PROTECTIVE OUTER LAYER.

3,487,919. BOOK STYLE CONTAINER FOR FILM OR TAPE REELS AND METHOD OF MAKING SAME.

3,493,161. WEB SUPPORT ROLLER SURFACE.

3,494,269. PHOTOGRAPHIC CAMERA COMPRISING A FLASH SYNCHRONIZATION DEVICE AND THE LIKE.

3,497,863. SOCKET STRUCTURE FOR MULTILAMP PHOTOFLASH UNIT.

3,498,556. WEB TRANSPORT APPARATUS.

3,506,449. GELATIN COATING COMPOSITIONS WITH N - TALLOW - BETA - IMINODIPROPIONIC ACIDS.

RCA Corporation offers to grant non-exclusive licenses on reasonable terms and conditions under the following 36 patents.

Inquiries respecting licenses should be addressed to: RCA Corporation, Staff Vice President, Domestic Licensing, 1133 Avenue of the Americas, New York, N.Y., 10036.

3,509,803. PHOTOCOMPOSING APPARATUS.

3,510,363. THERMOELECTIC GENERATOR SUITABLE FOR USE AT ELEVATED TEMPERATURES IN A VACUUM.

3,510,573. VIDEO CIRCUITS FOR COLOR TELEVISION RECEIVERS.

3,510,578. TELEVISION CAMERA POWER SUPPLY.

3,510,579. TRANSISTORIZED AUTOMATIC - GAIN - CONTROLLED AMPLIFIER.

3,510,580. GAIN CONTROLLED TRANSISTOR AMPLIFIER WITH CONSTANT BANDWIDTH OPERATION OVER THE AGC CONTROL RANGE.

3,510,604. DRUM CONSTRUCTION FOR HELICAL SCAN TAPE RECORDER.

3,510,657. OPTICAL MULTIPLEXING APPARATUS.

3,510,675. LINEAR FLUX CONTROL CIRCUIT.

3,510,681. CURRENT STEERING NETWORKS PROVIDING THE EXCLUSIVE OR FUNCTION.

3,510,722. PROTECTION CIRCUITS FOR KINESCOPES.

3,510,736. INTEGRATED CIRCUIT PLANAR TRANSISTOR.

3,510,743. LOAD SENSING AND COMPENSATING CONTROL CIRCUITS.

3,510,779. VARYING BANDWIDTH FREQUENCY SHIFT KEYING RECEIVER.

3,510,802. ULTRA-HIGH FREQUENCY TRANSISTOR OSCILLATOR.

3,510,805. IMPEDANCE CONTROL USING TRANSFERRED ELECTRON DIODES.

3,511,329. SPEED CONTROL FOR AUTOMOTIVE VEHICLES.

3,511,553. MOTIONLESS HOLOGRAM IMAGING.

3,512,027. ENCAPSULATED OPTICAL SEMICONDUCTOR DEVICE.

3,512,039. DEFLECTION CORRECTOR CIRCUIT FOR CATHODE RAY TUBE.

3,512,058. HIGH VOLTAGE TRANSIENT PROTECTION FOR AN INSULATED GATE FIELD EFFECT TRANSISTOR.

3,512,098. TRANSISTOR ELECTRICAL CIRCUIT WITH COLLECTOR VOLTAGE STABILIZATION.

3,512,868. APPARATUS FOR FORMING A BEAM OF LIGHT.

3,513,022. METHOD OF FABRICATING SEMICONDUCTOR DEVICES.

3,513,364. FIELD EFFECT TRANSISTOR WITH IMPROVED INSULATIVE LAYER BETWEEN GATE AND CHANNEL.

3,513,398. BALANCED MIXER CIRCUITS.

3,513,403. INTEGRATED SEMICONDUCTOR STRUCTURE WITH FREQUENCY SELECTIVE TRANSMISSION LINE SECTIONS.

3,513,405. FIELD-EFFECT TRANSISTOR AMPLIFIER.

3,513,406. RF POWER AMPLIFIER.

3,513,421. PROTECTIVE APPARATUS FOR A SUPERCONDUCTIVE SWITCH.

3,513,453. MAGNETIC CORE MEMORY PLANE ASSEMBLY AND METHOD.

3,514,024. TAPE BASKET STRIPPER APPARATUS.

3,514,198. APPARATUS FOR PREVIEWING SLIDES.

3,514,287. PHOTOGRAPHIC METHOD FOR MAKING TRI-COLORED CATHODE RAY SCREEN.

3,514,702. DIGITAL DEMODULATOR SYSTEM.

3,514,715. MULTILAYER, LIGHT-EMITTING SEMICONDUCTOR DEVICE.

Certificates of Correction for the Week of Aug. 25, 1970

Re. 26,850	3,481,656	3,498,051	3,506,070
Re. 26,856	3,483,100	3,498,538	3,506,071
D. 216,793	3,484,732	3,498,871	3,506,076
3,311,998	3,484,747	3,498,999	3,506,470
3,316,839	3,484,947	3,499,081	3,506,552
3,338,142	3,485,784	3,499,231	3,506,559
3,350,418	3,487,445	3,499,835	3,506,567
3,378,074	3,487,833	3,499,936	3,506,573
3,385,899	3,488,421	3,500,718	3,506,643
3,397,442	3,488,479	3,500,796	3,506,656
3,398,237	3,488,759	3,500,884	3,506,668
3,400,119	3,489,154	3,500,990	3,506,680
3,410,871	3,489,546	3,501,307	3,506,826
3,414,587	3,489,752	3,501,363	3,506,864
3,423,302	3,490,352	3,501,452	3,506,923
3,427,109	3,490,693	3,501,495	3,506,961
3,428,579	3,491,059	3,501,497	3,507,653
3,433,874	3,491,169	3,501,754	3,507,694
3,441,838	3,491,196	3,502,132	3,507,729
3,445,233	3,491,218	3,502,454	3,507,789
3,449,161	3,491,325	3,502,519	3,507,857
3,449,409	3,491,596	3,502,647	3,507,947
3,452,669	3,491,969	3,502,650	3,508,159
3,456,197	3,492,261	3,502,671	3,508,415
3,457,267	3,492,368	3,502,690	3,508,545
3,457,328	3,492,439	3,502,695	3,508,639
3,459,302	3,492,655	3,502,912	3,508,656
3,459,670	3,492,814	3,503,060	3,508,745
3,459,681	3,492,989	3,503,417	3,508,768
3,459,753	3,493,660	3,503,622	3,508,998
3,460,353	3,493,948	3,503,762	3,509,023
3,462,488	3,494,487	3,504,004	3,509,099
3,463,734	3,494,645	3,504,082	3,509,137
3,467,108	3,494,724	3,504,396	3,509,224
3,467,643	3,494,938	3,504,431	3,509,277
3,468,890	3,495,072	3,504,548	3,509,346
3,468,912	3,495,241	3,504,715	3,509,418
3,470,211	3,495,260	3,504,740	3,509,587
3,471,594	3,495,405	3,504,741	3,509,631
3,473,845	3,495,743	3,504,824	3,509,748
3,475,086	3,495,963	3,504,896	3,509,841
3,475,195	3,496,083	3,505,044	3,509,939
3,475,335	3,496,232	3,505,141	3,510,455
3,475,417	3,496,236	3,505,177	3,510,578
3,476,219	3,496,337	3,505,184	3,510,975
3,476,386	3,496,746	3,505,223	3,511,097
3,476,582	3,497,257	3,505,243	3,511,116
3,476,688	3,497,286	3,505,267	3,511,184
3,478,386	3,497,330	3,505,321	3,511,305
3,479,139	3,497,469	3,505,411	3,511,854
3,479,309	3,497,476	3,505,557	3,513,151
3,480,683	3,497,778	3,505,648	3,513,187
3,480,718	3,497,954	3,505,670	3,514,590
3,481,052	3,498,015	3,506,022	

Proposed Changes in Patent Front Page

Changes in the front page used on some patents beginning August 4, 1970 are proposed for adoption effective with the issue of patents on January 5, 1971. They relate mainly to the sequence and grouping of data items. The revised format is illustrated in specimens appearing on the following pages.

In the revised front page, the title of the invention will always appear in the same location on every patent. Assignment information will be printed immediately below the inventor(s) and all names will appear in bold face type. As in the present practice, the full address of the inventor(s) is given in patents in which no assignment appears. Where fractional part interests in a patent are assigned, a statement to that effect will appear instead of the numerical amount of the interest assigned to each party.

All persons who desire to present their views, objections, suggestions, or recommendations regarding the proposed changes in the front page of printed patents are invited to do so by submitting the same to the Commissioner of Patents, Washington, D.C., 20231, on or before September 25, 1970.

Aug. 5, 1970. WILLIAM E. SCHUYLER, JR., *Commissioner of Patents.*

SPECIMEN

United States Patent [11] 3,522,846

[54] **AUTOMOTIVE TRANSMISSION**

14 Claims, 5 Drawing Figures

[72] Inventors: **Robert R. Smyth**, Lincoln, Mass.; **William B. Smyth**, Valley Forge, Pa.; **Ralston B. Smyth**, Brewster, Mass.

[73] Assignee: **Robert R. Smyth**, Lincoln, Mass.; **William B. Smyth**, Valley Forge, Pa.; **John A. Lahive Jr.**, Hingham, Mass.; fractional part interest to each

[45] Patented: **Nov. 18, 1969**

[22] Filed: **Aug. 9, 1967**

[21] Appl. No.: **659,352**

[ ] **Related U.S. Application(s)**

Division of Ser. No. 654,000, Dec. 27, 1965, now Pat. No. 9,654,000, which is a division of Ser. No. 649,000, Oct. 3, 1963, now abandoned

[32] [33] [31] **Convention Priority Data**

June 24, 1968	Great Britain	43,284/68
Aug. 13, 1968	Netherlands	536,421,839
Sept. 29, 1968	Union of S. Africa	2,145,894

[52] **U.S. Cl.** 85/83, 85/04

[51] **Int. Cl.** **F16b 13/06**

[50] **Field of Search** 85/80, 81, 82, 83, 86, 64, 99, 21; 93/01, 02, 60

[56] **References Cited**

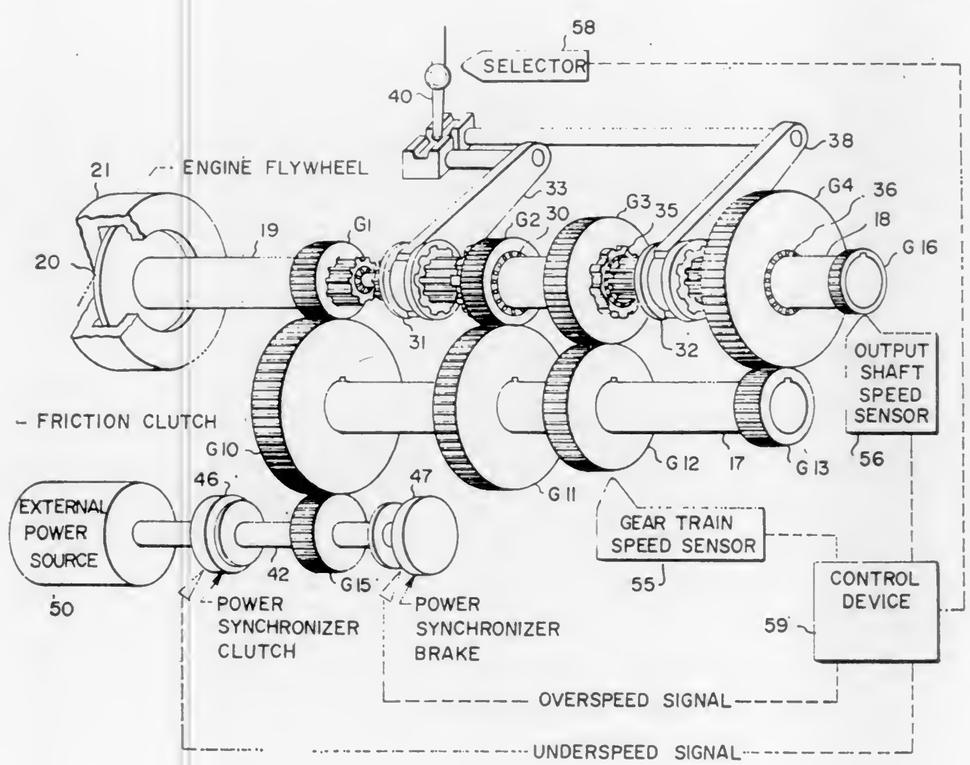
UNITED STATES PATENTS

3,103,826	9/1963	Jaeschke	74—365
3,182,778	5/1965	Droschel	74—339
3,248,962	5/1966	McNamara et al.	74—339
3,364,795	1/1968	De Castelet	74—339

Primary Examiner—Arthur T. McKeon
Attorney—Richard Roe

ABSTRACT

An automotive transmission which employs sensing transducers to determine the relative speeds of gear elements on the output shaft and transmission shaft. In order to shift from one gear ratio to another the outputs of these transducers are compared with the resultant signal used to control a separate power source to speed up or slow down the transmission shaft while the transmission is in neutral until the elements to be meshed are matched in speed.



SPECIMEN

United States Patent

[11] 3,522,847

[54] **CONTROL UNIT FOR GENERATOR POWER PLANT**

12 Claims, 3 Drawing Figures

[72] Inventor: **Charles J. Martin,** 8401 Nevada Ave., Canoga Park, Calif. 91304

[45] Patented: **July 15, 1969**
The portion of the term of this patent subsequent to July 12, 1983, has been disclaimed.
[22] Filed: **Dec. 30, 1966**
[21] Appl. No.: **606,113**

Related U.S. Application(s)

[ ] Continuation-in-part of Application Ser. No. 666,331, Sept. 8, 1965, now abandoned.

[52] U.S. Cl. 290/31
[51] Int. Cl. H02j 9/08
H02k 3/52
[50] Field of Search 85/80, 85/81, 82, 83, 84, 64, 19, 20

[56] **References Cited**

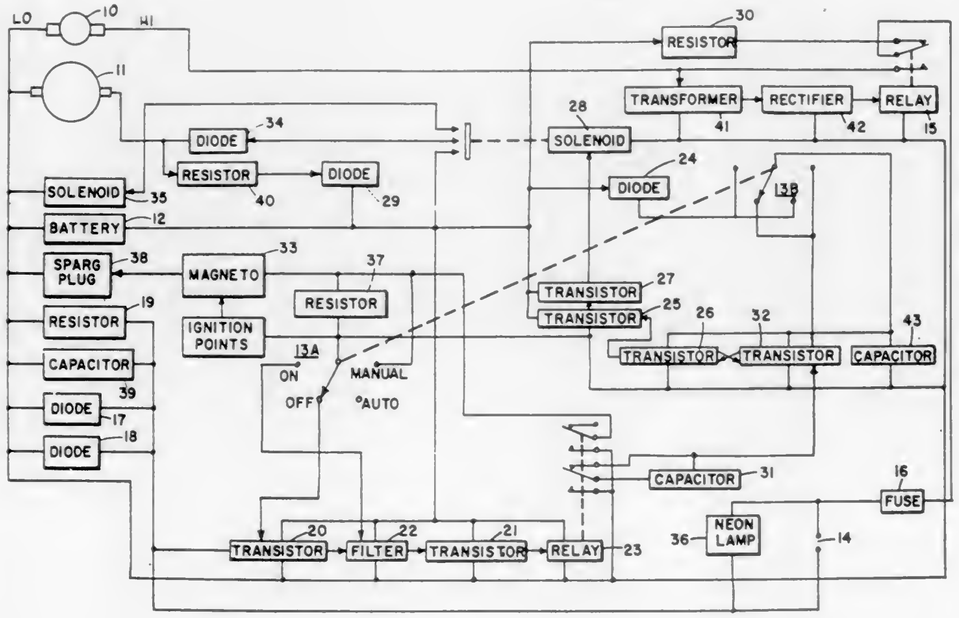
UNITED STATES PATENTS

2,307,364	1/1943	Elkin	290/31
3,047,725	1/1962	Spinelli et al.	290/36

Primary Examiner—Oris L. Rader
Assistant Examiner—W. E. Duncanson, Jr.

ABSTRACT

The present application provides a reliable, novel, and improved control unit for a generator power plant involving manual start-up and start-down, automatic start-up and start-down under control of externally applied load, and automatic start-up and shut-down in response to failure of a main power line source.



SPECIMEN

United States Patent

[11] 3,522,848

[54] **AXIALLY SPLIT EXPANDING PLUG OF ELASTICALLY FLEXIBLE MATERIAL FOR AN ANCHOR BOLT OR SCREW**

5 Claims, 3 Drawing Figures

[72] Inventors: **Charles J. Baumgardner, Jr.,** Washington, D.C.; **Michael M. Gordon,** Falls Church, Va.; **George H. Pickard,** Annandale, Va.
[73] Assignee: **E. I. du Pont de Nemours and Co.,** Wilmington, Del., a corporation of Delaware

[45] Patented: **Aug. 26, 1968**
[22] Filed: **Aug. 4, 1966**
[21] Appl. No.: **453,110**

Related U.S. Application(s)

[ ] Division of Ser. No. 231,670, May 26, 1964, now Pat. No. 2,436,785 and Ser. No. 293,163, Sept. 8, 1965, now abandoned

[30] **Convention Priority Application Data**

Sept. 29, 1965	Union of S. Africa	2,145,894
June 24, 1966	Great Britain	43,284/68

[52] U.S. Cl. 85/83, 85/84
[51] Int. Cl. F16b 13/06
[50] Field of Search 85/80.6, 85/81, 82, 83; 90/06, 12, 34, 60, 95; 93/44, 55, 56

[56] **References Cited**

UNITED STATES PATENTS

625,216	5/1899	Tobey	85/84
2,095,153	10/1937	Rosenberg	85/19
2,877,682	3/1968	Schenkel	85/84 X
3,383,976	3/1959	Barry et al.	85/84 UX

FOREIGN PATENTS OR APPLICATIONS

652,216	9/1964	Belgium	85/83
335,508	9/1930	Great Britain	85/84
508,673	7/1939	Great Britain	85/19
1,048,548	11/1966	Great Britain	85/83

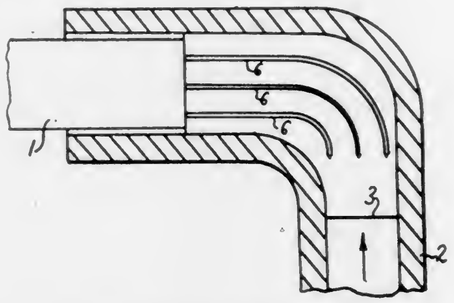
OTHER PUBLICATIONS

Chemical Materials Catalogue, 13th edition, 1962, Reinhold Publishing Co., p. 278, Hooker Chemical

Primary Examiner—Marion Parsons, Jr.
Assistant Examiner—John J. Campbell
Attorney—Jacob L. Kollin

ABSTRACT

The invention provides an axially split expanding plug which has a tabular portion at its rear end and elevations projecting from its peripheral contours. The divided portion of the plug comprises at least along part of its length consecutive sections of polygonal cross section. Each section is angularly offset in relation to the adjoining sections in such a way that the corners of one section project beyond the flats or like surface portions of an adjoining section.



Disclaimers

3,371,327.—*John L. Anderson* and *Hans-Otto G. Leilich,* Poughkeepsie, and *David H. Redfield,* Wappingers Falls, N.Y. MAGNETIC CHAIN MEMORY. Patent dated Feb. 27, 1968. Disclaimer filed May 5, 1970, by the assignee, *International Business Machines Corporation.*

Hereby enters this disclaimer to claim 1 of said patent.

3,378,011.—*John P. Vitello,* Williamsville, N.Y. SELF-INFLATING CATHETER WITH MEANS TO PREVENT LEAKAGE OF INFLATION FLUID. Patent dated Apr. 16, 1968. Disclaimer filed June 26, 1970, by the inventor and the assignee, *Sterilon Corporation.*

Hereby enter this disclaimer to claim 2 of said patent.

Appeals—Confidential Memoranda

The practice of presenting confidential memoranda to the Board of Appeals is hereby terminated. All correspondence with the Board of Appeals, whether by the Examiner or the applicant will be on the record. No unpublished decisions which are unavailable to the general public by reason of 35 U.S.C. 122 will be cited by the Examiner or the applicant except that either the Examiner or the applicant has the right to cite an unpublished decision in an application having common ownership with the application on appeal.

WILLIAM E. SCHUYLER, JR.,
Commissioner of Patents.

July 28, 1970.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JULY 28, 1970

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	12-04-68
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	4-02-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	12-03-68
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director. Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	1-02-69
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director. Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	5-27-68
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	7-22-69
SECURITY, GROUP 220—S. BOYD, Director. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	9-11-68
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director. Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	1-03-69
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	12-17-68
PHYSICS, GROUP 280—R. L. EVANS, Director. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	12-16-68
DESIGNS, GROUP 290—S. BOYD, Director. Industrial Arts; Household, Personal and Fine Arts.	10-29-69
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director. Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	5-21-69
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director. Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	1-09-69
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director. Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	4-01-69
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director. Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	7-11-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director. Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	3-17-69

Total number of pending applications (excluding Designs)	181,651
Total number of Design applications pending	3,129

Expiration of patents: The patents within the range of numbers indicated below expire during July 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,644,159 to 2,647,258, inclusive
Plant Patents	Numbers 1,201 to 1,207, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE REEDUS R. ESTES

No. 8249. Decided February 19, 1970

[57 CCPA —; 420 F.2d 1397; 164 USPQ 519]

1. PATENTABILITY—PROCESS—OBVIOUSNESS—ADVANTAGEOUS RESULTS NEED NOT BE CLAIMED.

"The Board's decision and opinion in this case * * * proceeds on incorrect legal premises and fails to consider the results achieved by appellant because they are not recited in the claims. The Board refused to consider the lower salt concentration achieved by appellant's process because 'these claims do not remove [the salt].' There is no need to recite the result of lower salt, since it will inherently occur through the recited limitation on alkali concentration. Similarly, the Board refused to consider the clarity of film and the degree of substitution obtained by appellant's process, because the claims were not directed to a process yielding a film and did not recite the degree of substitution. There can be no doubt from the record that these advantages accrue from the claimed process, and it is not required that they be recited."

2. SAME—PARTICULAR SUBJECT MATTER—"AMYLOSE SOLUTIONS."

The refusal of certain claims to a process of preparing amylose ethers, as unpatentable over the prior art, is reversed.

APPEAL from Patent Office. Serial No. 212,467.

REVERSED.

Fred S. Lockwood, Greist, Lockwood, Greenawalt & Dewey, William H. Magidson, for appellant.

Joseph Schimmel (*Leroy B. Randall, Jack E. Armore*, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, ALMOND, BALDWIN, LANE, *Associate Judges*, and MCMANUS, *Chief Judge*, Northern District of Iowa, sitting by designation

LANE, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Patent Office Board of Appeals which affirmed the rejection of all 14 claims in appellant's patent application Serial No. 212,467 for "Amylose Solutions," filed July 25, 1962. We reverse the Board's decision.

The invention here is a process of preparing amylose ethers. Claim 1 is illustrative:

> 1. A process of preparing amylose ethers having a low level of salt contamination, which comprises the steps of providing an aqueous solution of amylose consisting essentially of from about 2 to 30 parts by weight amylose and from about 98 to 70 parts by weight water, and reacting said amylose with an etherifying agent in the presence of from 0.01 to 0.25 mole of alkaline catalyst per mole of amylose, wherein the reaction is initiated at a temperature above the gelation temperature of the aqueous alkaline amylose solution.

Claims 2–12, inclusive, are dependent upon claim 1 and recite specific etherifying agents, neutralizers or temperatures. Claims 13 and 14 define continuous processes.

In his specification appellant discloses that ethers of amylose are useful as packaging film. Amylose is one of the two major fractions of starch. The specification discusses various prior art methods of etherifying amylose, which may be broadly categorized as the suspension approach and the solution approach. The specification discusses the relative advantages and disadvantages of each approach, and the

solution approach is said to be desirable in that it produces a more homogeneous product. Appellant then discusses in detail the difficulties attending etherication by solution techniques, specifically referring to British Patent 869,192 (hereafter called Avebe) the complete specification of which was published May 31, 1961, more than one year prior to appellant's filing date. Avebe discloses that amylose can be dissolved in water at room temperature if an alkaline substance, such as NaOH, is mixed with it. This same alkaline substance is used by Avebe as a catalyst and as a stabilizing agent to keep the amylose in solution, in addition to its function as a solubilizing agent. The stabilizing function is required in order to overcome the phenomenon known as retrogradation, which is the known tendency of amylose to come out of solution and form a water-insoluble gel when its temperature is lowered or when the solution is left to stand for any significant time. Since Avebe uses the alkali for the three functions of solubilizing, stabilizing and catalyzing, the reference uses a large amount of alkali relative to the amount appearing in appellant's claims. While there is some dispute between the parties as to the exact concentration of alkali disclosed by Avebe, it is at least twice the upper limit of alkali concentration recited in appellant's claims.

Appellant's main object is to produce a relatively salt-free product. Appellant has submitted evidence that the product will be degraded in clarity if it contains more than about 0.25 mole of salt per mole of amylose ether. To accomplish this objective of lowering the salt content of the product, appellant uses alkali as a catalyst only, thereby allowing a smaller concentration of alkali to be used. Since it is the alkali which, upon subsequent neutralization, produces the salt content of appellant's product is correspondingly lowered. Avebe, also recognizing the undesirability of salt, sought to remove it from the product by washing techniques, but states that such techniques are usable only where the ether is of a degree of substitution not exceeding 0.20. Appellant's process requires no washing out of salt, and consequently his product is not so limited in degree of substitution.

Appellant, according to the specification, recognized that he had to contend with the solubilizing and stabilizing problems if he reduced the concentration of alkali. The prior art knew that amylose could be dissolved in water at a neutral pH if a sufficiently high temperature (around 125° C.) were used. To obtain such a temperature without evaporating the water, an autoclave or pressure cooker could be used. Appellant also states in the specification that the October 1958 issue of "Cereal Science Today" contained an article showing in graphic form the gelation or retrogradation temperatures for amylose solutions of varying concentration. These temperatures are significantly below the dissolving temperature. Appellant combined these known scientific facts and concluded that if the etherification reaction were carried out at a temperature above the gelation temperature, the amylose solution prepared without alkali by heating would not have a chance to retrograde, and hence both the salt problem and the stability problem would be solved. In subsequent experiments appellant discovered that if the reaction were initiated at a temperature above the gelation temperature, the reaction would proceed so quickly that the temperature could be lowered during the reaction to a point somewhat below the gelation temperature shown in the above-mentioned article.

The Examiner rejected all the claims under 35 U.S.C. 103 based on Avebe alone. It was the Examiner's position essentially that appellant had merely optimized the teachings of Avebe. The Examiner believed that Avebe used sodium hydroxide as a dispersing agent and a catalyst, and that it was obvious to use less sodium hydroxide if its only function were to be as a catalyst. The Examiner's original answer does not mention the stabilizing problem or appellant's recited temperature limitation as an answer to that problem. The Examiner's supplemental answer referred to the stabilizing problem in connection with Avebe as follows:

> As to the use of NaOH as a dispersing agent the Examiner has assumed that the alkali not only initially solubilized the amylose but acted to retain it in solution. This is not a tenuous assumption since any means for solubilizing amylose which resulted in amylose precipitation could hardly be an effective dispersing means.

This statement is correct but fails to consider the effect on obviousness of appellant's reduction of the alkali to such a level that it could not function as a stabilizer. As to temperature the supplemental answer states the Examiner's position as follows:

> It is the Examiner's contention that if one desired to solubilize amylose without a large amount of alkali it would be obvious to solubilize the amylose by way of temperature, i.e. a temperature above the gelation temperature of the aqueous alkaline amylose.

From this comment it is still unclear whether the Examiner recognized the different problems of solubility and stability. The specification is clear that the dissolving temperature and the gelation temperature are two different things, a fact most important in judging the obviousness or unobviousness of appellant's invention. The Examiner also failed to mention the greater degree of substitution achieved with appellant's process.

[1] The Board's decision and opinion in this case, far from supplying what was missing in the Examiner's position, proceeds on incorrect legal premises and fails to consider the results achieved by appellant because they are not recited in the claims. The Board refused to consider the lower salt concentration achieved by appellant's process because "these claims do not remove [the salt]." There is no need to recite the result of lower salt, since it will inherently occur through the recited limitation on alkali concentration. Similarly, the Board refused to consider the clarity of film and the degree of substitution obtained by appellant's process, because the claims were not directed to a process yielding a film and did not recite the degree of substitution. There can be no doubt from the record that these advantages accrue from the claimed process, and it is not required that they be recited.

Thus, neither the Examiner nor the Board has given any basis for the conclusion of obviousness of the process claimed.

[2] The decision of the Board is therefore unsupported and must be reversed.

REVERSED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,638,416, Walkup and Wise, DEVELOPER COMPOSITION FOR DEVELOPING AN ELECTROSTATIC LATENT IMAGE; **2,684,902**, Mayo and Lewis, IMAGE TRANSFER MECHANISM FOR ELECTROSTATICALLY ADHERING IMAGES; **2,741,959**, Rheinfrank and Chapman, ELECTROPHOTOGRAPHY; **2,751,616**, Turner, Jr. and Mayo, BRUSH CLEANING DEVICE; **2,752,271**, Walkup and Carlton, ELECTROSTATIC CLEANING OF XEROGRAPHIC PLATES; **2,777,957**, L. E. Walkup, CORONA DISCHARGE DEVICE; **Re. 25,136**, C. F. Carlson, ELECTROSTATIC DEVELOPER COMPOSITION AND METHOD THEREFOR; **3,062,108**, C. R. Mayo, ELECTROPHOTOGRAPHIC COPYING APPARATUS; **3,062,536**, Rutkus and Mott, SHEET STRIPPING APPARATUS; **3,067,720**, Lewis and Wagner, XEROGRAPHIC DEVELOPING APPARATUS; **3,090,616**, Eichler, Eichorn and Rutkus, SHEET HANDLING CONTROL APPARATUS; **3,105,770**, Lehmann and Gundlach, CASCADE DEVELOPMENT IMPROVEMENT; **3,190,264**, R. A. Hunt, XEROGRAPHIC DEVELOPING APPARATUS; **3,219,326**, same, XEROGRAPHIC FUSING APPARATUS; **3,252,274**, Benson and Stokes, XEROGRAPHIC POWDER FILTER; **3,278,972**, F. W. Hudson, XEROGRAPHIC PLATE CLEANING APPARATUS; **3,330,180**, Ferguson, Northrup and Warren, ILLUMINATION CONTROL SYSTEM; **3,358,570**, Morrill and Nagel, COPY COUNTING SYSTEM; **3,410,060**, Reilly and Wagner, XEROGRAPHIC FILTER APPARATUS; **3,432,232**, E. M. Tompkins, ILLUMINATION SYSTEM; **3,449,546**, P. S. Dhoble, INFRA-RED HEATER; **3,450,402**, E. A. Weiler, SHEET STRIPPER APPARATUS, **filed** Apr. 21, 1970, D.C., S.D.N.Y., Doc. 70–C–1596, *Xerox Corporation v. International Business Machines Corp.*

2,684,902. (See 2,638,416.)

2,741,959. (See 2,638,416.)

2,751,616. (See 2,638,416.)

2,752,271. (See 3,638,416.)

2,777,957. (See 2,638,416.)

2,786,480, P. Hofer, MACHINE FOR WASHING TEST TUBES, BOTTLES, RECEPTACLES, PIPETTES AND LIKE ARTICLES, **filed** Aug. 23, 1967, D.C., W.D.N.Y. (Buffalo), Doc. C–1967–322, *Howard D. Taylor and Better Built Machinery Corp. v. Sybron Corporation*. Final judgment by dismissal without prejudice, Apr. 29, 1970.

2,803,105, Stoddard and Seem, APPARATUS FOR PROCESSING TEXTILE YARNS; **2,803,108**, same, METHODS OF PROCESSING TEXTILE YARNS; **2,803,109**, same, METHOD OF PROCESSING THERMOPLASTIC YARNS; **3,044,247**, R. G. Hilbert, HIGH SPEED FALSE TWISTER SPINDLE AND MACHINE, **filed** Apr. 24, 1970, D.C., E.D.N.Y. (Brooklyn), Doc. 70C–530, *Madison Throwing Company, Inc. v. Leesona Corporation*. **Same, filed** May 13, 1970, D.C., E.D.N.Y. (Brooklyn), Doc. 70C–617, *Beaunit Corporation v. Leesona Corporation*.

2,803,108. (See 2,803,105.)

2,803,109. (See 2,803,105.)

2,804,168, H. Church, APPARATUS FOR FILTERING SOLIDS FROM GAS-SOLIDS SUSPENSIONS, **filed** June 1, 1970, D.C. N.D. Ind. (South Bend), Doc. 70–S–68, *Slick Industrial Company v. The Wheelabrator Corporation*.

3,025,678. (See Re. 24,254.)

3,030,957, F. J. Melges, DISPOSABLE OBSTETRICAL AND/OR SURGICAL COVER, **filed** May 7, 1970, D.C., Mich. (Kalamazoo), Doc. CA–236, *Johnson & Johnson v. Frederick J. Melges, M.D.*

3,035,372, K. F. Mayers, METHOD FOR MAKING A GLASS TO METAL SEAL, **filed** Dec. 4, 1963, D.C.N.J. (Newark), Doc. 1026–63, *Philips Electronic and Pharmaceutical Industries Corp. v. Thermal and Electronics Industries, Inc.* Judgment of no cause for action for defendant; declaring patent invalid, Apr. 15, 1970.

3,044,247. (See 2,803,105.)

3,062,108. (See 2,638,416.)

3,062,536. (See 2,638,416.)

3,067,720. (See 2,638,416.)

3,071,680, Anderson and Greene, ARC WELDING, **filed** Mar. 8, 1968, D.C., Del. (Wilmington), Doc. 3498–C, *Air Reduction Company, Incorporated v. Air Products and Chemicals, Inc.* Stipulation and order, dismissing action without prejudice, June 9, 1970.

3,090,616. (See 2,638,416.)

3,105,770. (See 2,638,416.)

3,154,060, A. Hundere, RECIPROCATING-PISTON GASOLINE ENGINE FUEL-AIR RATIO CONTROL, **filed** June 2, 1970, D.C., W.D. Wash. (Seattle), Doc. 8997, *Alcor Aviation Inc. v. Radair Inc. and Unicest Inc.*

3,190,264. (See 2,638,416.)

3,219,326. (See 2,638,416.)

3,252,274. (See 2,638,416.)

3,266,477, A. B. Stiles, SELF-CLEANING COOKING APPARATUS, **filed** May 20, 1970, D.C., E.D. Tenn. (Chattanooga), Doc. 5904, *E. I. du Pont de Nemours & Co. v. Magic Chef, SCM and Raider.*

3,278,972. (See 2,638,416.)

3,330,180. (See 2,638,416.)

3,358,570. (See 2,638,416.)

3,368,516, MacDonald, Anderson and Barker, THROUGH-TRANSOM MARINE PROPULSION UNIT; **3,376,842**, J. R. Wynne, BOAT PROPULSION MECHANISM, **filed** June 30, 1969, D.C., E.D. Wis. (Milwaukee), Doc. 69–C–322, *AB Volvo Penta v. Brunswick Corporation*. Plaintiff's complaint and defendant's counterclaims dismissed without prejudice, June 4, 1970.

3,376,842. (See 3,368,516.)

3,410,060. (See 2,638,416.)

3,423,825, Frost and Maguire, CAN OPENER; **Reg. No. 868,938** (SLICK 'N CLEAN), Rival Manufacturing Company, Electric can openers, **filed** June 12, 1970, D.C., W.D. Mo. (Kansas City), Doc. 18440–3, *Rival Manufacturing Company v. Dazey Products Company.*

3,441,643, Tusa and Janssen, MANUFACTURE OF FOOTWEAR, **filed** June 2, 1970, D.C., S.D. Fla. (Miami), Doc. 70–780–C–JE, *Bata Shoe Company, Inc. v. Suave Shoe Corp.*

3,440,546. (See 2,638,416.)

3,450,402. (See 2,638,416.)

Re. 24,254, R. A. J. Dawson, DEEPWATER SUBMERSIBLE BARGE; **Re. 24,346**, same, MARINE APPARATUS; **3,025,678**, same, MARINE METHOD, **filed** Apr. 9, 1970, D.C., E.D. La. (New Orleans), Doc. 70–887, *R. A. J. Dawson v. Ocean Drilling and Exploration Co. et al.*

Re. 24,346. (See Re. 24,254.)

Re. 25,136. (See 2,638,416.)

Reg. No. 868,938. (See 3,423,825.)

REISSUES

AUGUST 25, 1970

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,941

HEXAGONAL SILICON CARBIDE CRYSTALS PRODUCED FROM AN ELEMENTAL SILICON VAPOR DEPOSITED ONTO A CARBON PLATE

Edwin C. Lowe, Niagara Falls, Ontario, Canada, assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

Original No. 3,147,159, dated Sept. 1, 1964, Ser. No. 63,572, Oct. 19, 1960, which is a division of application Ser. No. 784,791, Jan. 2, 1959, now Patent No. 3,025,192. Application for reissue July 15, 1966, Ser. No. 572,166

Int. Cl. C01b *31/36*

U.S. Cl. 23—208 **3 Claims**

Large thin hexagonal silicon carbide crystals are produced in a reaction furnace by growth from the vapor phase on a carbon surface. An appreciable vapor pressure of silicon is generated in the furnace and the volume between an external carbon heating element and the carbon growth surface is essentially free of solid silicon carbide to provide free flow of silicon-containing vapors between the source of such vapors, the hot portion of the carbon heating element and the cooler carbon growth surface.

26,942

COCRYSTALLIZED CATALYST PREPARATION PROCESS

Erik Tornqvist, Roselle, and Arthur W. Langer, Jr., Watchung, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Original No. 3,130,003, dated Apr. 21, 1964, Ser. No. 19,176, Apr. 1, 1960, which is a continuation of application Ser. No. 532,513, Feb. 16, 1966. Application for reissue May 16, 1969, Ser. No. 827,112

Int. Cl. C01g *23/02*

U.S. Cl. 23—87 **13 Claims**

An olefin polymerization catalyst component is produced by intensely milling together in the absence of diluent a partially reduced transition metal halide (such as $TiCl_3$) and a group II or III metal halide (such as $AlCl_3$).

26,943

SAFETY MEANS FOR OVEN DOOR LATCHING MECHANISM

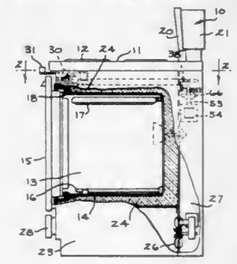
Ronald B. Barber, Cheshire, Conn., assignor to General Electric Company, a corporation of New York

Original No. 3,313,918, dated Apr. 11, 1967, Ser. No. 387,439, Aug. 4, 1964. Application for reissue Sept. 8, 1969, Ser. No. 871,808

Int. Cl. F27d *11/02*

U.S. Cl. 219—413 **17 Claims**

A high temperature oven for domestic use comprising a cabinet structure enclosing a box-like oven liner that has an open front provided with an access door that cooperates with the oven liner to define an oven cooking cavity, electrical heating means for supplying heat energy into the oven cavity for normal cooking operations between about 150° F. and 550° F. as well as for a heat cleaning operation between about 750° F. and 950° F. for removing food soil lodged on the walls of the oven liner, and door latching means movable between open and closed positions for holding the door closed during the heat cleaning operation. The door latching means having a safety means to insure that the door may not



be unlatched when the oven is operating in a high temperature range above normal cooking temperatures.

26,944

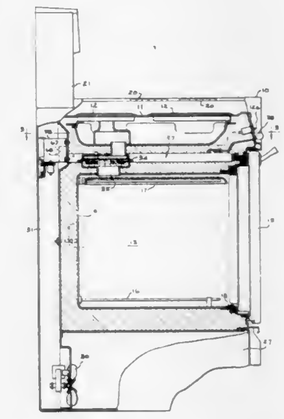
OVEN DOOR LATCHING SYSTEM

Clarence Getman, Louisville, Ky., assignor to General Electric Company, a corporation of New York

Original No. 3,350,542, dated Oct. 31, 1967, Ser. No. 645,542, June 5, 1967, which is a continuation of abandoned application Ser. No. 323,809, Nov. 14, 1963. Application for reissue Sept. 8, 1969, Ser. No. 862,988

Int. Cl. F27d *11/02*

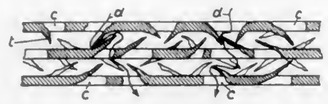
U.S. Cl. 219—413 **10 Claims**



A heated cavity such as a baking and broiling oven or the like, with an access door that is adapted to be locked shut by a manual door latching means. There is also a locking means for holding the door latching means against movement. A solenoid is furnished that is capable of overriding the locking means so that the door latching means may be operated. The solenoid is controlled by a circuit with a momentary switch means and a temperature responsive switch means that is in heat transfer relation with the heated cavity and is open-circuited at a predetermined critical temperature and above. An indicator light is in cooperation with the temperature responsive switch means to be energized when the switch means is open-circuited so as to tell the housewife that the oven interior is in accessible when the light is lit.

26,945
FILTERING MATERIAL
Paul A. Muller, Triesenberg, Liechtenstein, assignor to Celfil Company Establishment, Vaduz, Liechtenstein, a company of Liechtenstein
Original No. 2,847,086, dated Aug. 12, 1958, Ser. No. 447,478, Aug. 3, 1954. Application for reissue Jan. 21, 1963, Ser. No. 253,784
Claims priority, application Switzerland, Aug. 4, 1953, 95,066
Int. Cl. B01d *46/00*
U.S. Cl. 55—489 **14 Claims**

A filter having at least two adjacent layers of fibrous material having surfaces provided with a plurality of spaced apart openings defined by open bases and projections extending from the open bases and beyond the surfaces of the respective layers, the projections terminating



in irregularly shaped frayed ends so that the projections of one layer may interlace with the projections of the other layer.

PATENTS

GRANTED AUGUST 25, 1970

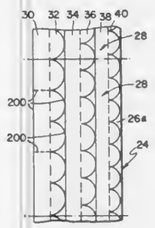
GENERAL AND MECHANICAL

3,525,103
EAR PROTECTOR
Alice E. Yonan, Keyes, Calif. (5831 Esmar Road, Ceres, Calif. 95307)
Filed Jan. 29, 1969, Ser. No. 795,010
Int. Cl. A41d *21/00*
U.S. Cl. 2—174 **5 Claims**



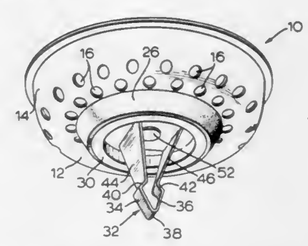
An ear protector designed to cover an ear, and being constructed of an outer layer constructed of water-repellent material, an inner layer constructed of soft-textured material and being secured to the outer layer and an adhesive preparation coated on the outer layer, for securing the protector to skin on and adjacent an ear to be covered.

3,525,104
METHOD OF CREATING DESIGN MATERIAL FOR MAKING GARMENTS AND TRIM
John Bonanno, 136—34 57th Road, Flushing, N.Y. 11355
Continuation of application Ser. No. 662,801, Aug. 23, 1967. This application Aug. 6, 1969, Ser. No. 849,291
Int. Cl. A41d *27/08*
U.S. Cl. 2—244 **14 Claims**



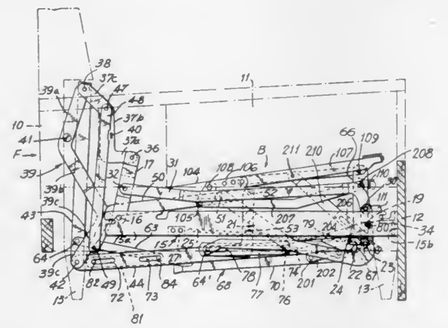
In this invention, material for making garments and trim is prepared with a pre-conceived design such as rows of stripes together with rows of scallops. This design material may then be used for cutting parts from a pattern to make a garment in the usual manner. The stripes and scallops may also be die cut by hand or machine to provide trim pieces, and also may be die cut in a plain material to provide design in a material itself. The original design material may have its stripes and/or scallops in varying widths so that an infinite number of die cut designs can be made from the design material to produce an infinite number of garment designs and trim pieces therefor, including pockets, collars, vestees, neck openings, and infinitum.

3,525,105
SINK STRAINER
William Thomas Richards, Weston, Ontario, Canada, assignor to Premier Tool & Die Limited, Toronto, Ontario, Canada
Filed May 3, 1968, Ser. No. 726,427
Int. Cl. A47k *1/14*
U.S. Cl. 4—287 **4 Claims**



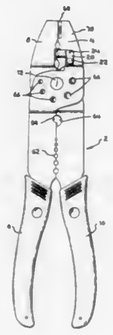
A sink strainer has a stem, formed of plate spring steel, which has a portion of larger diameter than a slot in the sink base; contact between this portion of the stem and the edge of the slot provides the raised position. The sink strainer seals with the sink base by forcing the stem through the slot and the stem is tapered inwardly above the portion of larger diameter so that the sideways pressure exerted by the edge of the slot on the tapered portion forces it downward to accentuate the sealing position.

3,525,106
PULLOUT SOFA BEDS
Albert Perry, Glendale, N.Y., assignor to Super Sagless Spring Corp., Bayonne, N.J., a corporation of New York
Filed Sept. 6, 1968, Ser. No. 757,817
Int. Cl. A47c *17/14, 17/22*
U.S. Cl. 5—13 **20 Claims**



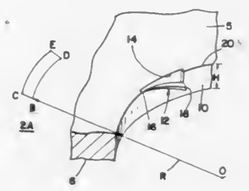
This sofa bed is of the four-section type on which people sleep lengthwise in the bed with the head or feet at the sofa frame. The bed has toggle linkage so arranged that when the bed is in tilted position, it may be moved to fully collapsed position with not too much push with the hand, and yet the gentle push translates to a very significant compression force on the mattress and a locking of the fully folded bed frame.

3,525,107
TERMINAL CRIMPING, WIRECUTTING AND INSULATION STRIPPING TOOL
Kenneth Scott Hays, West Chester, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Continuation of application Ser. No. 570,465, Aug. 5, 1966. This application May 8, 1968, Ser. No. 727,750
Int. Cl. B25b *7/22;* **B21d** *9/08*
U.S. Cl. 7—5.3 **1 Claim**



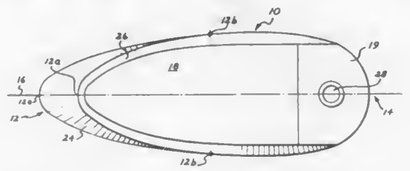
A tool comprises elongated members pivotally connected together defining jaw members and handle members, the jaw members including a wirecutting area and a terminal crimping area with a terminal-locating member on one of the jaw members adjacent the terminal-crimping area, the handle members having a wire-stripping area, and slidable over-lapping surfaces around the pivot which are provided with alignable holes defining a bolt-cutting area.

3,525,108
METHOD FOR MAKING A FASTENING DEVICE
Robert J. Holton, Rocky River, Ohio, assignor, by mesne assignments, to Tinnerman Products, Inc. (Tinnerman II), a corporation of Ohio
Original application Dec. 29, 1965, Ser. No. 518,751, now Patent No. 3,368,444. Divided and this application Jan. 29, 1968, Ser. No. 701,142
Int. Cl. B21d *53/24*
U.S. Cl. 10—86 **7 Claims**



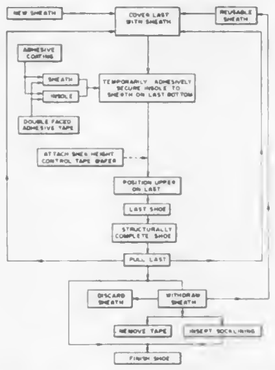
A method for making a self-threading fastening device including the steps providing a thin body having upper and lower surfaces and an opening defined by an interior edge surface extending between the upper and lower surfaces, broaching the material of the body adjacent the edge surface axially downwardly commencing adjacent the upper surface to provide at least one cut-out portion, and displacing the broached material of the cut-out portion radially outwardly adjacent its bottom to provide a generally arcuate self-thread cutting projection into the opening.

3,525,109
SEWING FORM FOR AND METHOD OF MANUFACTURING SHOE UPPERS
Charles F. Batchelder, Milton, and Jerome A. Rubico, Boston, Mass., assignors to Batchelder Rubico, Inc., Boston, Mass., a corporation of Massachusetts
Filed Nov. 5, 1968, Ser. No. 773,482
Int. Cl. A43d *3/00*
U.S. Cl. 12—123 **4 Claims**



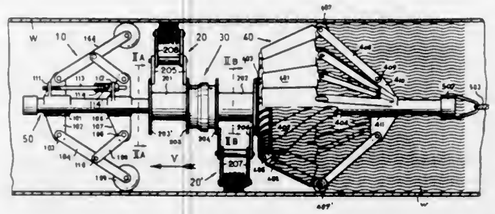
A sewing form for use in hand sewing together a strip vamp and a toe plug off a conventional shoe last. The sewing form has a generally pediform body with a toe plug receiving surface, a vamp receiving surface, and, preferably, a sewing bevel to facilitate the hand sewing operation. The two surfaces are angularly disposed to receive a toe plug and a strip vamp respectively, with the sewing edges thereof in abutting and untensioned relationship. A shoe upper is produced by mounting the upper elements on the respective receiving surfaces of the form and manually sewing the abutting sewing edges together.

3,525,110
METHOD OF MAKING SHOES OVER SHEATHED LASTS
Charles F. Batchelder, Milton, and Jerome A. Rubico, Boston, Mass., assignors to Batchelder Rubico, Inc., Boston, Mass., a corporation of Massachusetts
Filed Mar. 7, 1969, Ser. No. 805,205
Int. Cl. A43d *29/00*
U.S. Cl. 12—145 **16 Claims**



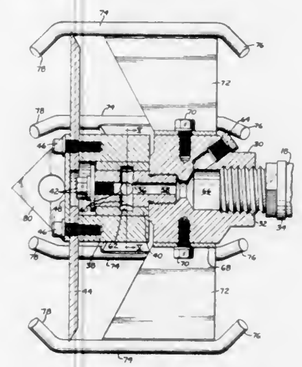
A method for manufacturing shoes on a sheathed last. In one embodiment, a removable sheath is formed from a thermo-shrinkable, thermoplastic film that is heat shrunk around the last. A conventional insole is temporarily secured to the sheath on the last bottom by means of an adhesive applied to either the sheath or the insole. After positioning the upper on the last, the shoe is lasted and structurally completed. The last is then pulled and the sheath withdrawn from the shoe. The socklining can be inserted in the shoe if desired. Other variations on the basic method of using a sheathed last include: lasting the upper directly to the element or sheath without the use of an insole; leaving the sheath in the finished shoe; and, constructing a "moccasin" on the sheath.

3,525,111
APPARATUS FOR TREATING THE INNER WALL SURFACE OF A GENERALLY CYLINDRICAL DUCT
Paul von Arx, Gelterkinderstrasse 31, 4450 Sissach, Switzerland
Filed June 25, 1968, Ser. No. 739,828
Claims priority, application Switzerland, June 28, 1967, 9,375/67; May 14, 1968, 7,430/68
Int. Cl. B08b *9/04*
U.S. Cl. 15—104.06 **14 Claims**



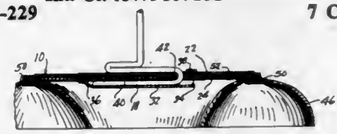
A wheeled support, designed to make at least three-point contact with the inner wall of a duct to be scraped or coated, is connected via an axially extending rod with two relatively rotatable hubs each carrying a radial array of tools which sweep the wall surface as the support advances through the duct. A reversing gear train is interposed between the two hubs whereby rotation of one hub about the shaft axis, under the control of a turbine or some other power plant coupled thereto, causes the arrays to rotate in opposite directions; reversal of the driving motion may be used to withdraw the tools from contact with the duct wall.

3,525,112
ROTARY ROOT CUTTING HEAD
Philip C. Masters, Ashland, Ohio, assignor to The F. E. Myers & Bro. Co., Ashland, Ohio, a corporation of Ohio
Filed Aug. 29, 1968, Ser. No. 756,116
Int. Cl. B08b *9/02*
U.S. Cl. 15—104.12 **7 Claims**



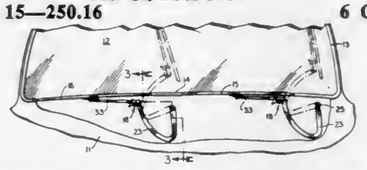
Rotary root cutting head, especially for sewer cleaners, in which a non-rotatable body is adapted for attachment to the end of a high pressure hose and which body has on the side opposite the hose a rotor with cutting blades. A passage leads from the hose through the body into the rotor and communicates with tangential nozzles on the rotor to drive the rotor in rotation. Other nozzles in the body are directed rearwardly to impel the cutting head along a sewer line. A guard is provided comprising axial members radially outwardly of the range of the cutting blade and connected to the body by ribs.

3,525,113
MOP WITH REMOVABLE HOLDER
Ragnvald G. Leland, 2334 W. 241st St., Lomita, Calif. 90717
Filed Aug. 16, 1968, Ser. No. 753,122
Int. Cl. A47l *13/252*
U.S. Cl. 15—229 **7 Claims**



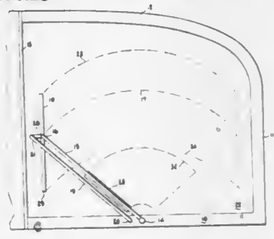
A mop device having a folded fabric section consisting of two layers with one fold stitched or secured to the other to form a pocket so that the rod of the mop handle may be inserted therein and can be completely covered, with the pocket being wider at the point of insertion of the rod and converging to a narrow portion at its opposite end to permit the rod to easily enter the pocket but to prevent the rod from moving sideways after complete insertion. The mop further provides tension means for maintaining a string mop in flat relationship and can have various types of string members secured thereto.

3,525,114
WINDSHIELD WIPER SYSTEM
Raymond P. Smith, Southfield, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 17, 1968, Ser. No. 768,338
Int. Cl. B60s *1/32*
U.S. Cl. 15—250.16 **6 Claims**



A vehicle body having a windshield and a windshield wiper blade means in wiping engagement with the surface of the windshield. The wiper blade means is mounted on a disconnected section of a reveal molding overlying at least the lower perimetrical edge of the windshield. The disconnected molding section is coupled to a support means operable to swing the reveal molding section and wiper blade carried thereby in a predetermined wiping pattern over the windshield surface.

3,525,115
WINDSHIELD WIPER ASSEMBLY
Harry Zoltok, Winnipeg, Manitoba, Canada, assignor to Motor Coach Industries Limited, Winnipeg, Manitoba, Canada
Filed Apr. 12, 1968, Ser. No. 720,865
Int. Cl. B60s *1/04*
U.S. Cl. 15—250.23 **3 Claims**

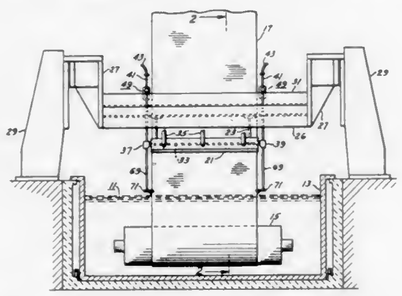


An auxiliary wiper blade mounted to the main wiper arm below the main blade of a pantograph wiper assembly in order to clean the area below and unswept by the main wiper blade.

3,525,116
AIR KNIFE AND VACUUM DOCTORING APPARATUS

Robert S. Shaffer, Glen Burnie, Md., assignor to Bethlehem Steel Corporation, a corporation of Delaware

Original application Jan. 19, 1967, Ser. No. 610,400. Divided and this application Mar. 12, 1969, Ser. No. 841,164
Int. Cl. A47l *5/38*
U.S. Cl. 15—306 **6 Claims**

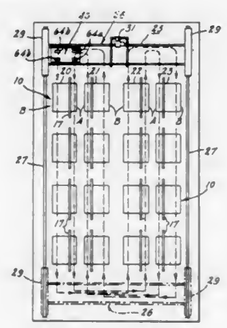


Aspirating devices are positioned adjacent the edges of sheet or strip passing from a molten coating bath between gas wiping dies to draw gas away from the edge of the sheet and thereby prevent edge buildup.

3,525,117
APPARATUS FOR CLEANING LOOMS

Hamlin J. Gleaton, Greensville, S.C., assignor to Eaton Yale & Towne Inc., a corporation of Ohio

Original application Apr. 28, 1966, Ser. No. 546,068, now Patent No. 3,440,097, dated Apr. 22, 1969. Divided and this application Oct. 1, 1968, Ser. No. 798,819
Int. Cl. B08b *5/00*
U.S. Cl. 15—312 **5 Claims**

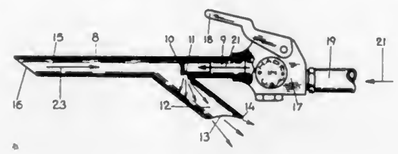


Apparatus for cleaning a plurality of textile looms arranged in parallel rows with the front and back portions of the looms in one row oriented in opposite direction relative to an adjacent row, an overhead crane movable back and forth between the ends of said rows, a carriage on said crane mounted for movement along said crane, blower units on said carriage, the blower units having outlets arranged to direct a volume and velocity of air on one portion of a row of looms different from the volume and velocity of air directed on the other portion of the looms in said row, means for indexing the carriage on the crane at the ends of said rows and means for rotating said blower unit at each end of the row so the outlets will pass over the front and back portions, respectively, of the looms in every row cleaned by the apparatus.

3,525,118
COMPRESSED AIR VACUUM AND BLOW GUN APPARATUS

Gerard J. Viollet, 1619½ W. 134th St., Gardena, Calif. 90249

Filed Aug. 5, 1968, Ser. No. 750,370
Int. Cl. F41b *11/00, 11/04*
U.S. Cl. 15—330 **2 Claims**

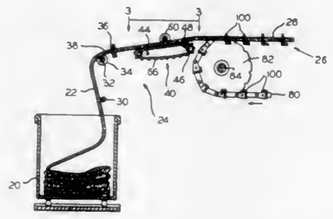


A standard blow gun having vacuum and blow extension members mounted so as to be interconnected with each other and also connected to a source of compressed air. The blow gun has a blow extension opening that can be covered so as to direct the compressed out the end of the member that functioned as a vacuum member before the exhaust member was closed.

3,525,119
APPARATUS FOR FORCE FEEDING ROUND FLEXIBLE STRANDS

Grover B. Pennington, Kansas City, Kans., and Richard P. Nelson, Kansas City, Mo., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware

Filed Aug. 3, 1967, Ser. No. 658,257
Int. Cl. A22c *11/10*
U.S. Cl. 17—34 **6 Claims**



Apparatus for force feeding round flexible strands to processing equipment, including a horizontally extending conveyor belt having a concave carrying surface, drive means, guide means, and pressure roller. The strand feeding apparatus is combined in multiple and synchronized with a strand linking conveyor having successive transverse linking bar assemblies.

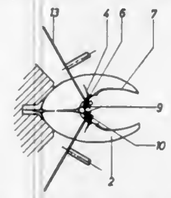
3,525,120
METHOD FOR PRODUCING BONE-FREE FISH FILLETS

Paul Jobmann, Lubeck, Germany, assignor to Nordischer Maschinenbau Rud. Baader, Lubeck, Germany

Filed May 1, 1967, Ser. No. 635,079
Claims priority, application Germany, Apr. 29, 1966, N 28,469
Int. Cl. A22c *25/16*
U.S. Cl. 17—46 **1 Claim**

A method of producing fish fillets that are substantially free of pin-bones wherein the belly cavity is cut open to form opposed belly flaps that are severed from the back of the fish with the pin-bones by making a single inclined incision on each side of the fish, the incisions subtending an obtuse angle between them as seen from the back of the fish and extending to the side of the pin-bones nearest the back of the fish. These incisions first

extend parallel to said back bone and then, from the end of the belly cavity, obliquely toward the anus of the

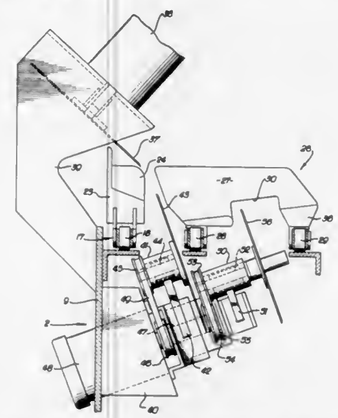


fish to thus remove the belly flaps while containing the pin-bones.

3,525,121
HEAD AND VISCERA REMOVER

Anton Elich, Rolling Hills, Calif., assignor to The Ralston Purina Company, St. Louis, Mo., a corporation of Missouri

Filed Oct. 3, 1967, Ser. No. 672,578
Int. Cl. A22c *25/14*
U.S. Cl. 17—60 **5 Claims**



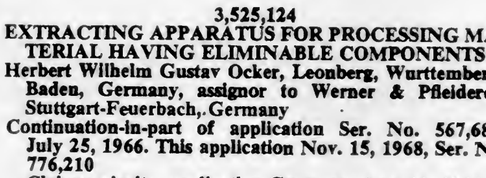
A machine for removing the head and viscera of a fish is provided with a frame having a pair of driven conveyors thereon. The conveyors have a substantially parallel path of travel and are adapted to receive the head and body portions of a fish, respectively. The conveyor adapted to receive the head of the fish is provided with a locating member having an opening therein for receiving the nose portion of the fish to abut the eye socket bone thereof and properly position the fish on the conveyors. A knife or saw is provided for cutting into the fish in the head area, and after this cut is made the conveyor carrying the head portion defines a path of travel which is different from that defined by the conveyor carrying the body portion. This relative movement of the conveyors serves to twist the head relative to the body at the cut and removes the head and viscera connected thereto from the body.

3,525,122
APPARATUS FOR PELLETIZING CARBON BLACK

Richard E. Driscoll, Monroe, La., and Leon Gober, Jr., El Dorado, Ark., assignors to Cities Service Company, New York, N.Y., a corporation of Delaware

Filed Feb. 28, 1968, Ser. No. 708,847
Int. Cl. B29b *1/02*
U.S. Cl. 18—1 **4 Claims**

Improved carbon black wet pelletizing apparatus having an elongated cylindrical conduit with a rigid internal wall surface for containing a wetted mass of the carbon black particles, a rotatable shaft which extends through the conduit along the center line thereof, and a series of rod-shaped agitating members which are equally spaced longitudinally along the shaft. Specifically, the agitating members have sufficient radial extension so that the ratio *d/D*

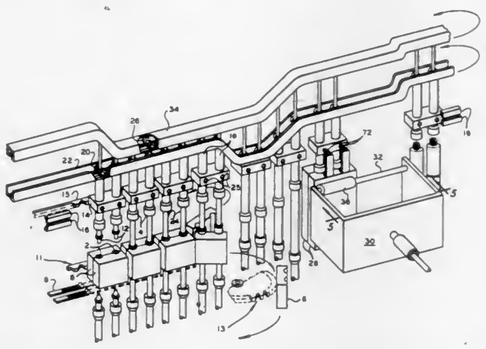


of the diameter *d* of the circle transcribed by the tip of the members to the internal diameter D of the conduit is greater than 0.95 but less than 0.995. Additionally, the longitudinal center line spacing of the agitating members does not exceed two times their diameter.

3,525,123
APPARATUS FOR MOLDING BIAXIALLY ORIENTED ARTICLES

Martin R. Cines and Paul E. Wilkins, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Apr. 17, 1967, Ser. No. 631,531
Int. Cl. B29c *17/07;* **B29d** *23/03*
U.S. Cl. 18—5 **2 Claims**



This disclosure relates to a biaxial orientation process and apparatus whereby a parison is heated, stretched and put into a double mold cavity wherein it is pinched in the center thereof and blown to form an article.

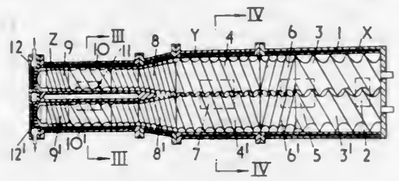
3,525,124
EXTRACTING APPARATUS FOR PROCESSING MATERIAL HAVING ELIMINABLE COMPONENTS

Herbert Wilhelm Gustav Ocker, Leonberg, Wurttemberg-Baden, Germany, assignor to Werner & Pfleiderer, Stuttgart-Feuerbach, Germany

Continuation-in-part of application Ser. No. 567,680, July 25, 1966. This application Nov. 15, 1968, Ser. No. 776,210
Claims priority, application Germany, Aug. 13, 1965, W 39,725
Int. Cl. B29b *1/10*
U.S. Cl. 18—12 **8 Claims**

An extracting apparatus for processing synthetic materials including extracting eliminable components, comprising at least a pair of threaded shafts rotatably mounted in the housing each shaft having at least two conveying and milling sections and an obstructing section therebetween. Provisions are made for heat treating and applying pressure on the material in the sections independently

of one another. The space between the root of the screw threads in the conveying and milling sections and the in-



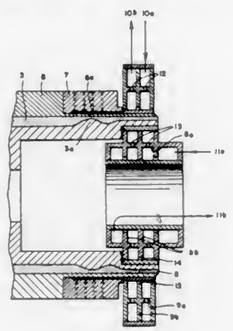
side of the housing diminishes in the direction of flow of material to compensate for loss of volume thereof.

3,525,125

ANNULAR DIE FOR EXTRUDERS, PARTICULARLY AN ANNULAR DIE FOR THE PRODUCTION OF BLOWN TUBULAR FILM AND SHEETING FROM EXPANDABLE THERMOPLASTICS

Wolfgang Berger and Reinhold Weber, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed July 10, 1968, Ser. No. 743,827
Claims priority, application Germany, July 12, 1967, 1,704,482
Int. Cl. B29d *23/04*
U.S. Cl. 18—14 **4 Claims**



An annular die attachable to an extruder for the production of hollow sections and tubular film and sheeting, particularly from expandable thermoplastics, comprising on each side of the die orifice a multi-cellular system of chambers for the passage therethrough in a predetermined way of a heating or cooling medium.

3,525,126

SHEET BINDING

George G. Grinnell, 166 Independence Ave., Quincy, Mass. 02169; Sherman K. Grinnell, 1196 Belrose Road, Mayfield Heights, Cleveland, Ohio 44124; and Garith K. Grinnell, 187 Indianhead St., Hanson, Mass. 02341

Filed Apr. 1, 1968, Ser. No. 717,738
Int. Cl. B29c *17/00*
U.S. Cl. 18—19 **3 Claims**



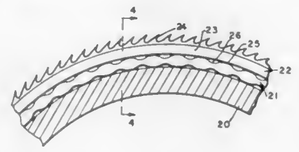
A drilled stack of sheets is bound by plastic that elements are pre-formed into multi-leg devices by means of a rotating die which sets the heat softened element into a finished shape. These are then inserted into the drilled openings by a spreading mechanism.

3,525,127

FOUNDATION WIRE FOR CARD CYLINDERS

John D. Hollingsworth, P.O. Box 516, Greenville, S.C. 29602

Filed June 21, 1968, Ser. No. 738,922
Int. Cl. D01g *15/14*
U.S. Cl. 19—112 **2 Claims**



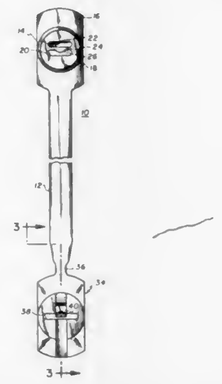
A foundation wire for card cylinders for use with metallic card clothing wherein the wire is wound in side abutting helical convolutions on the cylinder and the wire has thick and thin areas along its entire length and undulated top and bottom surfaces.

3,525,128

BUNDLING STRAP

Laszlo Hidassy, % Thomas & Betts Corporation, 36 Butler St, Elizabeth, N.J. 07207

Filed Nov. 20, 1968, Ser. No. 777,386
Int. Cl. B65d *63/00*
U.S. Cl. 24—73 **13 Claims**



The disclosure is directed to an initially integral device for retaining upon a mounting member at least one article and employing an aperture within said mounting member. The device consists of an elongated strap body portion having at a first end thereof a boss proportioned to fit within an aperture in a mounting member to provide a grommet for said aperture. Within said boss is a transverse aperture extending therethrough to permit the passage of the strap body portion therethrough. Mounted adjacent, and extending within the transverse aperture, is a nib which will provide some restraint upon the strap body portion as it is drawn through the transverse aperture to prevent disassembly during installation. At the opposite end of the strap body portion, and readily severable therefrom, is a locking head portion which is removed from the strap prior to use. The head end portion consists of a boss portion for placement within the aperture of the mounting member from the side opposite the boss first mentioned. A transverse aperture extends through the head end portion for receipt of the strap therethrough. A locking member is placed within the transverse aperture in such a manner as to permit the strap body portion to be drawn through

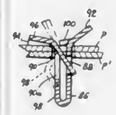
the aperture within the head end portion but prevents withdrawal of the strap therefrom. The bosses may be formed in such a manner to be acceptable in a plurality of different sized mounting member apertures or may be provided in hexagonal shapes or with splines thereon to prevent rotation of the strap with respect to the mounting member.

3,525,129

FASTENERS

Robert J. Holton, Rocky River, Ohio, assignor, by mesne assignments, to Tinnerman Products, Inc. (Tinnerman II), a corporation of Ohio

Application May 31, 1966, Ser. No. 554,069, now Patent No. 3,459,094, which is a division of application Ser. No. 425,124, Jan. 13, 1965, now Patent No. 3,303,542, which, in turn, is a division of application Ser. No. 258,494, Feb. 14, 1963, now Patent No. 3,208,122. Divided and this application Feb. 14, 1969, Ser. No. 799,377
Int. Cl. F16b *19/00*
U.S. Cl. 24—73 **14 Claims**



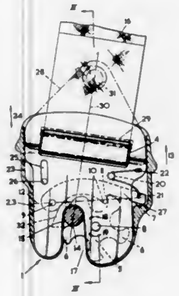
A fastener for insertion in an opening in a support member. The fastener comprises a generally vertically oriented loop-like body portion, a pair of tab portions projecting upwardly from the body portion, fulcrum areas disposed adjacent the juncture of the body portion with the tab portions and resilient legs extending upwardly from the body portion and disposed transversely thereof. Upon pivotal movement of the tab portions relative to one another, the body portion is deformed into locking engagement with the support member.

3,525,130

SWIFTLY RELEASABLE LOCKING DEVICE, ESPECIALLY ADAPTED TO FASTEN THE FREE END OF A SAFETY TO A FIXED SUPPORT

Willem Frans Coenen, Sr., Prinses Marielaan 26, Wassenaar, Netherlands

Filed Oct. 16, 1968, Ser. No. 767,984
Claims priority, application Netherlands, Oct. 18, 1967, 6714145; Sept. 19, 1968, 6813423
Int. Cl. A44b *11/00*
U.S. Cl. 24—230 **8 Claims**



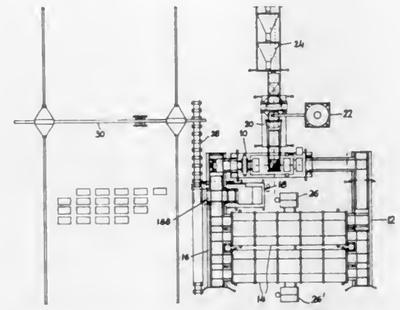
A locking device for fastening the loose end of a safety belt to a fixed support in a motor vehicle, including a bearing plate with a hook-shaped member rotatably mounted thereon, spring-loaded pawl means for locking and unlocking said member, and a reciprocable casing accommodating the mechanism and having an abutment acting on the free end of said pawl means, the hook-shaped member being a rotary wheel with a plurality of equally though specially shaped teeth, of which each time one tooth is in engagement with an inlet slot for said support in the bearing plate and grips said support, said pawl means having a locking action on another tooth by means of a cam.

3,525,131

PLANT FOR MANUFACTURING CONCRETE BLOCKS

Wolfgang Schneider, 8 Mushardweg, and Klaus Schneider, 18, Feldweg, both of 215 Buxtehude, Germany

Filed Dec. 14, 1967, Ser. No. 690,541
Claims priority, application Germany, Dec. 17, 1966, Sch 39,980; May 3, 1967, Sch 40,645
Int. Cl. B28b *15/00*
U.S. Cl. 25—2 **32 Claims**



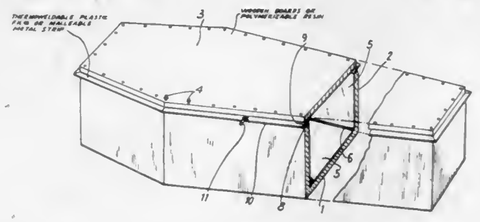
A plant for manufacturing small structural concrete elements comprises a number of units which are adapted to be individually transportable so that the entire plant is portable. When in place, the units occupy only a very small area, as the pallets on which the concrete elements are transported are moved in a closed circuit from a production station through a hardening station to a delivery station and back to the production station.

3,525,132

METHOD FOR SEALING FLUIDTIGHT CONTAINERS, CHIEFLY COFFINS CONSTITUTED BY THE ASSEMBLY OF RIGID SECTIONS

Fernand Gauchard, Parc du Beau, Santeny, Val-de-Marne, France

Filed Dec. 22, 1967, Ser. No. 692,835
Claims priority, application France, Jan. 6, 1967, 90,139
Int. Cl. A61g *17/00*
U.S. Cl. 27—19 **8 Claims**



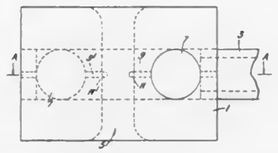
A container, chiefly a coffin, made of a plurality of rigid sections, say a body and a cover, wherein fluid tightness is obtained by a deformable lining of the inner surface of each section, the different linings extending out-

wardly together through the clearance between cooperating sections, so as to be welded along their edges within said clearance or slightly outside the latter. The fluid treatment of a corpse or the like object to be preserved within the container is obtained by a fluid-feeding connection welded within the packing formed by the superposed welded edges of the linings and extending outside the container, so that vacuum and treating fluid may be applied in succession inside the latter.

3,525,133
INTERMINGLING JETS FOR MULTIFILAMENT YARN

John Dimocritos Psaras, Richmond, Va., assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

Filed Apr. 29, 1968, Ser. No. 725,050
Claims priority, application Great Britain, May 10, 1967, 21,672/67
Int. Cl. D02g *1/16*
U.S. Cl. 28—1.4 **4 Claims**

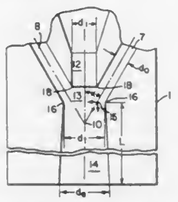


An intermingling jet with increased vorticity has one or more pairs of gas inlets, one inlet of each pair being radially directed and the other directed perpendicularly thereto and tangentially to the yarn passageway.

3,525,134
YARN FLUID TREATING APPARATUS

John Martin Coon, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation of application Ser. No. 667,924, Sept. 15, 1967. This application Feb. 17, 1969, Ser. No. 805,098
Int. Cl. D02g *1/16*
U.S. Cl. 28—1.4 **4 Claims**



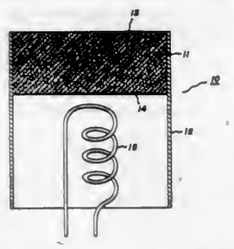
In a yarn bulking jet through which yarn passes for treatment a particular arrangement of the yarn passage through the jet and the fluid conduits connected to the yarn passage for impinging fluid against the yarn functions to increase the fluid velocity just prior to its impingement on the yarn.

3,525,135
THERMIONIC CATHODE

Ralph J. Bondley, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Original application Sept. 8, 1966, Ser. No. 578,060, now Patent No. 3,434,812. Divided and this application Dec. 20, 1967, Ser. No. 692,030
Int. Cl. H01j *9/16, 9/44*
U.S. Cl. 29—25.18 **7 Claims**

Method of producing a long-life high-emission-density thermionic dispenser cathode comprising mixing predetermined proportions of barium strontium and a refractory metal and compressing and firing the resultant mixture into coherent dispenser cathode pellets containing a 50

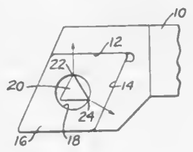


atomic weight percent solid solution of Ba_2SrWO_6 and Ba_3WO_6.

3,525,136
CLAMPING ARRANGEMENT

Melvin A. Crosby, Latrobe, Pa., assignor to Kennametal Inc., Latrobe, Pa., a corporation of Pennsylvania

Filed May 15, 1968, Ser. No. 729,362
Int. Cl. B26d *1/00*
U.S. Cl. 29—96 **8 Claims**

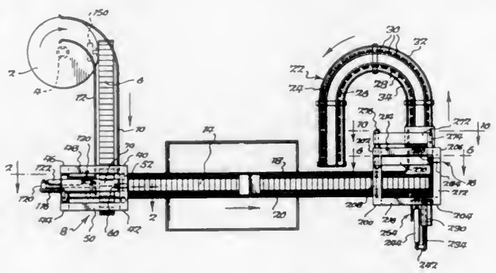


The device comprises a holder having a pocket with a bottom wall and one or more side walls perpendicular to the bottom wall and a cutting insert with a hole therein resting on the bottom wall of the pocket. A pin is tiltable in the holder and has an end portion projecting through the bottom wall of the pocket and with the hole in the insert and means are provided on the holder to tilt the pin to cause the insert to be forced against the side wall, or walls, of the pocket.

3,525,137
APPARATUS FOR APPLYING HANDLES TO CONTAINERS

Frank R. Linda, Bridgeport, Conn., and Leigh D. Leiter, Philadelphia, Pa., assignors to International Paper Company, New York, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 650,989, July 3, 1967. This application Apr. 24, 1968, Ser. No. 723,224
Int. Cl. B23p *19/04*
U.S. Cl. 29—208 **8 Claims**



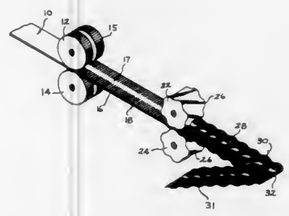
Apparatus for locking handle closures on gable top containers in which gable top containers are automatically fed by conveyers through punching and handle locking

stations and, as each container is fed through the respective stations, the container, through electrical and pneumatic controls, actuates a punch to punch a hole in the gable and dies to fasten and lock the handle.

3,525,138
METHOD OF MAKING A HUMIDIFIER EVAPORATING ELEMENT

Roy W. Abbott, Jeffersontown, Ky., assignor to General Electric Company, a corporation of New York

Filed Apr. 9, 1968, Ser. No. 719,949
Int. Cl. B21d *53/00*
U.S. Cl. 29—157 **3 Claims**



An evaporating element for a humidifier where the element has a metallic pad that is made by slitting the edges of a narrow strip of thin sheet metal to provide a plurality of slender, spine fin members each connected with a center strip or spinal column extending longitudinally of the strip. The plane of the strip is corrugated at an acute angle with respect to the longitudinal axis of the strip, then the strip is pleated and pressed into layers to form a pad that is about as high as it is wide. Finally, a reinforcing frame encompasses the periphery of the pad, and there is a water trough formed in the top of the frame from which water is allowed to drain slowly onto the entire pad.

3,525,139
METHOD OF MAKING REINFORCED OVAL-FORM TUBULAR SCREENS

Paul W. Fournier, New Brighton, Minn., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Original application Dec. 11, 1967, Ser. No. 689,555, now Patent No. 3,483,992, dated Dec. 16, 1969. Divided and this application June 24, 1969, Ser. No. 836,030
Int. Cl. B23p *15/16*
U.S. Cl. 29—163.5 **1 Claim**

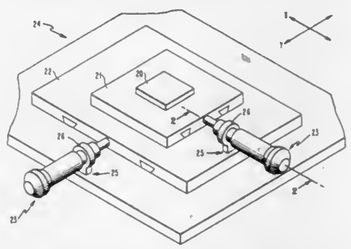


An oval-form tubular screen section formed by a helical winding of a continuous rod section around a plurality of spaced longitudinal rod members and the resulting round and slotted tubular screen section is temporarily compressed into an oval-form cross-section and a longitudinal bar member having a depth greater than the normal non-deformed inside diameter of such section is inserted interiorly across the major axis thereof to be subsequently held in place by the tensile clamping of the inside edges of the tubular sections.

3,525,140
MICRO-MOTION DEVICE

Rene P. Cachon, Wappingers Falls, Joseph C. Miller, Poughkeepsie, and Leonard S. Scheiner, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed May 22, 1968, Ser. No. 731,233
Int. Cl. B23p *19/00;* **H05k** *13/00*
U.S. Cl. 29—200 **10 Claims**



A micrometric translator for ultra-minute motion having selectively coarse and fine modes of operation. The device is a differential-type twin screw device incorporating a clutch continuously engaged with one screw member and selectively engageable and disengageable with a second screw member. When the clutch is disengaged from the cooperative screw member coarse and rapid linear motion is provided by the device; and, conversely, with the clutch engaged with both screw members relatively fine and slow linear motion is obtained for precise operation which permits mehcanical translation as small as the wavelength of light.

3,525,141
METHOD OF MAKING FLEXIBLE WEIGHTED BELT OR EXERCISE ARTICLE

Gilbert I. Smith, St. Petersburg, Fla., assignor to Faberge Incorporated, New York, N.Y., a corporation of Minnesota

Filed May 24, 1968, Ser. No. 731,924
Int. Cl. A63b *21/18;* **B23p** *17/00*
U.S. Cl. 29—400 **1 Claim**



A method of producing an article of manufacture comprising a flexible elongated enclosure wherein a flattened tubular member is first made from an elongated strip of material having a finished side surface and an unfinished side surface with the finished surface being on the inside. Then the tubular member is turned inside out, a longitudinal seam is sewn into the article, the longitudinal sections are partially filled with small metal particles, and cross seams are formed in the article.

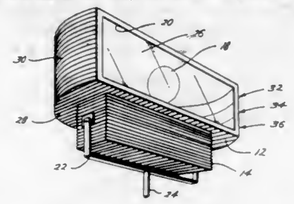
3,525,142
METHOD OF MAKING LIGHTING CASINGS

Edwin F. Osborne, Jr., Houston, Tex., assignor to Esquire, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 8, 1967, Ser. No. 681,516
Int. Cl. B23p *9/00*
U.S. Cl. 29—445 **2 Claims**

Lighting casings are provided, the individual panels of which are formed from a plurality of interlocking extruded metal sections. The sections are relatively long and narrow, and include a tongue along one longitudinal edge

and a groove along the other. After assembly of a plurality of sections to form a composite panel, the panel is shaped or formed in any desired manner by use of

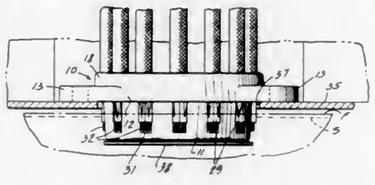


standard machine shop operations, to give either a planar or curved panel. The finished casings are economical and simple of construction and yet attractive in appearance.

3,525,143
METHOD OF DIP SOLDERING ELECTRICAL TUBE SOCKETS

Albert P. De Vito, Niles, Ill., assignor, by mesne assignments, to Conalco Metals, Inc., a corporation of Delaware

Continuation-in-part of applications Ser. No. 459,159, May 27, 1965, and Ser. No. 569,134, Aug. 1, 1966. This application Mar. 24, 1967, Ser. No. 625,819
Int. Cl. B23k *31/02*
U.S. Cl. 29—471.1 **2 Claims**

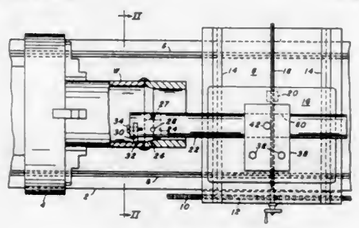


A method of dip soldering electrical sockets of the multiple pin tube mounting type having solder well terminals by which electrical circuit leads are connected to the pin receptacles, the tips of the terminals lying adjacent to the plane of the crown of the tube base body. To prevent solder from entering the pin receptacles the body crown is masked by a removable disk and the body is then safely immersed in molten solder to a sufficient depth to solder the leads to the terminals.

3,525,144
METHOD OF MAKING TUBULAR MEMBERS

Samuel Katunich, Baldwin Borough, and Herbert J. Peterson, McKeesport, Pa., assignors to United States Steel Corporation, a corporation of Delaware

Original application Oct. 25, 1967, Ser. No. 677,891. Divided and this application July 10, 1969, Ser. No. 840,792
Int. Cl. B23k *31/02*
U.S. Cl. 29—471.1 **2 Claims**



A method of making a tubular member having internal and/or external upsets on one or both ends; including the steps of welding a first tube to a second tube having a thicker wall thickness than the first tube in aligned relationship, with weld flashes on the inside and outside surfaces, and then inserting the boring bar into the opening through the tubes with its guide in contact with the inner wall of the first tube and the cutter in engagement with the inside weld flash, causing relative longitudinal movement between the rotating tubes and the boring bar to remove the inside weld flash, and positioning the boring bar outside the welded tubes with the guide in contact with the outer wall of the first tube and the cutter in engagement with the outside weld flash, and causing relative longitudinal movement between the rotating tubes and the boring bar to remove the outside weld flash.

3,525,145
METHOD OF PRODUCING WIRE GUIDES FOR A MACHINE FOR SAWING SAMPLES OF BRITTLE MATERIALS

Jean Roger Bonnefoy, Montrouge, and Bertrand Alain Dreyfus, Sevres, France, assignors, by mesne assignments, to Photocircuits Corporation, Glen Cove, N.Y., a corporation of New York

Original application Dec. 27, 1966, Ser. No. 604,810. Divided and this application June 13, 1969, Ser. No. 833,904
Claims priority, application France, Oct. 5, 1966, 78,797
Int. Cl. B23p *13/04*
U.S. Cl. 29—558 **2 Claims**

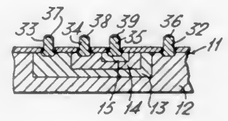


Multi-groove wire-guides for use in a machine for sawing samples of brittle materials by abrading such samples with an array of metal wires pressed against said samples while driven in an alternating motion and in an abrasive medium, are made with grooves the radially outer portions of the walls of which are substantially perpendicular to the axes of the wire-guides. Such grooves are machined with a comb-like tool, the teeth of which have the negative profile of the grooves and are, at least partly, machined on the sawing machine itself.

3,525,146
METHOD OF MAKING SEMICONDUCTOR DEVICES HAVING CRYSTAL EXTENSIONS FOR LEADS

Toshiaki Hayashida, Hirakata, Osaka, and Shoji Sugaya, Nishinomiya, Japan, assignors to Sanyo Electric Co., Ltd., Osaka, Japan, a corporation of Japan

Filed Dec. 7, 1966, Ser. No. 599,762
Claims priority, application Japan, Dec. 11, 1965, 40/76,736
Int. Cl. H01j *17/00*
U.S. Cl. 29—589 **20 Claims**

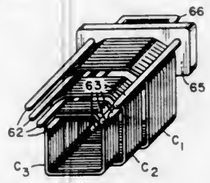


Methods of making semiconductor devices in which the layers of semiconductor material have extensions of crystal material which can be used for contact leads.

3,525,147
METHOD OF MAKING A FIELD MEMBER FOR A DYNAMOELECTRIC DEVICE

Vernon E. Kieffer, St. Louis, Mo., assignor, by mesne assignments, to Wagner Electric Corporation, South Bend, Ind., a corporation of Delaware

Filed Feb. 27, 1967, Ser. No. 618,848
Int. Cl. H02k *15/00*
U.S. Cl. 29—596 **4 Claims**

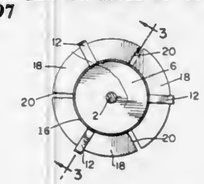


A method of winding a stator core including winding conductor means on a coil mold to provide a plurality of coils each having a single layer of turns, removing the coils from the mold with a coil transfer tool which maintains the turns of each coil in single layer form, moving the coils from the transfer tool to a coil insertion device with the turns of each coil in single layer form on the insertion device, placing a stator core member on the insertion device and moving a stripper member of the insertion device against the coils to move each of the coils into a selected pair of stator core slots with the turns of each coil entering the slots in single file formation.

3,525,148
METHOD OF MAKING CARBON COMMUTATOR

Walter Forste, Suhl, Thuringia, and Gottfried Ostermay, Berlin, Germany, assignors to VVB Elektrogerate, Berlin, Germany

Original application Apr. 5, 1968, Ser. No. 719,070, now Patent No. 3,473,062, dated Oct. 14, 1969. Divided and this application Apr. 29, 1969, Ser. No. 835,851
Int. Cl. H01r *43/00*
U.S. Cl. 29—597 **1 claim**



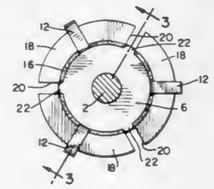
Method of making a carbon commutator for small electric motors, having an initially non-slotted carbon casing and a disk-shaped insulating member closing one end of the casing, the electrical connecting elements for the armature winding being clamped between the casing and the member. A preferably hardenable and electrically non-conductive resin compound is provided in the casing for securing the same to the member. After hardening of the compound, the casing is axially slotted so as to provide the required number of segments or lamellae as well as slots therebetween.

3,525,149
METHOD OF MAKING CARBON COMMUTATORS

Walter Forste, Suhl, Thuringia, and Gottfried Ostermay, Berlin, Germany, assignors to VVB Elektrogerate, Berlin, Germany

Original application Apr. 5, 1968, Ser. No. 719,071, now Patent No. 3,473,063, dated Oct. 14, 1969. Divided and this application Apr. 29, 1969, Ser. No. 840,886
Int. Cl. H01r *43/00*
U.S. Cl. 29—597 **3 Claims**

Method of making carbon commutators for small electric motors, having an initially non-slotted carbon casing and an elongated supporting member therein, the electrical connecting elements for the armature windings being axially disposed between the casing and the member. A preferably hardenable and electrically conductive resin compound is provided in the casing for securing the same to the member and for immobilizing the connecting elements. After hardening of the compound, the casing is axially slotted so as to provide the required number of segments or lamellae as well as slots therebetween.

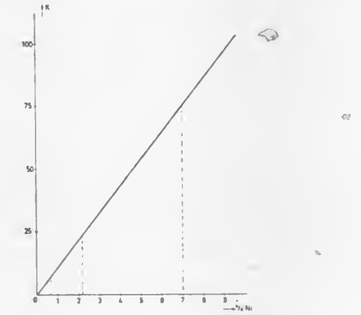


Two embodiments are disclosed, one having outer ribs on the supporting member while the other has a flanged terminal portion against which the casing abuts. The slots may also extend in the compound, to the outer surface of the member.

3,525,150
METHOD OF PREPARING A SUPERCONDUCTING MATERIAL

Serge Deiness, Ernestine-Versailles, France, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 4, 1967, Ser. No. 607,277
Claims priority, application France, Jan. 5, 1966, 44,909; Dec. 16, 1966, 87,719
Int. Cl. H01v *11/00*
U.S. Cl. 29—599 **2 Claims**



A method of preparing superconducting Nb_3Sn by reacting Nb and Sn at a temperature of 800–1000° C. in contact with Ni.

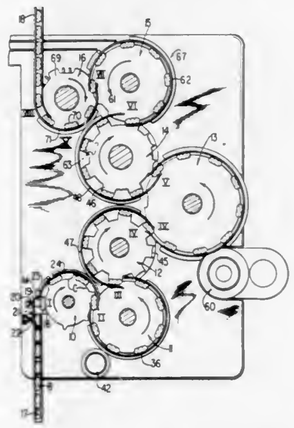
3,525,151
PROCESS FOR AUTOMATICALLY MAKING ELECTRIC BATTERIES

Jean Pellerin, Poitiers, France, assignor to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Romainville, Seine-St.-Denis, France, a company of France

Original application Mar. 29, 1966, Ser. No. 538,278, now Patent No. 3,394,858. Divided and this application Nov. 2, 1967, Ser. No. 704,962
Int. Cl. H01b *13/00*
U.S. Cl. 29—624 **3 Claims**

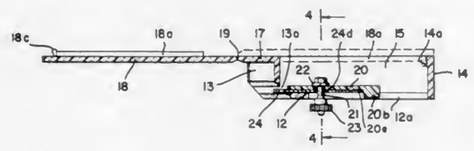
A continuous automatic method of effecting interconnection of a group of unconnected cells to form a battery comprising the steps of first assembling said group

of interconnected cells in spaced proximity in a casing, each cell having a metallic central terminal cap and an unconnected interconnecting conduit element electrically joined to the other terminal of each cell, moving such cells to a first processing zone and there applying treating solution to said caps and cambering the respective interconnecting conduit elements for application to the respective caps of adjacent cells, moving said cells to a second processing zone and pressing the respective



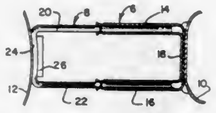
interconnecting elements onto the respective underlying caps and soldering them thereto by applying soldering elements and solder thereto, moving said cells to a third processing zone and there testing the mechanical security of the soldered joints between elements and cap and electrically testing the voltage of the group of connected cells, and rejecting defective batteries in a zone beyond said third zone as a result of said testing, the time in transit through each of the zones being sufficient to complete the respective treatments described therein.

3,525,152
CARTON OPENING HAND TOOL
Lazzaro A. Fattori, 84 Rose Ave., Woodcliff Lake, N.J. 07680, and Frank Biscone, 53 Schumacher Drive, New Hyde Park, N.Y. 10040
Filed May 14, 1968, Ser. No. 729,043
Int. Cl. B67b *7/30*
U.S. Cl. 30—2 **6 Claims**



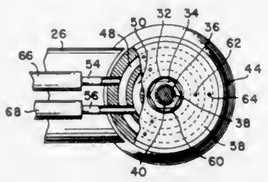
A razor blade holder molded of a resinous plastic serves as a hand tool and has a top wall over-hangingly projecting beyond a beveled end wall providing a re-entrant corner to engage and be drawn along the top edges of a corrugated carton. A razor is positioned against a bottom wall of the holder and has an edge projecting through a slit in the beveled end wall for cutting a side-wall of the carton at a spaced distance from the carton top surface determined by the spacing of the slit from said projecting top wall of the tool. The bottom wall has means including indicia for adjusting the depth of cut of the razor to different carton wall thicknesses.

3,525,153
ORTHODONTIC APPLIANCE
Warren E. Gerber, 370 Berkeley, Winnetka, Ill. 60093
Continuation of application Ser. No. 660,058, Aug. 11, 1967, which is a continuation-in-part of application Ser. No. 457,060, May 19, 1965. This application Oct. 4, 1968, Ser. No. 791,201
Int. Cl. A61c *7/00*
U.S. Cl. 32—14 **11 Claims**



An orthodontic appliance comprising a band for a first tooth, a generally U-shaped tubular member having parallel side arms and a connecting cross member, the cross member being secured to a mesial side of the band with the parallel side arms extending therefrom, and a U-shaped wire member having parallel side arms telescopingly received in the parallel side arms of the tubular member, the portion of the wire member extending laterally between the parallel side arms thereof thereby being longitudinally adjustable relative to the cross member to engage a second tooth, whereby upon fastening the wire member in the adjusted position relative to the cross member the laterally extending portion of the wire member is adapted to bear against the second tooth so that the teeth are maintained in spaced relation.

3,525,154
HANDPIECE WITH WATER SPRAY
Nathaniel H. Lieb, Philadelphia, Pa., assignor to Star Dental Manufacturing Co., Inc. (also known as Star Dental Manufacturing Company, Inc., and Star Dental Mfg. Co., Inc.), Philadelphia, Pa., a corporation of Delaware
Filed Apr. 25, 1968, Ser. No. 724,184
Int. Cl. A61c *1/08*
U.S. Cl. 32—28 **15 Claims**

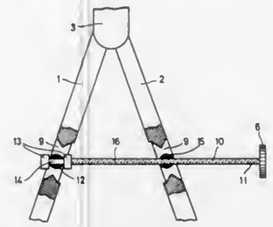


A dental handpiece comprising a hollow body member and a turbine housing at one end thereof. A spray cap is removably secured to the turbine housing and a source of water for the spray cap is internally mounted in the hollow body member. A water spray for a drilled tooth is provided by the spray cap.

3,525,155
GEOMETRIC INSTRUMENT HAVING IMPROVED ADJUSTMENT MEANS
Günther Partes, 8535 Brunn, near Emskirchen, Germany
Filed Jan. 28, 1969, Ser. No. 794,567
Claims priority, application Germany, Apr. 3, 1968, 1,761,101; Nov. 23, 1968, 1,810,631
Int. Cl. B43l *9/02*
U.S. Cl. 33—27 **7 Claims**

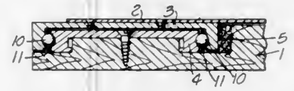
The arms of a geometric instrument are interconnected by a threaded spindle cooperating with at least one threaded sleeve. The spindle comprises a single or multiple

thread having a lead angle of at least 20° to achieve non-locking thread engagement with the sleeve. Manual forces



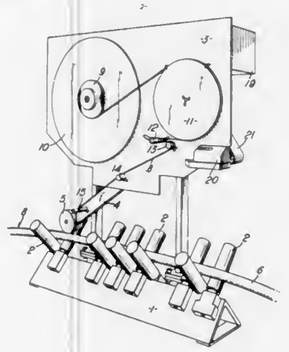
exerted between the instrument arms produce rotation of the spindle to effect rapid adjustment of the relative arm positions.

3,525,156
DRAFTING DEVICE
Gerald R. Witt, 916 S. Berendo, Los Angeles, Calif. 90006
Filed Jan. 2, 1969, Ser. No. 788,494
Int. Cl. B43l *13/02*
U.S. Cl. 33—76 **4 Claims**



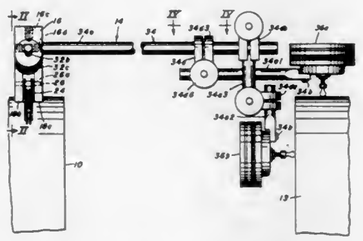
A drafting device having at least one rigid straight edge piece slidably mounted on a drafting board or table with a slide mechanism operably connected to said straight edge piece which maintains said straight edge piece in a fixed relationship to the edge of the table, while said straight edge piece is moved across the table and means to inhibit movement of said straight edge piece in one direction induced by the force of gravity.

3,525,157
APPARATUS FOR MEASURING LENGTHS
Peter Harvey, London, and Dennis Joseph Nash, Southall, England, assignors to British Insulated Callender's Cables Limited, London, England
Filed Aug. 7, 1967, Ser. No. 658,860
Claims priority, application Great Britain, Aug. 18, 1966, 37,064/66
Int. Cl. G01b *5/04*
U.S. Cl. 33—129 **8 Claims**



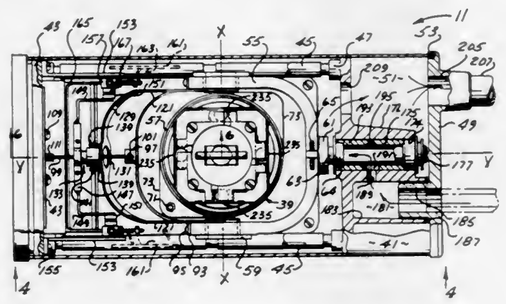
Length measurements are made using as a measuring member a flexible tape which is locally held by a pressure member against the surface along which the measurement is to be made during relative movement in the direction of measurement between the apparatus and the surface. The tape is taken from a supply roll containing a length of the tape greater than the length to be measured and is fed by positive driving means to the pressure member. The driving means is controlled in accordance with the tension in the tape between the supply roll and the pressure member to maintain that tension substantially constant. The measurement required is obtained by registering the rotation of a capstan over which the tape passes in its path between the supply roll and the surface.

3,525,158
APPARATUS FOR ALIGNING SHAFTS AND THE LIKE
Dwight L. Torlay, Lawrence Township, Mercer County, N.J., assignor to United States Steel Corporation, a corporation of Delaware
Filed July 31, 1967, Ser. No. 657,311
Int. Cl. G01b *3/30*
U.S. Cl. 33—180 **15 Claims**



An apparatus for aligning one elongated member with an elongated reference member. This apparatus has a body which is self-leveling and seats firmly on either the reference member or another member to be aligned therewith, an indicating device on the body for engaging and checking the alignment of the other member, a securing device on the body for securing the body to one of the reference member or the other member and engageable with a hook device on the body.

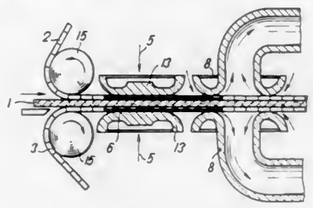
3,525,159
ATTITUDE INDICATOR
Allan K. Mills, Palos Verdes Peninsula, Calif., assignor to Brittain Industries Inc., Torrance, Calif., a corporation of California
Filed June 5, 1967, Ser. No. 643,488
Int. Cl. G01c *19/44, 19/52*
U.S. Cl. 33—204 **1 Claim**



An attitude indicator device utilizing an attitude gyro wherein a roll indicator symbol is driven directly by the outer gimbal in a reverse direction to the movement of

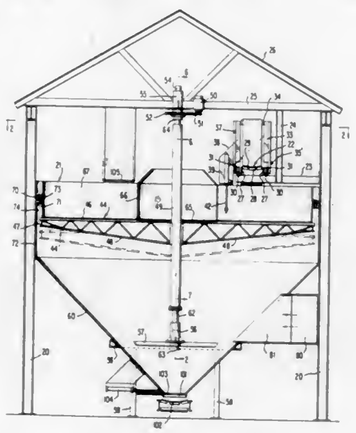
the gimbal and the horizon reference is pivotally supported by bearings fixed at opposite sides of the housing for the device and rotatably driven by the inner gimbal through pairs of magnets. Additionally, an electro-pneumatic means is provided for redundancy and reliability to allow the use of both electric power and air pressure to operate the gyro. Four ports and balls located adjacent the ports provide means for erecting the gyro to vertical as air is directed out through the ports.

3,525,160
PROCESS AND ARRANGEMENT FOR DRAINAGE OF WET LEATHER AND SIMILAR FIBROUS MATERIAL
Jiří Dokoupil, 38 Opavska, and Jiří Zubík, 16 Hlavni namesti, both of Krnov, Czechoslovakia
Filed May 10, 1968, Ser. No. 728,372
Claims priority, application Czechoslovakia, May 12, 1967, 3,437/67
Int. Cl. F26b *3/00*
U.S. Cl. 34—6 **12 Claims**



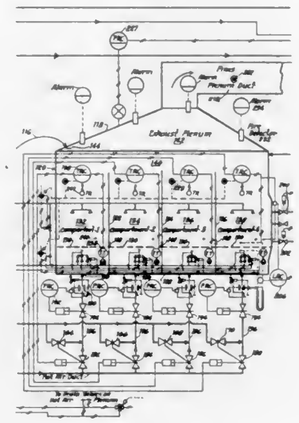
Wet hides are drained by introducing the hides between two conveyor bands of a resilient and gas pervious material capable to retain moisture due to surface tension, by subsequently applying pressure on said bands from both sides and by final removal of the moisture retained in said conveyor bands by suction, blowing or by dynamic forces.

3,525,161
METHOD OF AND APPARATUS FOR DRYING HOPS WITH ROTARY CARRIER
Leslie S. Jesperson, Rte. 1, Box 361-A, Selah, Wash. 98942
Filed July 3, 1968, Ser. No. 742,284
Int. Cl. F26b *5/08*
U.S. Cl. 34—8 **30 Claims**



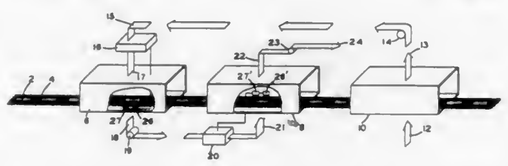
Hops are delivered from a harvester by a conveyor to a delivery mechanism which is capable of traversing a rotary drying kiln repeatedly and to lay down upon the rotating floor of the kiln layers of hops having an even density. Warm drying air circulates upwardly through the foraminous floor to dry the complete batch, after which drying the entire batch is discharged from the floor by centrifugal force and delivered to an outlet conveyor at a lower elevation. The floor of the kiln moves relative to the wall of the kiln to facilitate the centrifugal discharge.

3,525,162
MEANS AND METHOD FOR DRYING WET ELASTOMERIC CRUMB
John F. Brewer, Ronald E. Shrader, and Louis C. Schilling, Baton Rouge, La., assignors to Copolymer Rubber & Chemical Corporation, Baton Rouge, La., a corporation of Louisiana
Filed Oct. 14, 1968, Ser. No. 767,250
Int. Cl. F26b *3/08*
U.S. Cl. 34—10 **25 Claims**



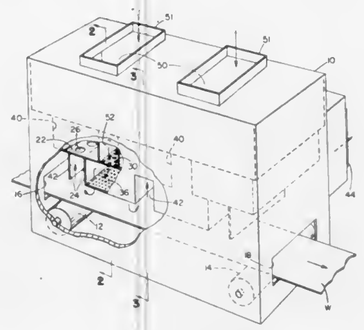
A method and means for drying elastomeric crumb which makes use of a fluid bed dryer subdivided into a plurality of compartments with temperature controls of the hot drying gases introduced into each compartment for fluidization to effect incremental removal of moisture from the crumb and for effecting uniform drying at relatively low temperature with means for measurement and control of the level of the fluid bed, the temperature of the hot drying gases introduced for drying and fluidization and the volume thereof.

3,525,163
METHOD OF DRYING NODULAR FIBERBOARD
Joseph W. Boylan and Charles R. Culp, Lancaster, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Nov. 29, 1968, Ser. No. 779,668
Int. Cl. F26b *7/00*
U.S. Cl. 34—13 **3 Claims**



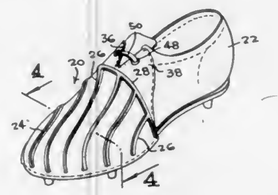
Wet nodular fiberboard is passed through two drying cycles to remove the moisture from the board, then the board is passed through a cooling cycle to remove the heat developed during the drying cycles. Both drying and cooling are accomplished by passing air through the boards. During the drying cycle, the air is heated and automatic controls are used to provide the proper amount of heat to remove the proper quantity of moisture.

3,525,164
APPARATUS FOR GASEOUS TREATMENT OF MOVING WEBS
Ernest Charles Brown, Danvers, Mass., assignor to Wolverine Corporation, Woburn, Mass., a corporation of Massachusetts
Filed Dec. 10, 1968, Ser. No. 782,620
Int. Cl. F26b *23/00*
U.S. Cl. 34—155 **10 Claims**



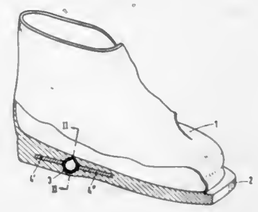
Apparatus for gaseous treatment of moving webs has a plenum embracing parallel spaced exhaust cross-headers with the spaces between the cross-headers forming outlet passageways from the plenum leading to lower level perforate distributing heads between which are vertical exhaust passageways leading to the exhaust cross-headers so that air impacting on the moving web is drawn away from the moving web before moving transversely through the cross-headers to discharge points beyond the edges of the moving web.

3,525,165
FOOTBALL SHOE CONSTRUCTION
Richmond C. Randall, Jr., 4509 Courthouse Road, Gulfport, Miss. 39501
Filed Aug. 12, 1968, Ser. No. 751,855
Int. Cl. A43b *00/00*
U.S. Cl. 36—2.5 **7 Claims**



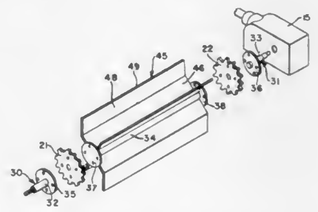
A football shoe in which the toe portion is provided with upwardly extending friction enhancing ridges oriented at an angle of approximately 60° with respect to the axis of the shoe with one embodiment employing the toe portion in the form of a removable cap being attachable to the shoe by holes in the end of tabs folded beneath the sole of the shoe to fit over the cleat lugs of the shoe and to be retained in position by the cleats.

3,525,166
SKI BOOTS
Justus Rieker and Paul Lollmann, Tuttlingen, Germany, assignors to Rieker & Co., Tuttlingen, Wurttemberg, Germany
Filed Jan. 31, 1969, Ser. No. 795,551
Claims priority, application Germany, Feb. 27, 1968, 6,750,678
Int. Cl. A43b
U.S. Cl. 36—2.5 **3 Claims**



A ski boot which has at least one tubular element firmly embedded in its outer sole for supporting parts of a ski binding or any other means. The ends of this tubular element are flush with the peripheral edge of the outer sole. If one or both ends of the tubular element are not needed for any particular purpose, they are preferably closed by removable plugs or the like.

3,525,167
SCRAPER ELEVATOR WITH RADIAL ARM CLEANER
John Lischer French and Ronald Paul Grossklaus, Moline, Ill., assignors to Deere & Company, Moline Ill., a corporation of Delaware
Filed Apr. 8, 1968, Ser. No. 719,374
Int. Cl. B60p *1/36*
U.S. Cl. 37—8 **5 Claims**

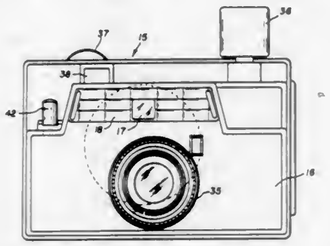


For use with a flight-type elevator positioned on the forward end of an earth scraper bowl, a series of radially projecting arms on the upper transverse drive shaft of the elevator that project radially between the flights of the elevator for the purpose of dislodging material that may become wedged between the flights or may tend to be retained on the flights.

3,525,168
INTERCHANGEABLE DISK VIEWER TOY
Paul A. Martin, East Aurora, N.Y., assignor to Fisher-Price Toys, Inc., East Aurora, N.Y., a corporation of New York
Filed Mar. 8, 1968, Ser. No. 711,761
Int. Cl. G09f *11/04*
U.S. Cl. 40—71 **16 Claims**

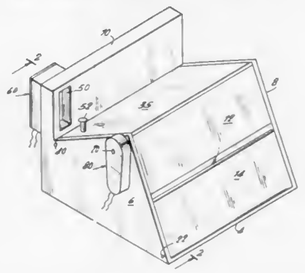
A camera viewer toy has a viewing aperture, a slot for receiving one of a number of disks having concentric, transparent scenes for viewing in the aperture, and a mechanism for advancing the disks in stepped rotation. The advancement mechanism includes a drive member engaging a disk in its hub area with the drive member

and the disk having overridable and mutually mating surfaces. A spring biases the drive member into engage-



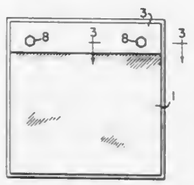
ment with the disk and also engages notches for indexing the drive member.

3,525,169
CREATURE REPELLER
William Odenwald, 830 Irvington Ave., Elizabeth, N.J. 07208
Filed Oct. 25, 1967, Ser. No. 678,106
Int. Cl. G09f *27/00*
U.S. Cl. 40—106.3 **4 Claims**



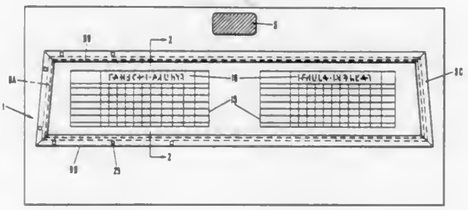
An apparatus for frightening creatures, especially fowl, useful in protecting crops and newly sown fields. The device comprises means for enabling a facsimile of the enemy of the creature to be scared to appear and disappear and accompanied with a sound characteristic of the sound emitted by the enemy.

3,525,170
CALENDAR
Solomon Greenberg, 301 Tryon St, Greensboro, N.C. 27403
Filed Sept. 6, 1968, Ser. No. 758,011
Int. Cl. G09d *3/04*
U.S. Cl. 40—120 **5 Claims**



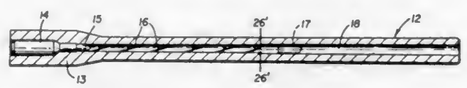
A wall calendar of the type using a pad of individually removable daily indicia sheets is provided with spring-loaded collapsible supports for the pad and a clamping cover member or cap maintained in continous contact with the uppermost sheet as successive sheets are removed.

3,525,171
DISPLAY MEANS
Harry S. Gilman, Marblehead, Mass. (556 Atlantic Ave., Boston, Mass. 02210)
Filed May 2, 1968, Ser. No. 726,125
Int. Cl. G09f *1/10*
U.S. Cl. 40—158 **4 Claims**



A light transmitting display for a bowling alley scoring table adapted to project bowling scores onto a screen comprising a pair of light transmitting rigid sheets with facing surfaces having one of the sheets of greater thickness than the other. A bowling score card or graph is imprinted on one of the surfaces. A channel is also formed in one of the surfaces and extends continuously thereabout in spaced relation to its periphery. An adhesive means is interposed between and secures the facing surfaces in sealed relation with the adhesive means positioned between the periphery of the facing surfaces and the channel.

3,525,172
RIFLED BORE CONSTRUCTION FOR A GUN BARREL
Richard L. Marshall and Anthony A'Costa, Englewood, Colo., assignors, by court decree, to A. I. M. Magnum Corporation
Continuation-in-part of application Ser. No. 625,107, Mar. 22, 1967. This application July 5, 1968, Ser. No. 742,871
Int. Cl. B23p *13/00;* **F41c** *21/00*
U.S. Cl. 42—78 **8 Claims**



A gun barrel construction having a rifled portion extending from the breech toward the muzzle end and terminating at the point where the pressure of released gases from the explosive charge of a cartridge used with the gun barrel is a maximum. The remaining portion of the gun barrel is smooth bored and acts as a frictionless guide for the projectile passing therethrough at increasing velocities.

3,525,173
FISHING RIG AND MEANS FOR CASTING SAME
John J. Pickering, 102 Barrett Ave., North Providence, R.I. 02908
Filed May 3, 1968, Ser. No. 726,520
Int. Cl. A01k *91/00, 91/02*
U.S. Cl. 43—19 **3 Claims**

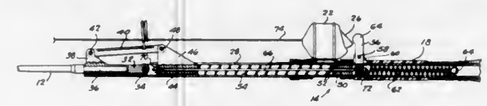
A fishing rig comprising: a length of elastic line joined at one end to a length of conventional line. A sinker is secured at the free end of the elastic line. A hook is joined to the conventional line adjacent its juncture with the elastic line. A handle is provided bifurcated at its upper end to provide spaced upstanding legs. A spool

has one end pivoted to one of said legs and its other end detachably secured to the other of said legs. Slingshot



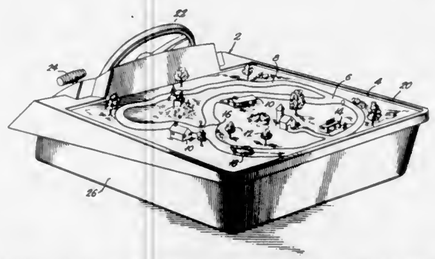
means are provided between said legs for casting said sinker to draw said rig from said spool.

3,525,174
SELF-IMPELLED SPIN-CASTING RIG
Lester A. Worsham, Box 559, Cedartown, Ga. 30125
Filed July 16, 1968, Ser. No. 745,212
Int. Cl. A01k *91/02*
U.S. Cl. 43—19 **9 Claims**



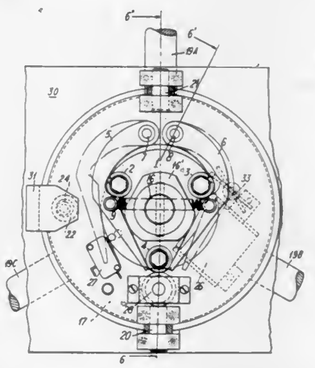
A spin-casting rig comprising a butt portion adapted to have a spinning reel mounted thereon and a rod portion pivotally connected to said butt portion. A slide is mounted in said butt portion and a rigid link is pivoted at one end to the rod portion and at the other end to the slide. A spring within the butt portion resists rearward movement of the slide. A lever is pivoted to the butt portion adjacent the reel mounted thereon and a spring in the handle portion biases the upper end of the lever toward the reel. A tie-rod slidably penetrates both the slide and the lower end of the lever. The tie-rod has stops at each end, one bearing on the slide and the other on the lever. The spring biasing the slide has a more powerful constant than that of the spring biasing the lever.

3,525,175
TOY SIMULATING REALISTIC DRIVING CONDITIONS
Tobin Wolf, 447 Essex Ave., Bloomfield, N.J. 07003
Filed Oct. 11, 1965, Ser. No. 494,462
The portion of the term of the patent subsequent to Aug. 25, 1986, has been disclaimed
Int. Cl. A63h *33/26*
U.S. Cl. 46—240 **2 Claims**



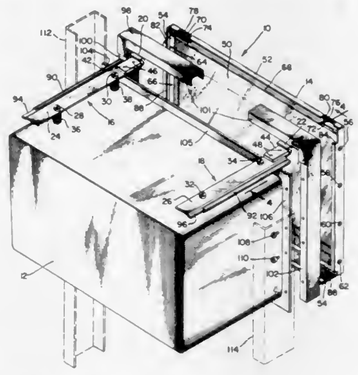
A toy for simulating realistic driving conditions of an automobile. A housing carries a simulated terrain containing a maze of roadways and is provided with a steering wheel for controlling the vehicle. The vehicle is provided with a slave magnet for cooperation with a master magnet carried by a groove in a rotating arm under the simulated terrain. A beaded chain is connected to the master magnet and wheel and extends through the axes of rotation of the arm to shift the master magnet along the groove.

3,525,176
SELECTIVE ROTATION CONTROL
Terence J. Collins, Farnham, England, assignor to Tiltman Langley Limited, Redhill, Surrey, England
Filed Mar. 25, 1968, Ser. No. 715,792
Claims priority, application Great Britain, Mar. 29, 1967, 14,396/67
Int. Cl. E05d *15/02*
U.S. Cl. 49—46 **7 Claims**



The disclosure is of a reversible turnstile mechanism in which a three bar turnstile of tripod configuration is mounted for rotation on its own axis (as is known) and for angular movement about a second normally vertical axis according to the required direction of passage. This enables provision to be made for mechanism such as coin release or unidirectional locking to be selectively employed in relation to the required direction of passage.

3,525,177
READILY REMOVABLE DOOR FOR INSTRUMENT CASING
Clayton F. Robinson, Philadelphia, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Apr. 14, 1969, Ser. No. 815,782
Int. Cl. E05d *15/38*
U.S. Cl. 49—197 **10 Claims**

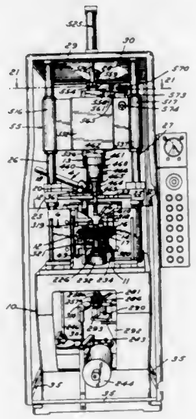


Crook shaped hangers on the top of an instrument casing and segments formed on a pivot rod supported on a door of the casing are constructed so they can be brought into or out of pivotal relationship with one another only when the door and its associated segments are retained in a preselected angular position with respect to these hangers when it is desired to mount it on or remove it from the casing.

3,525,178
GEAR HONING MACHINE

Myron P. Ellis, Royal Oak, Albin S. Czubak, Detroit, and Keith A. McDonald, Union Lake, Mich., assignors to Micromatic Hone Corporation, Detroit, Mich., a corporation of Michigan

Filed Jan. 29, 1968, Ser. No. 701,447
Int. Cl. B24b *7/00, 9/00*
U.S. Cl. 51—3 **31 Claims**

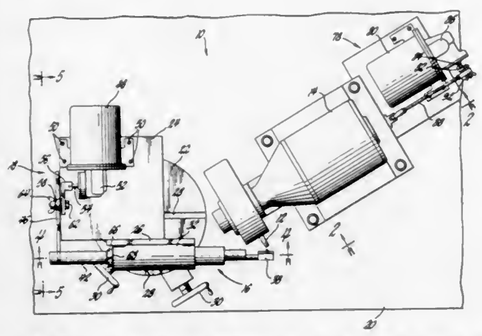


A multi-surface machining apparatus and method for simultaneously machining the center bore of a gear workpiece concentric to the pitch circle of the gear teeth, and machining one or both of the end faces of the gear workpiece perpendicular to the axis of the center bore. The gear workpiece is rotated in a centerless manner by a pair of master gears comprising a driving gear and a braked retainer gear. The master gears improve the surface finish characteristics of the tooth flanks of the gear teeth while rotating the gear workpiece. Simultaneously, a first machining means is reciprocated axially in the gear workpiece center bore, and a second machining means is reciprocated over one or both of the end faces of the gear workpiece in a direction perpendicular to the axis of the center bore.

3,525,179
GRINDING MACHINE

Elmer W. Hillier, Swartz Creek, and Robert J. Proffer, Flushing, Mich.; said Proffer assignor of fifty percent to Robert K. Thomas, Mission Hills, Calif.

Filed Oct. 2, 1967, Ser. No. 672,068
Int. Cl. B24b *7/00, 19/00*
U.S. Cl. 51—46 **13 Claims**

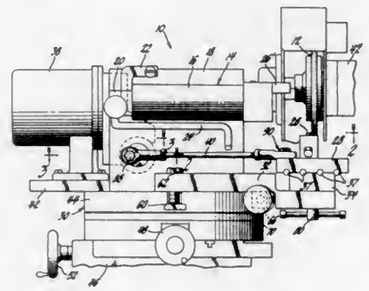


A grinding machine assembly of the type utilized for grinding twist drills including a grinding wheel and a drill holder. The drill holder includes a shaft which is oscillated through an arc by an auxiliary electric motor so that when a drill is disposed in the holder it moves faster in one direction than the other during its one oscillation for grinding engagement with the grinding wheel. The auxiliary motor rotates a link having a slot therein and a roller is disposed in the slot to engage a rod extending from the shaft for oscillating the shaft. The roller may be moved or adjusted to different positions along the slot in the link for adjusting the arc of oscillation. There is also included means for providing a hesitation in the movement of the holder means as the latter is changing direction of movement while oscillating. Such a hesitation allows a drill to be indexed or a new drill to be disposed in the holder for grinding. In addition, the grinding wheel is reciprocated in a direction parallel to its axis of rotation by another auxiliary electric motor.

3,525,180
GRINDING MACHINE AND DRESSER

Elmer W. Hillier, Swartz Creek, Mich., assignor of fifty percent to Robert K. Thomas, Mission Hills, Calif.

Filed Oct. 2, 1967, Ser. No. 672,094
Int. Cl. B24b *3/26, 53/02*
U.S. Cl. 51—92 **9 Claims**



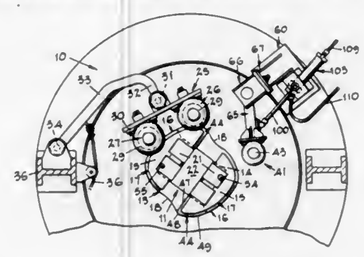
A grinding machine of the type for sharpening the points of twist drills and the like and including a drill holder for positioning a drill in engagement with the grinding surface of a grinding wheel and dressing means for dressing the grinding wheel surface. Support means supports the drill holder and the dressing means for selectively moving the drill holder and the dressing means in unison toward and away from the grinding surface so that the relative position between the drill holder and the grinding surface may be maintained constant as the grinding surface is dressed by the dressing means. In addition, the dressing means is reciprocably mounted on the support means and a power means is included for selectively reciprocating the dressing means.

3,525,181
EDGE GRINDING APPARATUS

Frank J. Carson, Toledo, Ohio, assignor to Libbey-Owens-Ford Company, Toledo, Ohio, a corporation of Ohio

Filed June 3, 1968, Ser. No. 734,076
Int. Cl. B24b *9/10*
U.S. Cl. 51—101 **4 Claims**

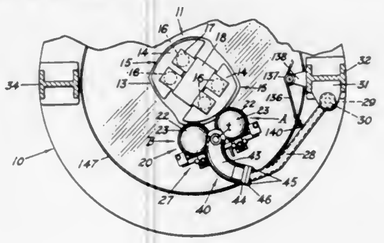
Edge grinding apparatus comprising a rotatable work-support table and a main template having a pattern-contoured edge to which the exposed edge of a workpiece is to be ground. A main grinding unit includes a main grinding wheel and a template follower roll adapted to traverse the main template. The main grinding unit is yieldingly urged toward the worktable to maintain the follower roll against the main template and the main grinding wheel in engagement with the edge of the workpiece. An auxiliary grinding unit is mounted adjacent the worktable and includes a grinding wheel of relatively small diameter and template follower roll which engages an auxiliary template carried by the main template. Control means are actuated during rotation of the worktable to bring the auxiliary template follower roll into engagement with an out-of-engagement with the auxiliary template whereby to effect grinding action by the wheel of the auxiliary grinding unit along a selected area of the workpiece.



3,525,182
EDGE GRINDING MACHINE

George F. Ritter, Jr., and Frank J. Carson, Toledo, Ohio, assignors to Libbey-Owens-Ford Company, Toledo, Ohio, a corporation of Ohio

Filed Feb. 29, 1968, Ser. No. 709,434
Int. Cl. B24b *9/10*
U.S. Cl. 51—101 **2 Claims**



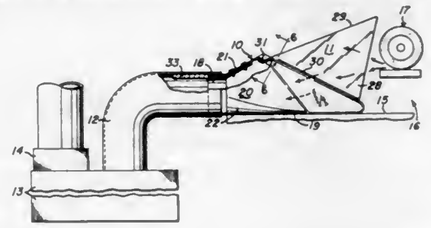
A machine for grinding the edges of plates of glass or other materials having edge contours of varying radii and also of relatively small radius. A pair of grinding units, having grinding wheels rotatable about parallel vertical axes, are mounted in spaced side-by-side relation on a vertical support member which is pivoted in a supporting bracket to turn about a vertical axis, whereby the grinding wheels are caused to swing bodily about said axis as they traverse the curved edge of the glass plate, said vertical axis being located between the grinding units and forwardly of said support member such that the axes of rotation of the grinding wheels and the axis of bodily swinging movement of the grinding units define an obtuse angle. The grinding wheels are yieldably urged into engagement with the curved edge of the glass plate, with the bodily swinging movement thereof controlled by a template and template follower roll.

3,525,183
DUST COLLECTOR

Robert J. Gargrave, Dayton, Ohio, assignor to Day/ton Progress Corporation, Dayton, Ohio, a corporation of Ohio

Filed July 17, 1967, Ser. No. 653,729
Int. Cl. B24b *55/06*
U.S. Cl. 51—270 **11 Claims**

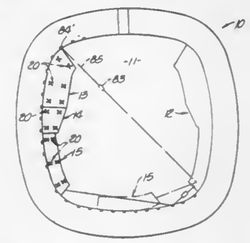
A portable dust collecting system featuring a novel hood having entrance and exist ends, the entrance end having a wide mouthed configuration enabling the hood to substantially embrace a work area and being formed in part by a retractable, transparent, cover section which provides a uniquely constant and ready access to the work area.



3,525,184
STADIUM WITH MOBILE SEATING SECTIONS

Henry C. Harbers, Pasadena, and Henry C. Harbers, Jr., La Puente, Calif., assignors to Western Unit Corporation, City of Industry, Calif., a corporation of California

Filed Dec. 18, 1967, Ser. No. 691,279
Int. Cl. E04h *3/12*
U.S. Cl. 52—9 **18 Claims**

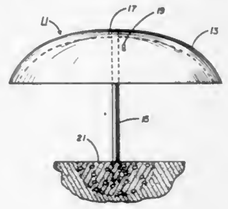


A stadium having mobile spectator seating sections selectively supportable on fixed supports and on self-castering dollies equipped with readily inflated and deflated air cushions effective when inflated to support the seating sections on the dollies for movement to a different viewing location relative to a stadium playing area. Preferably, the dollies bear no substantial load except when in use to move the sections between places of use. The dollies include means for controlling inflation and deflation of the air cushions and actuation of brake means for controlling castering.

3,525,185
STABLE SHELTER AND METHOD OF MAKING SAME

David E. Bloxom, 3566 Cromart Court, Fort Worth, Tex. 76133

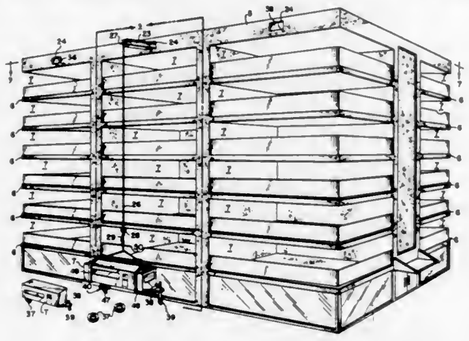
Filed Oct. 23, 1968, Ser. No. 769,795
Int. Cl. E04b *1/34;* **E04g** *21/02*
U.S. Cl. 52—73 **9 Claims**



This specification discloses a stable shelter characterized by a center support; and a concrete umbrella mounted on the center support and consisting essentially of a collar

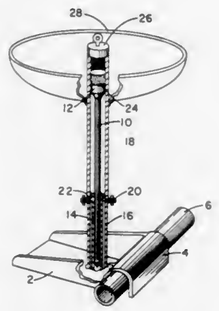
having reinforcing bars fixed to the collar and extending radially to the edge of the umbrella, and concrete formed about the collar and the reinforcing bars. This specification also discloses a method of making the stable shelter.

3,525,186
MULTI-STORY TRAILER BUILDING WITH LIFTING MEANS
Dominick A. Lombardo, Box 14432, North Palm Beach, Fla. 33403
Substituted for abandoned application Ser. No. 436,792, Mar. 3, 1965. This application Aug. 2, 1968, Ser. No. 768,570
Int. Cl. E04b *6/18*
U.S. Cl. 52—122 **4 Claims**



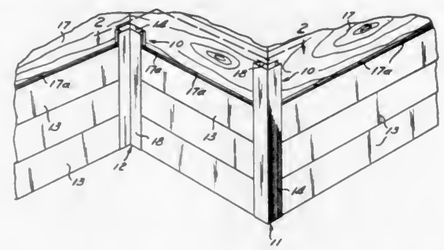
This invention relates to a multi-story building for housing house trailers. The building embodies a multiplicity of outwardly opening cubicles that are open upon all sides of the building. Each cubicle is provided with gates that extend outwardly from the cubicle to form platforms upon which the house trailer is rested prior to movement of the trailer inwardly to the cubicle and elevating means that project from a roof of the building and that carry hoisting cables that are connected to the trailer on the ground for elevating the trailer bodily to the particular platform of the cubicle selected.

3,525,187
EXPLOSIVELY DRIVEN SUBMARINE ANCHOR
Renic P. Vincent, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Continuation-in-part of application Ser. No. 660,526, Aug. 14, 1967. This application Nov. 5, 1968, Ser. No. 777,980
Int. Cl. E02d *5/80;* **B63b** *21/28*
U.S. Cl. 52—155 **10 Claims**



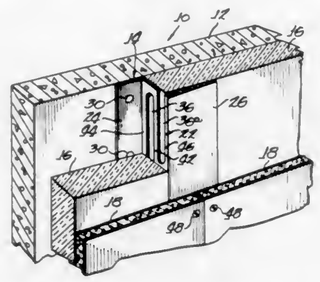
An explosively driven submarine anchor assembly suitable for securing pipelines to the ocean floor comprises an explosively driven nail surrounded by a tubular member having a deceleration means therewithin to prevent the nail from passing entirely through the assembly and into the ocean floor. Affixed to the tubular member is a clamping means suitable for securing a pipeline to the anchor body. Means may also be used in the base of the aforesaid tubular member for preventing upward movement of the nail after it has been driven. The gun barrel used in firing the nail is retrievable and may be reused.

3,525,188
CORNER POST FOR SIDING
Richard L. Torbett, Gnadenhutten, Ohio, assignor to Alsco, Inc., a corporation of Delaware
Filed Nov. 21, 1968, Ser. No. 777,663
Int. Cl. E04b *1/00, 5/00*
U.S. Cl. 52—288 **9 Claims**



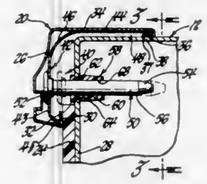
A corner post assembly, particularly adapted for use with metal siding and the like, is disclosed. The corner post assembly includes two elongated L-shaped members, one having channels along its edges and the other having grooves along its edges. By interlocking the grooves of one member and a portion of the channels of the other member an elongated box section assembly is formed with sliding receiving channels along its edges. This assembly is adapted for use on either inside or outside building corners. The configuration permits the exposed member on an outside corner to be installed or removed after the siding is installed.

3,525,189
STRUCTURAL MEMBER AND WALL ASSEMBLY INCLUDING SAME
Nels Nelsson, Des Plaines, Ill., assignor to United States Gypsum Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 11, 1968, Ser. No. 766,704
Int. Cl. E04b *2/30, 2/40*
U.S. Cl. 52—378 **4 Claims**



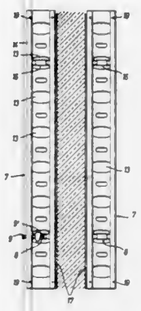
An elongated unitary Z-shaped furring member has a web formed with two columns of closely spaced elongated openings to reduce heat transmission across the member. The openings of the two columns are arranged in a staggered overlapping pattern, with each opening centered on the space between a pair of adjacent openings in the opposite column. One flange of the furring member is secured to a masonary wall and the other flange overlies and retains insulating panels, with wallboard finishing panels being secured to the retainer flange.

3,525,190
REFRIGERATOR DOOR TRIM AND PANEL MOUNTING STRIP
Orson V. Saunders, Dayton, and Milton G. Betz, Clayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 28, 1968, Ser. No. 770,991
Int. Cl. E04f *19/06;* **E04c** *2/38*
U.S. Cl. 52—624 **3 Claims**



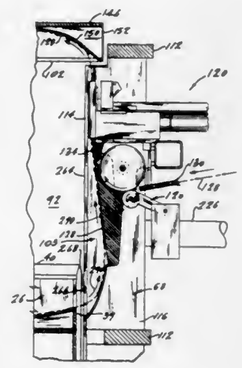
In preferred form, an appliance door trim and panel mounting assembly including vertical and horizontal trim members supported on each edge of a front surface of an appliance door closure. Each of the vertical and horizontal trim members include first and second legs covering a door edge. A smooth outer surface mounting pin on the trim member is adjustably mounted in an axial bore of a plastic grommet seated in interlocked relationship with the front surface of the door to hold the trim members in place and to allow insertion of a panel in juxtaposed relationship with the front surface of the door closure merely by removal of the top horizontal trim member.

3,525,191
TRUSS ASSEMBLY SET, ESPECIALLY FOR BRACING CONCRETE FORMS
Emil Mauritz Hunnebeck, deceased, late of Tyrol, Austria, by Hans-Joachim Hunnebeck, Hummelsbeek 27, and Heidi von Vopelius, Hummelsbeek 4, both of 4032 Lintorf, Germany, heirs
Filed Mar. 8, 1968, Ser. No. 712,339
Claims priority, application Germany, Mar. 9, 1967, H 62,081; Aug. 21, 1967, H 59,955
Int. Cl. E04c *2/42, 3/32;* **E04h** *12/10*
U.S. Cl. 52—645 **5 Claims**



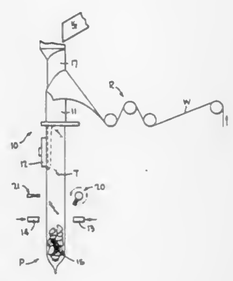
An assembly set especially for building concrete forms comprising trusses of different heights and a boxlike shape wherein the trusses of one size may be inserted transversely through apertures in trusses of the next larger size and be secured to the latter.

3,525,192
METHOD FOR TYING A COMPRESSED BALE
Charles M. Merkel, Joe E. Salmon, and Thomas H. Brugh, Prattville, Ala., assignors to Continental/Moss-Gordin, Inc., Prattville, Ala., a corporation of Delaware
Original application June 1, 1967, Ser. No. 642,770, now Patent No. 3,475,879, dated Nov. 4, 1969. Divided and this application Jan. 17, 1969, Ser. No. 791,971
Int. Cl. B65b *13/06, 13/20, 25/02*
U.S. Cl. 53—15 **11 Claims**



A method for tying a compressed bale of flowable material, such as steel strapping a cotton or synthetic fiber by directing the tying or strapping members through spaced openings on one side or wall of a baling box and guiding said members transversely around the girth of the bale inside the baling box while the walls, including any normally openable doors, remain closed, and connecting, tightening and securing the strapping members. Optionally, in single longitudinal girth trap may be guided, connected, tightened and secured simultaneously with the lateral or transverse girth straps.

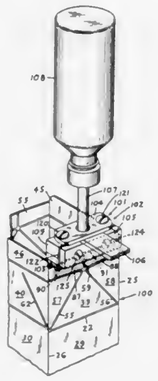
3,525,193
BRUSH PRODUCT STRIPPER
Duncan B. Cutler and Donald R. Middour, Decatur, Ga., assignors to The Woodman Company, Inc., Decatur, Ga., a corporation of Georgia
Filed Feb. 23, 1968, Ser. No. 707,607
Int. Cl. B65b *9/10*
U.S. Cl. 53—28 **21 Claims**



Method and apparatus of the form and fill type wherein the product is stripped from the tranverse seal area of the tube and yieldably forced into the bottom of the package by a pair of brushes that resiliently flatten and are moved relative to the formed tube by a reciprocating

carriage. The stripping operation and the return of the brushes to the normal position is carried out simultaneously with the return movement of the sealing jaws for minimum cycle time. One brush is rotated to more effectively urge the product into the package and is effectively moved back and forth against the tube so as to vibrate the same and cause a complementary settling of the product and release of air from said package.

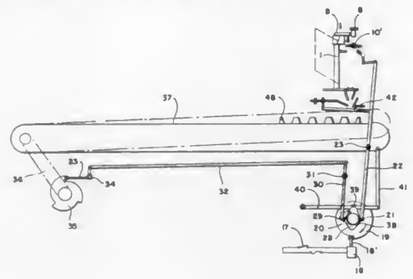
3,525,194
METHOD FOR PRODUCING READILY OPENABLE PLASTIC COATED CONTAINERS
Harold B. Moors, Richboro, Pa., and Frederick E. Bichaylo, Marlton, N.J., assignors to International Paper Company, New York, N.Y., a corporation of New York
Filed Oct. 11, 1967, Ser. No. 674,458
Int. Cl. B65b *7/18*
U.S. Cl. 53—37 **8 Claims**



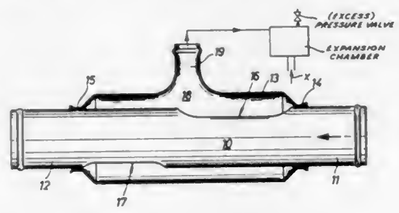
The major portion of the raw edge (and adjacent areas) of the pouring spout of a plastic coated gable-top container is wet prior to heat sealing of the gable top and then the gable top is heat sealed to effect a liquid tight container closure. The wetting material, all or most of which should be a volatile liquid, coats the raw edge and penetrates the fibers of the coated stock. A wetting agent and/or a thickening agent is used to achieve wetting and to provide a coating of the wetting material on the raw edge and adjacent areas. The heat sealing step is performed promptly to avoid substantial loss of wetting material from the raw edge. The apparatus contacts the raw edge with a liquid carrying member, e.g., a suitable sponge, which transfers the wetting material to the raw edge without dripping of wetting material into the container.

3,525,195
DEVICE FOR RECEIVING OBJECTS DISCHARGED FROM CONTAINERS
Jacob H. Mosterd, Stationsweg 117, Barneveld, Netherlands
Filed May 17, 1968, Ser. No. 730,028
Claims priority, application Netherlands, May 19, 1967, 6707010
Int. Cl. B65b *57/10*
U.S. Cl. 53—61 **5 Claims**

The invention relates to a catching means positioned intermediate the row-wise arranged discharge locations for containers in an automatic discharge machine, for instance for package purposes, said catching means being adapted to catch the objects dropped by the containers at a level above the level they would have in the packages, said catching means further being provided with automatic means for transferring the objects towards a receiving device such as a package after receipt from the containers of the last object of a row.



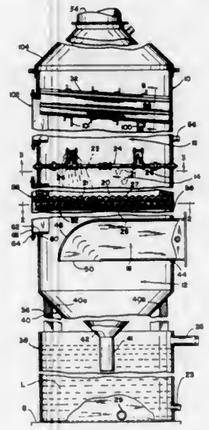
3,525,196
DEVICE AND PROCESS FOR GAS REMOVAL FROM LIQUIDS
Ulrich Brieskorn, Mudau, Odenwald, Germany, assignor to Joachim Schulz, Sudring, Mudau, Odenwald, Germany
Filed Sept. 10, 1968, Ser. No. 758,813
Claims priority, application Germany, Sept. 13, 1967, 1,619,926
Int. Cl. B01d *19/00*
U.S. Cl. 55—52 **12 Claims**



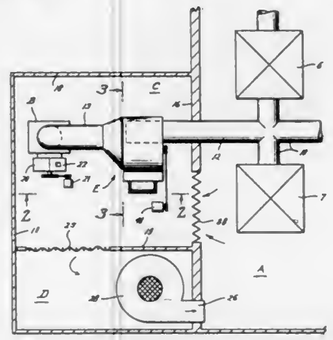
A device for removing air or gases from flowing liquids in particular in heated water circuits includes an inner preferably tubular housing having inlet and outlet openings of about the same diameter as the flow lines surrounded by a housing of larger diameter, the inner housing being provided with an opening in the region of the upper flow path upstream and another opening near the lower flow path downstream. Vent gases are exhausted by an upper opening of the larger diameter housing which is preferably connected with an expansion chamber provided with a pressure relief valve. In the process for deaerating or degassing liquids the liquid flow is moved through the inner housing along the openings thereby allowing air or gas to escape by the upstream opening and discharged fluid to re-enter by the downstream opening of the inner housing.

3,525,197
SEPARATOR APPARATUS
John J. Sheehan, Berea, Ohio, assignor to Buell Engineering Company, Inc., Lebanon, Pa., a corporation of Pennsylvania
Filed Mar. 13, 1967, Ser. No. 622,535
Int. Cl. B01d *47/00*
U.S. Cl. 55—233 **4 Claims**

An apparatus for the separation of contaminants, such as dust or the like, from a gaseous stream including a filter media comprised of a plurality of relatively hollow buoyant and/or apertured impingement elements upon which is adapted to be impinged and passed upwardly therethrough dust-laden air to be cleaned. A fluid spray system is disposed above the filter media adapted to direct fluid in the form of a spray downwardly onto the impingement elements for washing collected dust therefrom. A separator device is disposed above the fluid spray system for collecting moisture and dust or the like entrained in the moisture, whereby substantially clean air is removed from the top of the apparatus and the moisture and entrained dust or the like therein is returned to the bottom of the apparatus for continuous operation thereof.

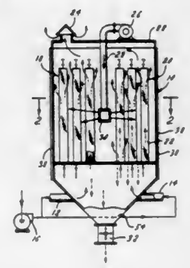


3,525,198
FLY LINT RECOVERY APPARATUS
Joseph C. Neitzel, Denton, Tex., assignor to Murray Company of Texas, Inc., Dallas, Tex., a corporation of Texas
Filed May 31, 1968, Ser. No. 733,519
Int. Cl. B01d *46/26*
U.S. Cl. 55—272 **1 Claim**



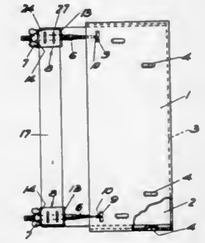
A primary fly lint separator and recovery apparatus is inserted in the pneumatic duct wihch customarily connects the carding room in a textile mill with lint filtering means. The primary recovery apparatus comprises a rotary drum positioned to collect lint on the upstream face thereof and to pass carrier air and fine trash through the interior of the drum. Due to the sparse density of the lint and the carrier air, the drum is caused to remain stationary for substantial periods of time so as to collect lint of sufficient thickness to be efficiently doffed during successive rotation of the drum.

3,525,199
SYSTEM INTEGRATING BAG FILTER SHAKE MANIFOLD WITH CASING STRUCTURAL SYSTEM
Philip B. Crommelin, Jr., Bound Brook, and Bob R. Johnson, Flemington, N.J., assignors to Research-Cottrell, Inc., Bridgewater Township, N.J., a corporation of New Jersey
Filed May 8, 1968, Ser. No. 727,635
Int. Cl. B01d *46/04*
U.S. Cl. 55—302 **2 Claims**



A dust collecting installation utilizing a plurality of bag type filters suspended within a housing wherein a manifold extends between opposed sidewalls of the housing and is rigidly fastened to intersecting wall stiffening members at their respective points of intersection.

3,525,200
SUPPORT FOR MAIN FILTER AND PREFILTER
Wayne L. Smith, Bradford Woods, Pa., assignor to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 27, 1968, Ser. No. 779,436
Int. Cl. B01d *50/00*
U.S. Cl. 55—484 **7 Claims**

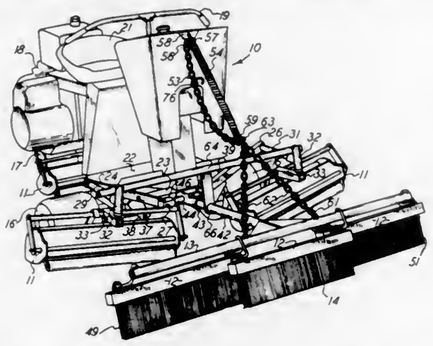


A rectangular frame for holding a main filter has a plurality of rods detachably connected to its sidewalls and extending out of one end of it. Close to one side of each rod outside of the frame is the body of a bracket, which has a pair of spaced flanges projecting laterally from one side and provided with aligned holes slidingly receiving the rod. Each pair of bracket flanges is positioned to receive an edge of a prefilter between them while the inner flange engages the adjoining end of a main filter in the frame. Nuts screwed onto the outer ends of the rods engage the outer bracket flanges.

3,525,201
LAWN MOWER AND LAWN BRUSH MACHINE
Vernon R. Kaufman, Racine, Wis., assignor, by mesne assignments, to Jacobsen Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Jan. 3, 1969, Ser. No. 788,865
Int. Cl. A01d *75/30*
U.S. Cl. 56—7 **15 Claims**

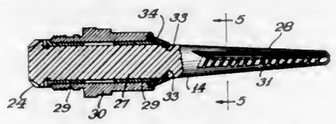
A lawn mower and lawn brush machine having a self-propelled tractor with a plurality of lawn mowers pivotally mounted on the tractor for raising and lowering the

mowers. Lawn brushes are disposed forwardly of the mowers for brushing the grass before it is mowed. The brushes are connected to the tractor to be pivoted up and down, and a lifter is operative between the mowers



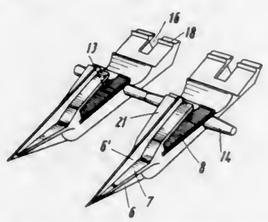
and the lawn brushes such that upon raising the mowers the lawn brushes are also raised. Support means is provided on the brush means for upwardly supporting the brushes and for placing the brushes onto the grass with a selectable amount of brushing force.

3,525,202
COTTON PICKING SPINDLE
Thomas G. Madden, Palos Heights, Ill., assignor to Maco Industries, Inc., a corporation of Illinois
Filed June 21, 1968, Ser. No. 738,874
Int. Cl. A01d *45/18*
U.S. Cl. 56—50 **8 Claims**



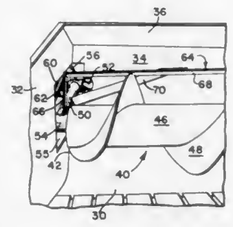
A cotton picker spindle, which is made from a tough and elastic synthetic material, having a durometer hardness, ranging from about 80 Shore A to 80 Shore D, comprising a central shaft portion, means connected to the shaft portion for engagement with a rotating means to rotate the spindle, a teeth-bearing portion connected to the shaft portion for plucking the cotton, and a circumferential groove on the spindle for retaining a snap-on collar for a bushing.

3,525,203
GUARD FINGER FOR A MOWING APPARATUS
Walter Claas, Harsewinkel, and Manfred Häfner, Leopoldshohe, Germany, assignors to Gebr. Claas, Harsewinkel, Westphalia, Germany
Filed Dec. 12, 1967, Ser. No. 690,027
Claims priority, application Germany, Dec. 12, 1966, C 40,957
Int. Cl. A01d *55/10*
U.S. Cl. 56—311 **12 Claims**



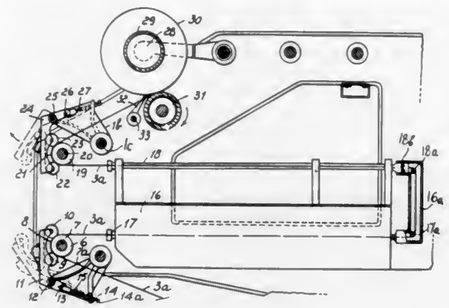
A guard finger for a moving apparatus such as a harvester combine or the like, in which the finger is made from plastic material and in which the rear portion of the finger, which carries a blade, is in the form of a hollow, bending and torsion resistant profile provided with engaging means for properly positioning the blade thereon, and in which the front portion of the finger has a substantially cross-shaped configuration tapering substantially to a point at the front end of the finger.

3,525,204
STRIPPER ATTACHMENT FOR FLOATING AUGER
Joseph Andrew Dovichak, Tilley, Alberta, Canada, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Nov. 28, 1967, Ser. No. 686,054
Int. Cl. A01d *89/00*
U.S. Cl. 56—364 **2 Claims**



A pull-type pickup baler having a fore-and-aft bale case, a pickup device laterally offset from the bale case, a transverse, cantilever mounted, floating-type auger behind the pickup device for receiving crops therefrom and shifting the crop laterally toward the bale case feed opening, and a cantilevered auger stripper bar extending parallel to and above the auger at the auger periphery and connected to the auger for floating movement therewith.

3,525,205
YARN TWISTING, BULKING AND WINDING MACHINE
Carlo Degli Antoni, Via Del Follatoio 8, Trieste, Italy, and Giuseppe Masci, Via Massena 18, Milan, Italy
Continuation-in-part of application Ser. No. 499,796, Oct. 21, 1965. This application Mar. 4, 1968, Ser. No. 710,088
Claims priority, application Italy, Nov. 5, 1964, 23,641/64
Int. Cl. D01h *13/28;* **D02j** *13/00, 1/22*
U.S. Cl. 57—34 **3 Claims**



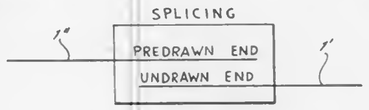
This disclosure relates to a continuously operating yarn twisting, bulking and winding machine comprising a twisting device imparting a real twist to the yarn, a heater in the path of the yarn where the yarn is thermically treated

to cause the bulking or relaxation thereof and cooled and a winding device through which the processed yarn is wound into bobbins, and a plurality of yarn guiding and entraining devices.

3,525,206
NYLON TIRE CORD
Solomon P. Hersh, Raleigh, Norman W. Boe, Durham, and George C. Stow, Jr., Chapel Hill, N.C., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Jan. 19, 1965, Ser. No. 426,661
Int. Cl. D02g *3/02*
U.S. Cl 57—140 **7 Claims**

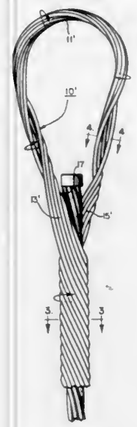
Nylon tire cords are made resistant to flatspotting by diffusing throughout the yarns which make up the cords an organic hydroxylated plasticizer in an amount sufficient to decrease the cord modulus by at least 10 percent.

3,525,207
SPLICING OF TEXTILE STRANDS
Malcolm F. Irwin, West Chester, Pa., assignor to Technisservice Corporation, Kennett Square, Pa., a corporation of Pennsylvania
Filed Oct. 14, 1968, Ser. No. 767,113
Int. Cl. D02g *1/00*
U.S. Cl. 57—142 **19 Claims**



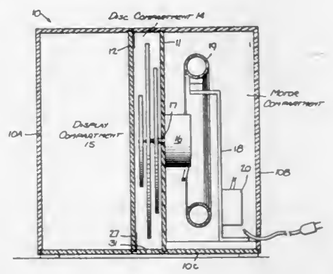
Textile strands drawable to increased length are spliced end to end, as by a fluid-splicing technique, following predrawing of the end portion of one of the strands.

3,525,208
APPLIANCE FOR LINEAR BODY
James B. Reswick, Bratenahl, Ohio, assignor to Preformed Line Products, Cleveland, Ohio, a corporation of Ohio
Filed June 3, 1969, Ser. No. 830,079
Int. Cl. D07b *1/06*
U.S. Cl. 57—145 **4 Claims**



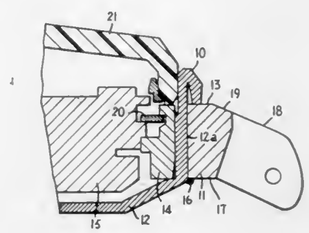
A helically preformed appliance for dead-ending cables, etc., and its method of manufacture are disclosed. The appliance comprises a pair of elongated end portions each composed of a plurality of helically preformed strands with a mutually conforming hand of lay and an internal helical diameter of a size tightly to grip a cable or the like when wrapped around the latter in encircling engagement. An intermediate bight portion of the appliance, integral with the end portions, has its strands twisted in a hand of lay that is the reverse of that of the end portions. Other features are disclosed.

3,525,209
ORBITAL CLOCK
George T. Ladas, 937 2nd Ave., New York, N.Y. 10017
Filed Mar. 10, 1969, Ser. No. 805,532
Int. Cl. G04b *19/30*
U.S. Cl. 58—50 **5 Claims**



A clock in which the time display is produced by three luminous planets moving in concentric orbits and floating optically within a dark cube formed of acrylic material, the front panel of the cube being translucent, and the other panels being opaque. Movement of the planets is motor-controlled such that the outer planet makes one full revolution per hour to indicate minutes, the intermediate planet revolving once every twelve hours to indicate hours, and the inner planet once every minute to indicate seconds.

3,525,210
CASE FOR WATCH
Tsuneya Nakamura, Suwa-shi, Nagano, Japan, assignor to Kabushiki Kaisha Suwa Seikosha, Tokyo, Japan, a company of Japan
Filed Sept. 10, 1968, Ser. No. 758,919
Claims priority, application Japan, Sept. 11, 1967, 42/77,294
Int. Cl. G04b *37/00*
U.S. Cl. 58—88 **7 Claims**

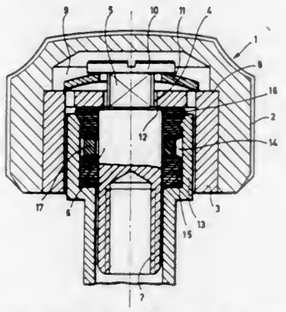


A watchcase has a back cover with a cylindrical side wall and an external annular casing in which the back cover fits. The back cover and the casing may be made separately from thin stock to reduce waste and each may also be finished separately without damaging the other.

3,525,211
CONTROL DEVICE FOR TIMEPIECE MECHANISM

Rodolphe Wyssen, Geneva, Switzerland, assignor to Boninchi S.A. Fabrique de Couronnes de Montres, Geneva, Switzerland, a Swiss company

Filed June 21, 1968, Ser. No. 738,959
Claims priority, application Switzerland, June 28, 1967, 9,183/67
Int. Cl. G04b *37/08*
U.S. Cl. 58—90 4 Claims

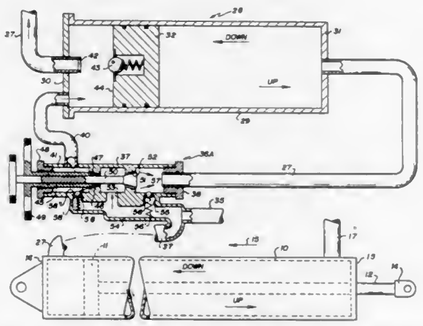


In a control device for a timepiece mechanism housed in a casing and having a rod passing through one wall of the casing and capable of occupying two axial positions, one for winding and the other for setting, and a control member with means for rotating this member and the rod, a fluid tight packing axially compressed by this member when the rod is in winding position, the control member is slidingly mounted on the rod and is subjected to the urging of two oppositely acting elastic elements, one of these elements being the fluid tight packing.

3,525,212
VARIABLE STROKE CONTROL DEVICE FOR REMOTE HYDRAULIC PISTON AND CYLINDER ASSEMBLIES

William Gallant, Roblin, Manitoba, Canada, assignor to Metered Hydraulics Ltd., Brandon, Manitoba, Canada

Filed Aug. 26, 1968, Ser. No. 755,079
Int. Cl. F15b *7/00, 13/04*
U.S. Cl. 60—54.5 9 Claims

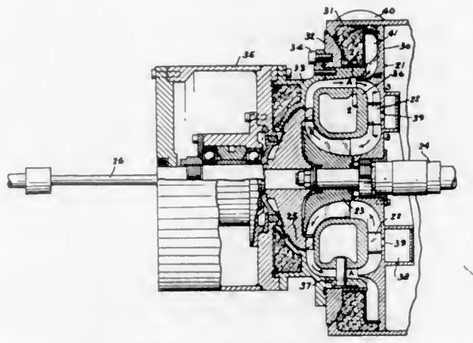


This is a depth control device for implement hydraulics which includes a control piston and cylinder in series with one of the conduits between the pump and the work cylinder. A further conduit together with a further control valve is provided to by-pass this control piston and cylinder so that the position of the work piston can be preset by this control valve whereupon when the control valve is closed, the work piston is then actuated by the freely floating piston within the control piston and cylinder assembly.

3,525,213
GAS TURBINE ENGINE WITH AERODYNAMIC TORQUE CONVERTER DRIVE

Charles C. Hill, 105 Enterprise Drive, Ann Arbor, Mich. 48103

Filed June 6, 1968, Ser. No. 734,951
Int. Cl. F16d *33/00*
U.S. Cl. 60—12 23 Claims

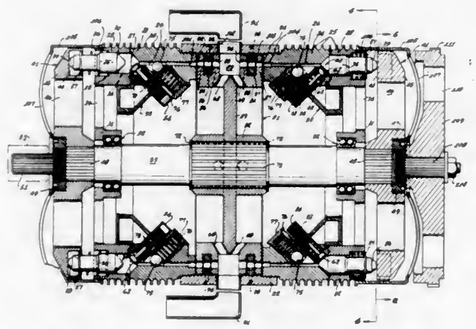


A gas turbine engine comprising a combustor, a turbine rotor and a stator, a compressor having a rotor and a stator and a torque converter. The torque converter has a casing filled with compressible fluid and includes a stator, an input rotor and an output rotor. The input rotor of the torque converter is connected to and driven by the rotor of the turbine. A first fluid line extends between the outlet of the compressor and the interior of the casing of the torque converter and a second fluid line extends between the inlet of the gas turbine and the casing of the torque converter. The first fluid line is connected in a manner such that the fluid flows into the casing of the torque converter at the areas of low pressure which are associated with the blades forming the stator. The casing includes an annular wall that directs some of the fluid toward the suction sides of the stator blades and another portion of the fluid toward the outlet which is connected to the second fluid line.

3,525,214
PISTON-CYLINDER COMBUSTION, GAS TURBINE ENGINE

Max J. Demo, 18069 Coastline Drive, 17, Malibu, Calif. 90265

Filed May 31, 1968, Ser. No. 733,504
Int. Cl. F01k *23/14*
U.S. Cl. 60—13 10 Claims



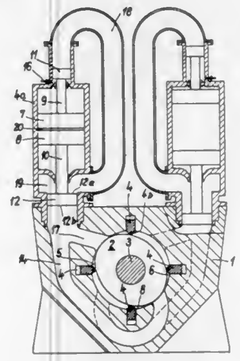
A gas turbine engine having a centrally arranged turbine wheel mounted on an operating shaft and having turbine passages adjacent its periphery. The operating gas is produced in a plurality of piston-cylinder combinations

in which a fuel-air mixture is compressed and burned, and the combustion products exhausted to the turbine passages. The pistons are driven in the compression stroke by means rotated by the engine shaft. The fuel-air mixture is sucked into the cylinders and the exhaust of combustion gases effected at a predetermined pressure past check valves. The piston-cylinder combinations are disposed annularly, concentric with the engine shaft, at opposite ends of the engine.

3,525,215
COUNTER PISTON MACHINE, PREFERABLY COUNTER PISTON MOTOR WITH HYDRAULIC DRIVING MECHANISM

Hans-Joachim Conrad, Essen, Germany, assignor to Fried. Krupp Gesellschaft mit beschrankter Haftung, Essen, Germany

Filed July 22, 1968, Ser. No. 746,674
Claims priority, application Germany, July 22, 1967, 1,650,630
Int. Cl. F02b *41/00*
U.S. Cl. 60—19 4 Claims



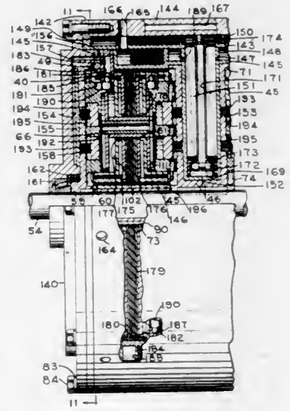
A machine having two counter running pistons respectively movably connected to first and second linearly movable displacer means, in which the second linearly movable displacer means has a smaller piston area and an oppositely located larger piston area the smaller piston area of which is hydraulically connected to said first displacer means while passage means establish communication between the larger piston area of said second linearly movable displacer means and a rotary displacer means.

3,525,216
FLUID MOTOR OR PUMP

John Carroll Phillips, 2405 Texas Ave., Tampa, Fla. 33609

Filed Aug. 2, 1967, Ser. No. 662,258
Int. Cl. F03g *7/06*
U.S. Cl. 60—24 31 Claims

A mechanism which is useful for transforming various forms of energy into rotary motion, linear motion, or both, and which is also useful as a pump to transfer liquids and gasses, or as a compressor to compress gasses. The mechanism includes a rotor defining a surface of revolution generated by revolving a line about its axis or a plurality of intersecting major and minor surfaces or teeth inclined with respect to this surface of revolution, a reciprocator (in certain embodiments) or a housing (in other embodiments) defining a matching surface of revolution or matching teeth inclined to this matching surface of revolution, and a return means for moving the rotor or the rotor and reciprocator along and about substantially coincident axes. Communicating passages in the rotor and housing (or reciprocator) carry the working fluid to and from variable volume chambers disposed between the teeth of the rotor and those of the reciprocator (or housing), and help control the momentum of the working fluid as they move in and out of register with each other and change the direction of its flow. When the working fluid is moved through the passages and between the matching teeth, under pressure or expanded in the variable volume

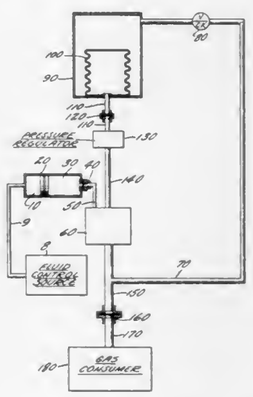


chambers between such teeth, the mechanism serves as a motor, and when it is driven (by an external driving means) the mechanism serves as a compressor or pump. With both functions combined in a composite machine, along with heating and cooling means to further control the momentum of the working fluid, a heat engine is obtained.

3,525,217
SELF-PRESSURIZED GAS GENERATION SYSTEM

Victor A. De Mattia, Jr., East Longmeadow, Mass., and Vincent J. Sansevero, Jr., East Hartford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

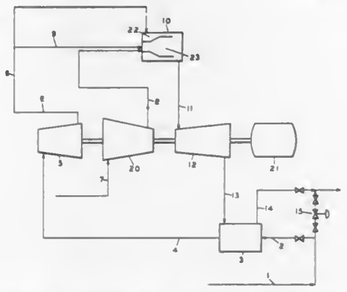
Filed Apr. 29, 1968, Ser. No. 725,049
Int. Cl. F101k *25/08*
U.S. Cl. 60—37 2 Claims



A gas generating system having means for ejecting a secondary source of monopropellant such as liquid hydrazine by means of a piston in a cylinder, an elastic diaphragm or a bellows. Ejected monopropellant ruptures a frangible disc, flows into a catalyst chamber, produces a high pressure gas which is directed through a check valve to the main propellant tank and by pressurization of

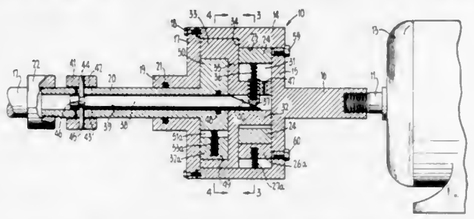
the tank expels the primary propellant to rupture a second frangible disc. This primary propellant flows into the catalyst chamber resulting in further catalytic decomposition of propellant causing an increased pressure level which ruptures a third frangible disc allowing external flow of generated gas.

3,525,218
ECONOMIC ENERGY RECOVERY FROM AVAILABLE FEED GAS LINE PRESSURE
John R. Buss, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Dec. 26, 1968, Ser. No. 787,037
Int. Cl. F02c *3/22*
U.S. Cl. 60—39.02 **6 Claims**



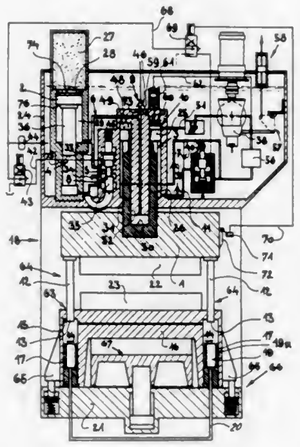
The disclosure teaches the recovery of energy from gaseous combustible substances which are available under pressure, by combustion under pressure of a small part of the gaseous substance, with the products of combustion being admixed with the remainder of the gaseous substance.

3,525,219
HYDRAULIC TORQUE CONVERTER
Nicholas P. Minchokovich, Sr., 982 Sycamore Road, Pleasanton, Calif. 94566
Filed Sept. 6, 1968, Ser. No. 758,088
Int. Cl. F16d *31/06, 33/00;* **F04c** *15/04*
U.S. Cl. 60—53 **12 Claims**



A hydraulic torque converter is described which provides an infinitely variable ratio between the velocities of the input and output shafts thereof, and which requires no support structure or mounting means other than the respective connections of its input and output shafts to the drive and driven shafts to be associated therewith. The torque converter comprises rotary vane pump and rotary vane motor assemblies, the first of which includes a housing equipped with an input shaft so as to be rotatably driven thereby and provided within its interior with a pump chamber coaxially disposed with respect to the axis of rotation of the input shaft and housing. A pump rotor is supported within the pump chamber for rotation relative thereto, and it is engaged by a plurality of angularly spaced vanes carried by the housing within the pump chamber. The rotor is substantially smaller than the pump chamber and is automatically displaced therewithin in accordance with the value of the load on the output shaft between a maximum eccentric position defining a one-to-one velocity ratio between the input and output shafts of the converter, an inner concentric position defining a substantially zero velocity for the output shaft, and intermediate positions defining various intermediate velocity relationships. The motor assembly includes a motor housing supported within the pump housing and defining a motor chamber offset from the axis of rotation of the output shaft of the converter, which output shaft is equipped with a concentric rotor rotatably mounted within the motor chamber and equipped with a plurality of angularly spaced vanes engaging the walls thereof. The pump and motor chambers are interconnected by flow ports and filled with a hydraulic fluid, and any tendency toward relative rotation between the pump housing and pump rotor tends to rotate the motor rotor through the fluid coupling defined between the pump and motor chambers at a velocity corresponding to the output load.

3,525,220
HAMMER WITH HYDRAULIC COUPLING
Horst M. Sauerbrey, Coburg, Germany, assignor to Langenstein & Schemann Aktiengesellschaft, Coburg, Germany, a company of Germany
Filed Oct. 31, 1968, Ser. No. 772,266
Claims priority, application Austria, Nov. 6, 1967, A 9,976/67
Int. Cl. F15b *15/18*
U.S. Cl. 60—51 **17 Claims**

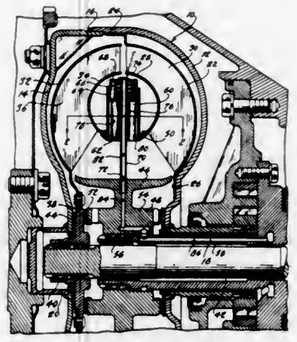


A hammer with a hydraulic coupling in which a drivable tup reciprocates with respect to a mating tup. The driving tup is connected to a drive piston which is supplied with a fluid medium in order to produce a hammer blow, and wherein a drivable tup is hydraulically returnable after a hammer blow.

3,525,221
HYDROKINETIC TORQUE CONVERTER WITH VARIABLE CAPACITY STATOR
Stewart P. Maxwell, Ann Arbor, and Herbert C. Lazarus, Plymouth, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Nov. 19, 1968, Ser. No. 777,049
Int. Cl.. F16d *33/04*
U.S. Cl. 60—54 **3 Claims**

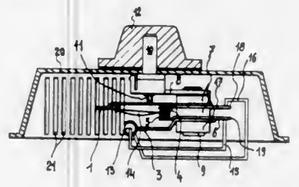
A hydrokinetic torque converter having a bladed impeller, a bladed turbine and a bladed stator situated in toroidal fluid flow relationship, the flow passages being

defined in part by toroidal inner shrouds to which the inner margins of the blade elements are secured, and a stator blade retraction mechanism situated within the



inner shroud structure for withdrawing radially the stator blades from the fluid flow circuit to an inactive position within the eye of the torus, whereby the hydrokinetic characteristics of the unit can be varied.

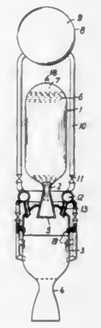
3,525,222
ELECTRIC TEMPERATURE REGULATOR
Peter Schüller, 4A Wilhelm-Raabe-Weg, 3006 Grossburgwedel, Germany
Filed June 11, 1968, Ser. No. 736,087
Claims priority, application Germany, June 14, 1967, 1,673,530
Int. Cl. G05d *23/30*
U.S. Cl. 62—202 **5 Claims**



A temperature regulator for an electric refrigerator having a main freezer compartment in which the regulator is disposed and an evaporator freezer compartment to be maintained at a temperature below the temperature of the main freezer compartment, the regulator being of the bimetallic type with a pair of contacts closed when a predetermined temperature is reached in the main freezer compartment to turn on the compressor which is connected in circuit with the regulator; a heating element is bridged across the contacts and effects the bimetallic element when the contacts are open to simulate an increased demand for compressor operation.

3,525,223
THERMODYNAMIC ROCKET PROCESS USING ALKALI METAL FUELS IN A TWO PHASE FLOW
Reinhart Radebold and Hermann Lang, Berlin, Germany, assignors to Licentia Patent-Verwaltungs—G.m.b.H., Frankfurt am Main, Germany
Filed Mar. 29, 1968, Ser. No. 717,287
Claims priority, application Germany, Apr. 1, 1967, L 56,149; July 11, 1967, L 56,963
Int. Cl. F23r *1/04*
U.S. Cl. 60—206 **23 Claims**

A thermodynamic reaction drive or rocket engine which employs liquefiable solid propellant. An alkali metal, which is used as the propellant, is stored in the fuel tank of the rocket engine in the solid state and then, whenever engine operation is desired, liquefied by heating to the necessary temperature. The liquid propellant is fed from the fuel tank through a De Laval nozzle into the mixing or combustion chamber where it is combined with an oxidizer. The propellant, which can be forced through the nozzle primarily by means of its own vapor pressure, is



changed over at the nozzle into a two-phase flow. The oxidizer, which is simultaneously introduced into the mixing chamber at a higher pressure than the pressure in the chamber, effects the combustion of the propellant so that the internal energy of the products of combustion may be converted to kinetic energy in an appropriate thrust nozzle.

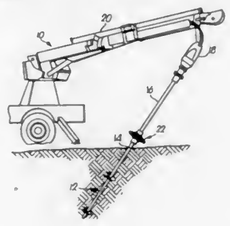
3,525,224
METHOD AND APPARATUS FOR INSTALLING ANCHOR PILES
John J. Bardgette, New Orleans, La., assignor to Esso Production Research Company
Filed Mar. 5, 1969, Ser. No. 804,619
Int. Cl. B63b *21/00;* **E02d** *5/54;* **E21b** *7/12*
U.S. Cl. 61—46 **17 Claims**



Installation of piles for mooring floating rigs used in conducting offshore oil and gas drilling and production operations. A drill string having a drill bit on the lower end is suspended from a floating rig. The drill string extends through and is releasably attached to an anchor pile to be installed in the ocean floor. An antirotation sleeve arranged on the drill string surrounds and releasably engages the anchor pile. While so engaged and after the antirotation sleeve contacts and grips the ocean floor, rotation of the anchor pile is inhibited or prevented. An anchor cable connects the anchor pile to the drilling rig. Means connected to the anchor pile limits the depth reached by

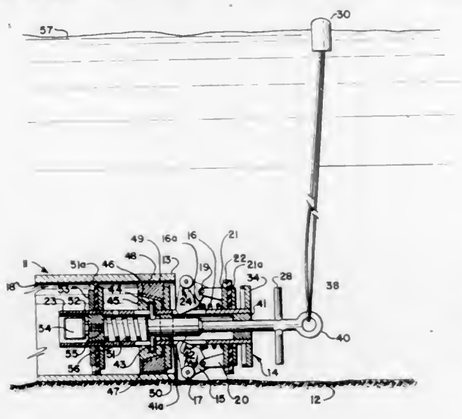
the anchor pile in the drilled hole. The drill string is lowered until the antirotation sleeve contacts the ocean floor. The drill bit and drill string are then rotated and the anchor cable is paid out from the floating rig as the hole is drilled by the drill bit and the anchor pile is carried deper into the drilled hole. When the anchor pile is located at a desired depth, cement is pumped through the drill string into the hole. The drill string is then released from its attachment to the anchor pile and the drill string and antirotation sleeve are raised to the floating rig, leaving the anchor pile cemented in the hole.

3,525,225
METHOD OF INSTALLING EARTH ANCHORS
Carl W. Yager and Dale D. Watson, Centralia, Mo., assignors to A. B. Chance Company, Centralia, Mo., a corporation of Missouri
Filed Feb. 27, 1968, Ser. No. 708,643
Int. Cl. E02d *5/80;* **G01n** *3/04*
U.S. Cl. 61—53.5 **6 Claims**



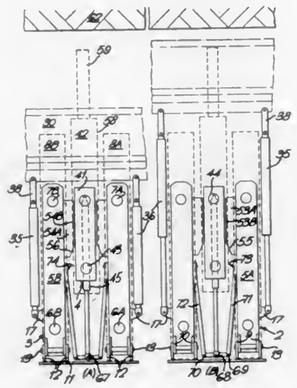
A screw type earth anchor is installed in the ground by advancing it downwardly thereinto until the torque load thereon reaches a value which indicates that the anchor has acquired the required holding power. The anchor rod is coupled with the drive shaft of power installing apparatus by a torque limiting device which uncouples the anchor rod from the drive shaft when a selected torque load is reached.

3,525,226
APPARATUS FOR INDICATING UNDERWATER PIPELINES
John K. McCarron, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Dec. 16, 1968, Ser. No. 783,923
Int. Cl. F16l *1/00;* **B63c** *25/00*
U.S. Cl. 61—72.3 **12 Claims**



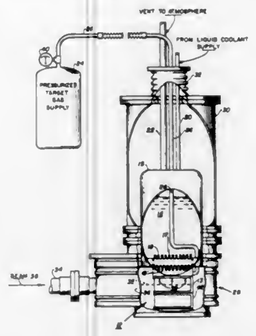
Apparatus for indicating the free end of an underwater pipeline at the water surface by circulating a pig within a pipeline, the pig having a shaft slidably mounted therein and a floatable member releasably attached to the pig. Slip means carried by the pig is adapted to engage the inner wall of the pipeline. Slip actuating means is carried by the shaft and adapted to actuate the slip means when the shaft moves in the direction of movement of the pig within the pipeline. Biasing means cooperates with the shaft and biases the shaft in the direction of movement of the pig. Extensible trigger means is attached to the pig and is adapted to engage both the inner wall of the pipeline and the shaft to retain the shaft in a stationary position against the biasing means. Trigger actuating means cooperates with the trigger means for moving the trigger means out of the engagement with the shaft when the trigger means is free of the pipeline thus releasing the shaft which moves in the direction of movement of the pig and actuates the slip actuating means to set the slip means against the inner wall of the pipeline. Floatable member releasing means cooperates with both the shaft and the floatable member to release the floatable member when the shaft is released by said trigger means and an indicating line is attached to both the pig and the floatable member for indicating the underwater position of the free end of the pipeline at the water surface.

3,525,227
MINE ROOF SUPPORTS
Kenneth George Hancock, Lower Walton, Warrington, Peter Frank Eastwood, Grappenhall, Warrington, Brian Worrall, Clock Face, near Bold, St. Helens, and Ronald Roy Reeves, Great Sankey, Warrington, England, assignors, by mesne assignments, to Gullick Limited, Wigan, Lancashire, England
Filed July 19, 1968, Ser. No. 746,070
Claims priority, application Great Britain, July 19, 1967, 33,218/67; Aug. 21, 1967, 38,509/67
Int. Cl. E21d *23/00*
U.S. Cl. 61—45 **8 Claims**



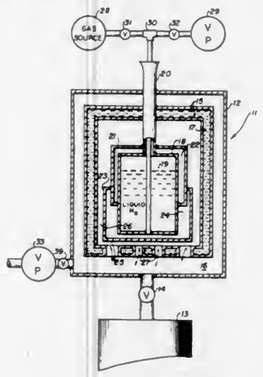
Mine roof supports of the advancing type comprise one or more roof contacting members, one or more floor contacting members with one or more props arranged therebetween and having two laterally spaced apart support advancing rams pivotally connected to the support and adapted for connection to an anchorage, for example a coalface conveyor. Guide surfaces are provided on the support to co-operate with complementary first surfaces carried by adjacent supports, or co-operating first surfaces carried by independently movable parts of the same support, whereby during advancing movement of the support it is guided relative to an adjacent roof supporting member or members.

3,525,228
NONBOILING LIQUID TARGET FOR A HIGH-ENERGY PARTICLE BEAM
Robert L. Anderson, Palo Alto, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Feb. 4, 1959, Ser. No. 796,350
Int. Cl. F17c *13/00;* **F25b** *19/00*
U.S. Cl. 62—54 **6 Claims**



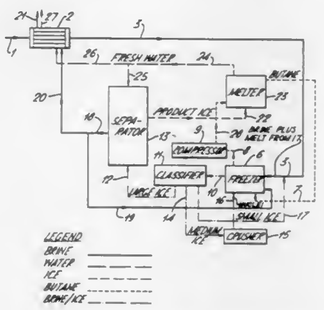
A differentially pressurized target system in which heat in a pressurized liquid hydrogen target is transferred by rapid convection currents to one side of a heat exchanger for dissipation on the other side in a liquid hydrogen reservoir that is maintained at atmospheric pressure. The rapid convection currents and the difference in pressures in the target and reservoir permits cooling of the target by the liquid hydrogen in the reservoir to a temperature below the boiling point of the liquid target, thus inhibiting boiling of the target liquid upon impingement of a particle beam.

3,525,229
ON-OFF THERMAL SWITCH FOR A CRYOPUMP
Balwant S. Denhoy, Brentwood, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Feb. 6, 1969, Ser. No. 797,080
Int. Cl. B01d *5/00*
U.S. Cl. 62—55.5 **10 Claims**



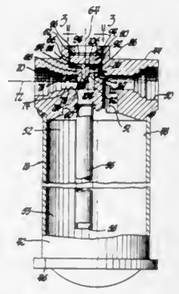
An on-off thermal switch for thermally isolating a cryogenic cooling means from a surface being cooled is incorporated into a cryopump thereby facilitating an increased pumping rate and efficiency for the pump as well as more economical and less hazardous operating procedure. The inventive switch comprises an insulating space between the cryogenic cooling means and the cooled surface. A gas is introduced into the insulating space to establish thermal contact between the cooling means and the cooled surface. The gas is evacuated to thermally isolate the cooling means.

3,525,230
SIZED CRYSTAL CLASSIFICATION
Michael John Stapley Smith, Abingdon, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed Jan. 4, 1967, Ser. No. 607,320
Claims priority, application Great Britain, Jan. 7, 1966, 760/66
Int. Cl. B01d *9/04*
U.S. Cl. 62—58 **8 Claims**



A method of and apparatus for freezing in which a slurry of ice crystals from a freezer is passed to a classifier and separated into three fractions. The largest sized fraction is taken as product ice; the middle sized fraction is used, preferably after crushing, as seed crystals; and the smallest sized fraction is melted. The invention is applicable, but not exclusively, to desalination.

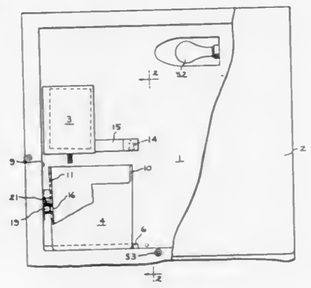
3,525,231
REFRIGERANT CHARGE LEVEL INDICATOR
William A. Armstrong, Grosse Ile, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 28, 1969, Ser. No. 794,583
Int. Cl. F25b *49/00;* **G01f** *23/02*
U.S. Cl. 62—125 **2 Claims**



In preferred form, an air-conditioning refrigerant liquid level indicator comprising a transparent sightglass and an attaching stem having a cylindrical portion and a conical tip. The sightglass is mounted in the housing of a liquid reservoir; the attaching stem is located within the liquid containing space, the conical tip being directly in the liquid flow path offering minimal fluid flow resistance thereto. The sightglass will appear dark when the reservoir is completely filled with liquid, the attached stem

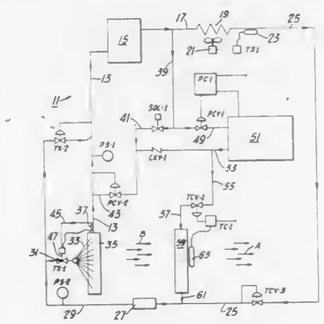
will cause a clearly distinguishable dark area to appear within the sightglass when the fluid reservoir is partially filled and a clearly distinguishable light area therein when the fluid reservoir is empty.

3,525,232
AUTOMATIC ICE MAKER CONTROL MEANS
Daniel N. Toma, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Aug. 30, 1968, Ser. No. 756,568
Int. Cl. F25c *5/18*
U.S. Cl. 62—137 **9 Claims**



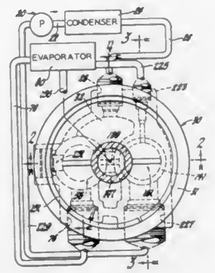
A household refrigerator including an automatic ice maker, an ice bin for storing ice pieces produced by the ice maker and photo-electric control means for stopping operation of the ice maker when the ice stored in the bin reaches a predetermined average level. The control means comprises an opening in one wall of the bin, means for illuminating the interior of the bin and light-sensitive means responsive to a decrease in the amount of light passing through the opening due to at least a partial blocking of the opening by ice pieces for stopping the ice maker.

3,525,233
HOT GAS BY-PASS TEMPERATURE CONTROL SYSTEM
Robert W. Pond, Bethel Park, Pa., assignor, by mesne assignments, to American Air Filter Company, Inc., a corporation of Delaware
Filed Dec. 26, 1968, Ser. No. 786,941
Int. Cl. F25b *29/00*
U.S. Cl. 62—173 **6 Claims**



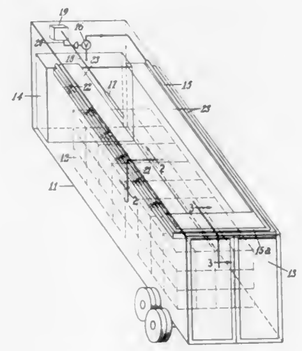
In a refrigeration cooling system there is provided a stabilizing medium which acts as a heat sink and refrigerant pressure equilizer, whereby conventional cooling coil in such refrigeration system operates at nearly perfect, non-fluctuating presure and temperature to effect close temperature and humidity control in a habitable facility.

3,525,234
RECEIVER CONTAINING A THERMOSTATIC EXPANSION VALVE AND SUCTION THROTTLING VALVE
Richard E. Widdowson, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 13, 1968, Ser. No. 752,328
Int. Cl. F25b *41/04*
U.S. Cl. 62—217 **10 Claims**



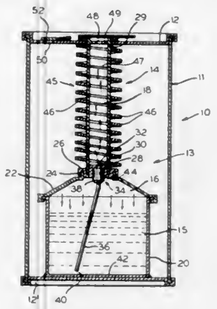
In the preferred form, a housing closed by a removable wall contains parallel cavities extending from the wall having sealed therein a bodily removable thermostatic expansion valve and also a bodily removable suction throttling valve. A cup-shaped enclosure has its rim sealed to the opposite side of the housing from the removable wall and contains a desiccant in a porous bag so that it serves both as a receiver and dehydrator. The receiver contains a tube and the housing contains passages forming all the desired connections between the valves and provides for all the necessary connections to the remaining components of an automotive refrigerating system.

3,525,235
SPRAY REFRIGERATION SYSTEM FOR FREEZE-SENSITIVE PRODUCT
David Paul Maurer, Williamsville, N.Y., assignor to Union Carbide Corporation, New York, N.Y., a corporation of New York
Filed Nov. 25, 1968, Ser. No. 778,425
Int. Cl. F25b *19/02*
U.S. Cl. 62—223 **11 Claims**



A system for spray refrigeration of freeze-sensitive product to avoid freeze damage and provide more uniform refrigeration, in which a heat conductive metal extended surface member joins the thermally insulated vaporizer and overhead spray conduits, and spaced nozzles preferably communicate with the spray conduit upper portion to insure only gas phase refrigerant discharge when liquid flow is terminated.

3,525,236
PORTABLE SELF-COOLING DEVICE
Nariman Solhkhah, 2320 W. Pratt Ave., Chicago, Ill. 60645
Filed July 15, 1968, Ser. No. 744,807
Int. Cl. F25d *3/10*
U.S. Cl. 62—294 **7 Claims**



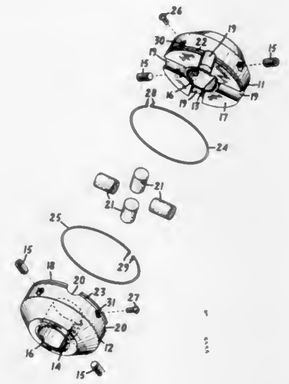
A portable self-cooling device for beverages having a beverage chamber and a cooling chamber. A refrigerant under pressure is contained in the cooling chamber. When the pressure is released, cooling of the beverage occurs as the refrigerant evaporates and/or expands.

3,525,237
DRILL-STEM
Ioan Lari, Cimpina, Rumania, assignor to Ministerul Petrolului, Bucharest, Rumania
Filed June 18, 1968, Ser. No. 738,048
Int. Cl. F16c *3/00*
U.S. Cl. 64—1 **3 Claims**

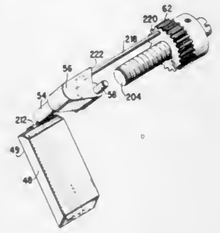
A drill stem is provided which comprises an elongated body having a cross-section in the shape of a curved equilateral triangle with equal axial moments of inertia as to every axis which passes through the center of the base circle of the cross-section of the triangle.

3,525,238
FLEXIBLE COUPLINGS FOR MECHANICAL TRANSMISSIONS
Modesto Beltran Cruz, Mexico City, Mexico, assignor to Industrias Gabel, S.A., Mexico City, Mexico, a corporation of Mexico
Filed Sept. 25, 1968, Ser. No. 762,487
Int. Cl. F16d *3/12, 3/58*
U.S. Cl. 64—11 **10 Claims**

A flexible coupling includes a pair of hubs for coupling two shafts together, the hubs each having a flat land on one surface thereof. The lands are grooved on their surfaces to receive resilient elements which are mounted in the grooves. The resilient elements have a thickness greater than the depth of one groove, so that when mounted in a groove, each element projects above the land surface to engage an opposed groove in the land surface of the other hub whereby torque is transmitted from one hub to the other through the resilient elements.



3,525,239
CAM ADJUSTMENT APPARATUS FOR A CIRCULAR KNITTING MACHINE
Harry Agulnek, New York, N.Y., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 11, 1968, Ser. No. 720,647
Int. Cl. D04b *9/00*
U.S. Cl. 66—54 **4 Claims**

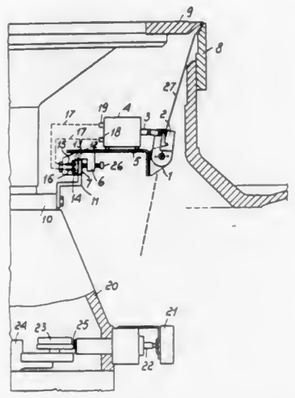


Adjustment apparatus for a circular knitting machine is disclosed as including a bell crank which is pivotable by means of a horizontally disposed pin. The pin, which is positionable by means of an adjustment screw, causes the bell crank to push against and reposition a stitch draw cam; and such adjustment screw is kept in place by means of a pointer which resides in corrugation on the screw head, the pointer indicating the cam setting with respect to indicia on the screw.

3,525,240
FABRIC CUTTING DEVICE FOR CUTTING FABRIC IN CIRCULAR KNITTING MACHINES
Francesco Piana and Angelo Brega, Varese, Italy, assignors to MECMOR S.p.A., Milan, Italy, a corporation of Italy
Filed Mar. 24, 1969, Ser. No. 809,618
Claims priority, application Italy, Mar. 27, 1968, 14,450/68
Int. Cl. D04b *35/34*
U.S. Cl. 66—147 **2 Claims**

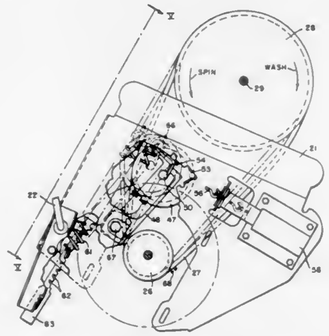
This disclosure relates to a fabric cutting device for cutting fabric in circular knitting machines, comprising

a shears unit having a movable blade supported on a support body which is slidably mounted on guide means arranged within the needle cylinder and under the crown



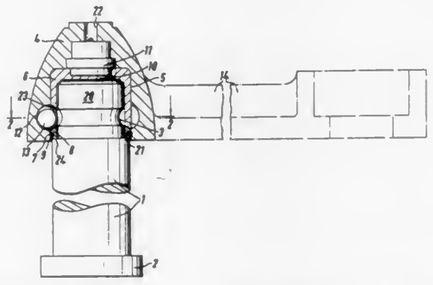
of a circular knitting machine, electromagnetic means being provided for cyclically operating said movable blade so as to cut the knitted fabric into longitudinal strips of predetermined width.

3,525,241
BELT DRIVE FOR A TOP-LOADING WASHING MACHINE
Eldred O. Morton, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 12, 1968, Ser. No. 744,585
Int. Cl. D06f *29/02*
U.S. Cl. 68—23.7 **6 Claims**



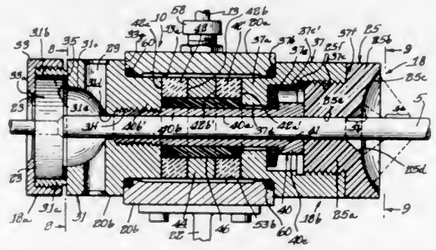
A clothes washing machine of the center post agitator type having a reversible belt drive and associated components for producing washing and spin modes of operation. The belt engages an idler pulley movably mounted adjacent the tight side of the belt to thereby permit belt slippage during the initial stages of the spin mode of operation. In order to take up the slack in the belt during the washing mode, accomplished through motor reversing, a tension spring biases the pulley into engagement with the belt, this spring being so positioned relative to the means movably mounting the pulley, so as to exert a greater force at the point of engagement of the belt and pulley during the washing mode of operation than during the spin mode of operation.

3,525,242
LOCKS
Leonard Weare Young, London, England, assignor to Bramah Security Equipment Limited, London, England, a British company
Filed July 5, 1968, Ser. No. 742,652
Int. Cl. F16b *41/00*
U.S. Cl. 70—231 **3 Claims**



A locking assembly comprising a bolt, a socket adapted to receive an end part of the bolt, a lining for the socket movable relatively thereto and detent means movable between an operative and an inoperative position in response to relative movement of the lining and the socket and adapted, in the operative position, to cooperate with the bolt end part to hold it in the socket.

3,525,243
WIRE CLEANING APPARATUS
Marshall H. Chrablow, Mundelein, Ill., assignor to Gulton Industries, Inc., Metuchen, N.J., a corporation of New Jersey
Filed June 15, 1967, Ser. No. 646,217
Int. Cl. B21b *45/04;* **B21c** *43/00*
U.S. Cl. 72—39 **7 Claims**

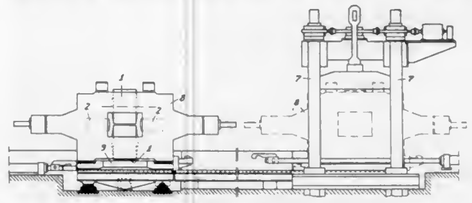


The present invention relates to apparatus for cleaning elongated articles and has its most important application in the cleaning of wire in preparation for a wire drawing operation.

3,525,244
METHOD AND APPARATUS FOR CHANGING THE ROLLS OF A UNIVERSAL ROLLING MILL
Heinrich Bohnenkamp, Neuss, Germany, assignor to Siegener Maschinenbau G.m.b.H., a corporation of Germany
Filed Jan. 11, 1968, Ser. No. 698,376
Claims priority, application Germany, Jan. 14, 1967, S 107,852
Int. Cl. B21b *31/08*
U.S. Cl. 72—238 **2 Claims**

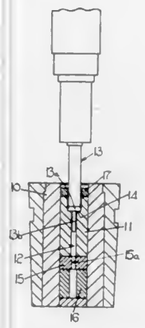
The disclosure relates to changing the rolls of universal rolling mills by means of a support frame guided and

retained in the windows of the roll housings and receiving between its vertical walls both the vertical rolls and the



horizontal rolls, located on the same plane as the latter, together with their chocks.

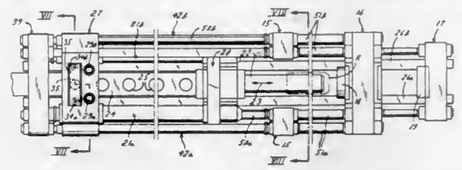
3,525,245
FORMATION OF HOLLOW METAL BILLETS
William Arthur Sallis, Chesterfield, England, assignor to The Chesterfield Tube Company Limited, Chesterfield, England, a British company
Filed Apr. 3, 1967, Ser. No. 628,053
Claims priority, application Great Britain, Apr. 19, 1966, 17,044/66
Int. Cl. B21c *23/18*
U.S. Cl. 72—267 **3 Claims**



Apparatus for use in forming hollow metal billets with concentric bores, the apparatus comprising a container into which a billet pre-formed with an axially extending pilot hole can be inserted and a piercing tool having at its leading end as axially extending guide portion which enters said pilot hole to guide the remainder of the piercing tool which has a cross-section larger than that of the pilot hole, the length of the guide portion being not less than the maximum cross-sectional dimension of the remainder of the piercing tool.

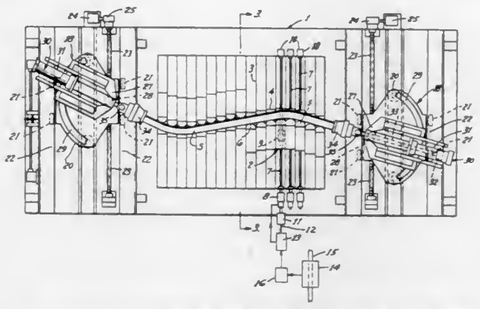
3,525,246
HORIZONTAL DRAWING PRESS
Erich Nacke, Sevelen, Germany, assignor to G. Siempelkamp & Co., Krefeld, Germany, a corporation of Germany
Filed Mar. 11, 1968, Ser. No. 712,055
Claims priority, application Germany, Mar. 10, 1967, S 108,735; Apr. 13, 1967, S 109,304
Int. Cl. B21c *1/24*
U.S. Cl. 72—283 **10 Claims**

A drawing press for the production of seamless metal tubing has a mandrel horizontally reciprocable, with reference to a fixed drawing ring, between two hydraulically operated cylinder-piston assemblies serving as a reciprocating drive therefor. The mandrel support is detachable from the hydraulic drive and, in a retracted position of the latter, can be further withdrawn into the space between the two cylinders so as to make room for the deposition of the blank on the mandrel; with the drive assembly locked in position, this retraction may be carried out with the aid of a set of pinions or sprockets or a



crosshead of that assembly and co-operating rack teeth or chain links on a coupling bar rigid with the mandrel support.

3,525,247
STRETCH BENDING MACHINE WITH SEGMENTAL DIE, TOLERANCE DETECTOR, AND SAFETY SHOCK ABSORBER
Edwin Henry Brauer, Cleveland, and Pan Demetriades, Macedonia, Ohio, assignors to The Cyril Bath Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 8, 1968, Ser. No. 696,291
Int. Cl. B21d *11/04*
U.S. Cl. 72—305 **5 Claims**

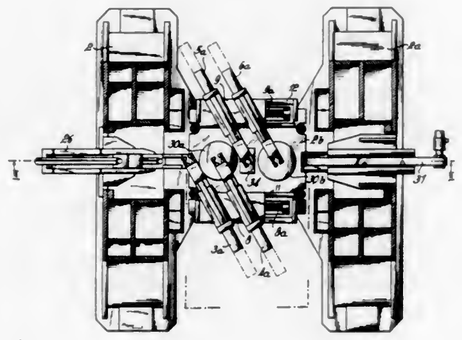


The present machine is one by which a structural member, such as an I-beam, channel, plate, or the like, can be formed into curvilinear shape by bending it transversely of its length into conformance with a segmental curvilinear die while tensioning it endwise into its yield range. Tension applying devices grip opposite ends of the member for applying the required tension and are movable back and forth in a path extending transversely of the length of the die so as to lay the member onto the die segments while the tension is maintained. The segments are adjustable to different positions, for forming bends of different radii, by power devices controlled by a numerical control or programmer such that repositioning of the die segments for each different selected shape can be effected quickly.

3,525,248
PRESS
Richard Schulte, Wuppertal-Hahnerberg, and Manfred Daniels, Solingen-Wald, Germany, assignors to Th. Kieserling & Albrecht, Solingen, Germany
Filed Nov. 8, 1967, Ser. No. 681,511
Claims priority, application Germany, Nov. 30, 1966, K 60,822
Int. Cl. B21d *43/10*
U.S. Cl. 72—361 **17 Claims**

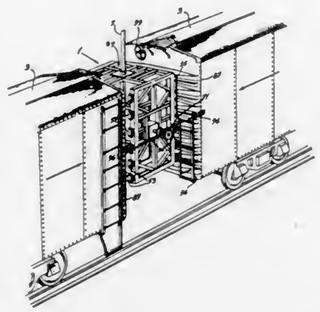
A press with a row of progressive dies wherein the workpieces are partially expelled from dies by ejector pins and the thus exposed portions of workpieces are thereupon grasped by the claws of grippers which are movable axially of the dies to fully extract the workpieces and also transversely back and forth to move fully extracted workpieces from registry with preceding dies

into registry with the next-following dies. Each gripper and the jaws of each gripper are movable independently of the other gripper or grippers. The press is particularly suited for the production of metallic workpieces whose diameter is a small fraction of their axial length.



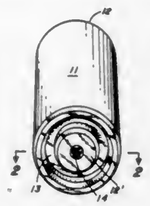
The grippers may be disposed at one or both sides of the row of dies and are movable radially of the dies, either at right angles to the common plane of the axes of dies or at an acute angle to such plane.

3,525,249
APPARATUS FOR STRAIGHTENING THE BULGING OF RAILROAD CARS
Grégoire Bellemare, 397 Guilbault, Longueuil, Quebec, Canada
Filed Aug. 2, 1968, Ser. No. 749,859
Claims priority, application Canada, Aug. 29, 1967, 999,008
Int. Cl. B21d *31/00*
U.S. Cl. 72—372 **16 Claims**



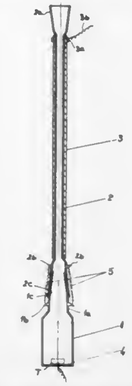
The invention is an apparatus that is inserted between the facing ends of two uncoupled box cars to straighten the bulging ends thereof. It comprises a frame-like box inserted between the facing ends, the said box having a plurality of horizontal bumper members provided on the sides thereof facing the bulging ends. A motor-operated winch has a pair of cables wound thereon in opposite direction with the free ends connected to each car whereby when the winch is rotated, the bulging ends are brought against the bumper members of the frame-like box.

3,525,250
DEFORMABLE GAGES
William M. Hurst, Socorro, N. Mex., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 28, 1968, Ser. No. 732,599
Int. Cl. G01l *7/00*
U.S. Cl. 73—35 **7 Claims**



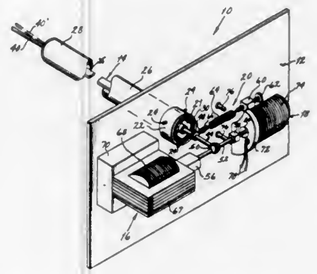
This invention is directed to gages which are used to measure the pressures of shock waves. The gages have a solid metallic body. One end of the metallic body has a groove cut into it. The groove is covered with a piece of thin metal. The gage is placed near a source of shock waves and its metal covered face is directed at the source. The shock waves generated by the source cause the thin metal piece to deform into the groove. The deformation of the metal piece is a function of the intensity of the shock waves and provides a measurement of the strength and direction of the shock waves.

3,525,251
APPARATUS FOR MEASURING PORE DIMENSION AND DISTRIBUTION IN POROUS MATERIALS
Adrian Marcu, Str. Gheorgho Gheorghiu Dej 21, Medias, Rumania, and Valentin Aldea, Str. Dr. Petru Groza 19, Blaj, Rumania
Filed July 5, 1968, Ser. No. 742,694
Claims priority, application Rumania, July 6, 1967, 54,224
Int. Cl. G01n *15/08*
U.S. Cl. 73—38 **3 Claims**



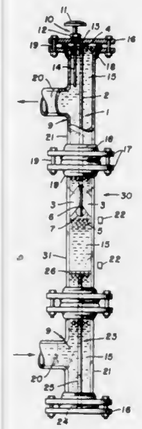
An apparatus for measuring pore dimensions and distribution in porous materials which includes a porosimeter adapted to receive the body to be analysed and having a tube of dielectric material (e.g. glass) coated externally with a conductive sheath. The porosimeter contains a conductive liquid (e.g. mercury) and has a reservoir connected with the tube by a ground tapered joint so that the tube can be separated from the reservoir. The porosimeter is received within a sleeve provided with contacts forming electrical connections with the conductive sheath and the conductive liquid within the tube and adapted to be pressurized so that the capacitance provides an indication of the change in level of the conductive liquid which penetrates the body to be analysed.

3,525,252
FLUID MATERIAL MEASUREMENT APPARATUS
Babur M. Kocatas, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Jan. 3, 1969, Ser. No. 790,193
Int. Cl. G01n *11/00*
U.S. Cl. 73—54 **7 Claims**



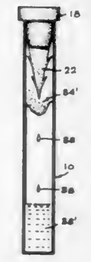
Measuring apparatus for monitoring the physical characteristics of fluid materials including a sensor assembly supported at a pivot point between its sensor and actuator ends. The sensor end is adapted to be inserted in a material, the physical characteristics of which are to be monitored, and the actuator end is periodically moved from an initial position by the energization of a solenoid. The movement takes place in opposition to a spring force applied to the actuator end and urging it back toward the initial position when the solenoid is turned off. Resistance to the return force corresponds to instantaneous physical characteristics of the material. Such resistance is amplified and transmitted by the sensor assembly to a magnetic pickup coil, where an electrical signal indicative of the magnitude of the resistance is generated.

3,525,253
ARRESTING ELEMENTS FOR VISCOMETERS
David F. Bittle, Allen H. Farr, and Ernest A. Taylor, Jr., Decatur, Ala., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Continuation-in-part of application Ser. No. 677,336, Oct. 23, 1967. This application Mar. 21, 1968, Ser. No. 709,844
Int. Cl. G01n *11/12*
U.S. Cl. 73—57 **3 Claims**



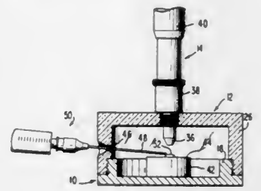
A vertically positioned viscometer comprising a housing having top, bottom, and side walls, a weighted detectable element therewithin, a fluid inlet adjacent the bottom walls, a limiting element disposed above the fluid inlet for maintaining the detectable element within the housing, and a positioning element disposed below the fluid outlet for maintaining the detectable element within the housing and funneling same away from the side walls.

3,525,254
DEVICE AND METHOD FOR TESTING BLOOD COAGULATION FACTORS
Jesus R. Milanes, Los Angeles, Calif. (8353 Donna Ave., Northridge, Calif. 91324)
Filed Feb. 19, 1969, Ser. No. 800,612
Int. Cl. G01n *33/16*
U.S. Cl. 73—64.1 **13 Claims**



A measured amount of whole fresh blood is placed in a graduated test tube having, at its upper end, a stopper provided with a depending member extending partially into the test tube. Inversion of the tube causes the blood to surround the depending member so that, after a short period of time, the blood is clotted in a mass about the member. Reversion of the tube causes the clotted blood mass to be suspended within the tube via the depending member. Over a period of time, clot retraction and fibrinolysin activity causes release of fluids from the clotted blood and the force of gravity automatically causes the dripping separation of such fluids from the clot and collection of such fluids in the bottom portion of the tube where they are readily measurable. A depending member is disclosed comprising a resilient portion with hook-like barbs for clotted blood retention.

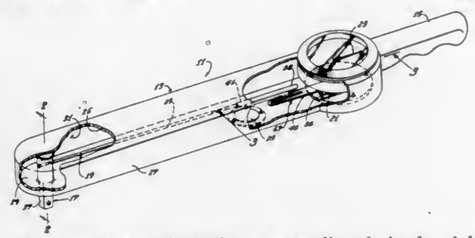
3,525,255
METHOD AND APPARATUS FOR MEASURING ANGLE OF CONTACT BETWEEN LIQUIDS AND SOLIDS
Clyde Orr, Jr., Atlanta, Ga., assignor to Georgia Tech Research Institute, Atlanta, Ga., a corporation of Georgia
Filed Feb. 25, 1969, Ser. No. 801,936
Int. Cl. G01n *13/02*
U.S. Cl. 73—64.4 **13 Claims**



The contact angle between a liquid and a body of solid material, which body may be a solid or a mass of compacted particulate solid material, is determined by establishing a reference plane at the surface of the body, depositing a globule of the liquid on the surface, measuring the height of the globule above the reference plane, and then

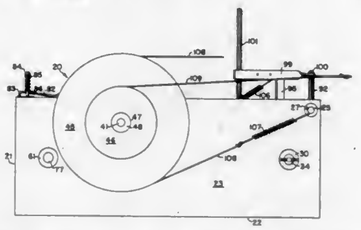
alternately adding more liquid to the globule and measuring the globule height until a maximum globule height is noted. This maximum height is then used to calculate the contact angle.

3,525,256
TORQUE WRENCH
Fuller A. Crooks, Manhattan Beach, and Jan S. Stasiek, Altadena, Calif., assignors, by mesne assignments, to Torque Controls, Inc., El Monte, Calif., a corporation of California
Filed Aug. 4, 1967, Ser. No. 658,538
Int. Cl. G01l *5/24*
U.S. Cl. 73—139 **12 Claims**



A torque wrench including a generally tubular bendable member and a nonbendable member. When the torque wrench is used to apply a torsional force to a threaded fastener, the bendable member deflects relative to the nonbendable member. Means are provided to measure the relative movement between the two members to thereby provide a visual indication of the force being applied to the fastener. The wrench is equipped with means which allow the wrench to be zeroed in one position and subsequently used in a second position without introducing error in the dial reading.

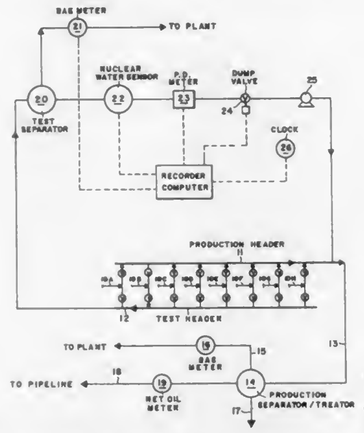
3,525,257
ROAD ROUGHNESS METER
Ivan K. Mays, 311 Briarwood Trail, Austin, Tex. 78746
Filed Dec. 20, 1968, Ser. No. 785,699
Int. Cl. G01b *5/28*
U.S. Cl. 73—146 **9 Claims**



A road roughness meter mounted in a vehicle and remotely connected to any unsprung portion of said vehicle; forces produced in such unsprung system are applied to a sheave including an indexing clutch which causes a tape to advance and also activates marking means which provides a trace of the frequency and amplitude of such applied forces.

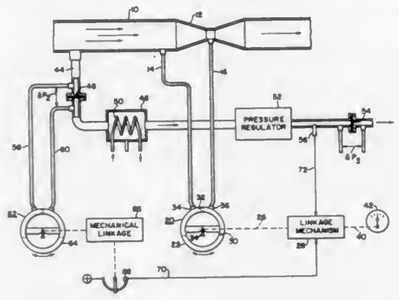
3,525,258
WELL ANALYSIS METHOD AND SYSTEM
Ronald L. Fowler, Carroll A. Woolley, and Walter J. Bielstein, Houston, Tex., assignors to Esso Production Research Company
Filed Oct. 10, 1966, Ser. No. 585,452
Int. Cl. E21b *47/00*
U.S. Cl. 73—155 **23 Claims**

Method and system for determining the long-term average of a varying characteristic (water percentage, fluid flow rate and/or gas-oil ratio of an oil well stream) capable of being measured and recorded. A convergence analysis technique to obtain repeatable measurements of such varying characteristic having a true long-term average value. A predetermined amount of the well stream is observed over successive segments, as, for example, 1-barrel segments, in which the average value of the characteristic is measured over selected constant incremental amounts of the well stream, as, for example, 1.3 barrels, from the start of each of the segments of the well stream until all of the incremental amounts of the well stream have been measured over the predetermined amount of the well stream under observation. The maximum and



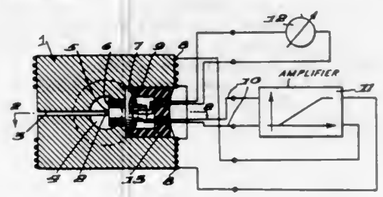
minimum average values of the characteristic are determined for all of the incremental amounts of the well stream and then delta (Δ), the difference between the maximum and minimum values, is obtained. These steps are repeated, if necessary, with progressively larger incremental amounts of the flow stream until the delta (Δ) obtained is equal to or less than a preselected value. Apparatus is disclosed to provide signals indicative of water percentage, flow rate and gas-oil ratio averages for any desired amount of the well stream and computer apparatus is proposed for determining if a representative sample has been observed.

3,525,259
GAS FLOW MEASUREMENT SYSTEM
Donald M. Stough, Crafton, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 6, 1967, Ser. No. 680,864
Int. Cl. G01f *1/08*
U.S. Cl. 73—196 **6 Claims**



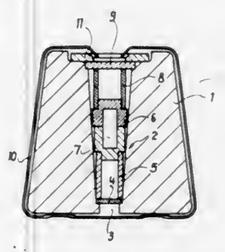
A system for measuring the effective dry gas flow rate of a stream of gas containing varying amounts of moisture, characterized in that moisture variations are measured and compensated for by removing the moisture from a sample of the gas such that variations in the moisture will be a function of the ratio of flow rates before and after removal of the moisture in the sample. This ratio is then utilized to vary the flow rate reading of the main stream of moisture-containing gas.

3,525,260
ARRANGEMENT FOR CONTACTLESS MEASUREMENT OF THE TEMPERATURE OF A MOVING WIRE
Rolf Kung, Nussbaumen, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Dec. 4, 1967, Ser. No. 687,617
Claims priority, application Switzerland, Dec. 20, 1966, 18,181/66
Int. Cl. G01j *5/16;* **G01k** *13/06*
U.S. Cl. 73—355 **1 Claim**



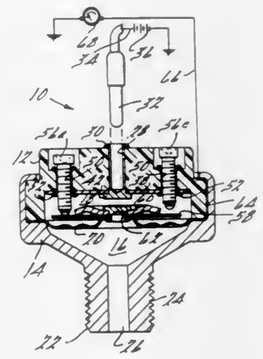
An arrangement for a so-called contactless measurement of the temperature of a moving filament or wire comprises a thermoelectric unit such as a thermopile, bolometer, or photocell mounted in a housing closely adjacent to but not touching the moving wire which passes through a slot in the housing so as to effect heat transfer from the wire to the thermoelectric unit by radiation. The housing is provided with a heater element and any instantaneous temperature difference between the wire and housing as reflected by an output from the thermoelectric unit is used to vary the temperature of the housing to match that of the wire, or alternatively to heat the wire so that its temperature will match that of the housing which is maintained at a desired level.

3,525,261
DEVICE FOR MEASURING THE TEMPERATURE OF MOLTEN MATERIALS
Erich Mueller, Berlin, Germany, assignor to Continental Elektroindustrie Aktiengesellschaft Askania-Werke, Berlin, Germany, a corporation of Germany
Continuation-in-part of application Ser. No. 728,645, May 13, 1968. This application Aug. 6, 1968, Ser. No. 750,692
Claims priority, application Germany, Sept. 20, 1967, C 43,382
Int. Cl. G01k *11/06, 1/02*
U.S. Cl. 73—358 **17 Claims**



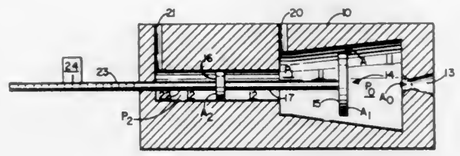
A device for measuring the temperature of molten materials comprising a heat protective carrier in which there is disposed a thermally ignitable explosive charge or cartridge; the carrier has an opening connecting to the outside of the carrier which is normally closed by a fusible lid. When the device is immersed in a melt having a temperature at least as high as the melting point of the lid, the melt is permitted by melting of the lid, to contact and denote the explosive for detection outside of the melt.

3,525,262
ELECTRIC PRESSURE GAUGE
Leo Goran, Jr., Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Feb. 5, 1969, Ser. No. 796,684
Int. Cl. G01l *9/02*
U.S. Cl. 73—398 **7 Claims**



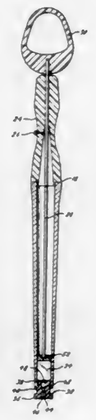
An electric pressure gauge including a switching plate assembly movable in response to pressure changes. Switching plate movement causes switching between a plurality of circuit paths, each having a different electrical resistance. An ammeter connected to the switching plate indicates a current value that varies as the pressure acting on the switching plate assembly.

3,525,263
SUPERVISORY APPARATUS
John G. Rupert, St. Anthony Village, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Dec. 23, 1968, Ser. No. 786,309
Int. Cl. G01l *7/16*
U.S. Cl. 73—419 **6 Claims**



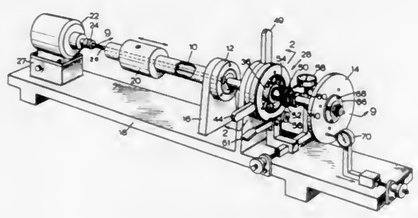
A fluid pressure ratio sensor which is free from the disadvantages of diaphragms, O-ring seals, etc. The pressures are supplied on faces of pistons or vanes to cause movement of an assembly to a position determined by the ratio of the pressures. The pistons or vanes are contained in a housing which is vented to the atmosphere through a diffuser. The pressures being measured must be such that choked flow through the diffuser occurs.

3,525,264
MICROPIPETTE HOLDER
Thomas T. Nieglos, Clifton, and Kenneth J. Cybulsky, East Paterson, N.J., assignors to Becton, Dickinson and Company, East Rutherford, N.J., a corporation of New Jersey
Filed Apr. 5, 1968, Ser. No. 719,173
Int. Cl. G01n *1/14*
U.S. Cl. 73—425.6 **10 Claims**



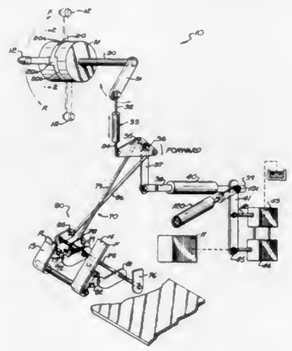
A holder for capillary tubes and the like including an elongated barrel having dual position gripping means affixed to one end thereof and adapted to receive and retain a capillary tube in a tube gripping position, and variable air displacement means to create a pressure differential between the barrel interior and the outside atmosphere. The holder is also provided with means for shifting the gripping means from the gripping position at which the capillary is securely engaged to a releasing position at which the capillary may freely fall out of the holder.

3,525,265
APPARATUS FOR MOUNTING A SHAFT CARRYING AN UNBALANCED WEIGHT
Sidney J. Harrison, 258 Briarhill Road, and Francis MacKay, 33 Light St., both of Woodstock, Ontario, Canada
Filed Dec. 20, 1966, Ser. No. 603,318
Int. Cl. G01m *1/16*
U.S. Cl. 73—473 **2 Claims**



A balancing machine including a shaft mounted for rotation in a self-aligning bearing, the shaft extending from both sides of the bearing and having means on one side of the bearing for mounting an unbalanced weight and means on the other side thereof supporting an adjustable counterweight whereby static equilibrium may be achieved about the self-aligning bearing by adjustment of said counterweight before the unbalanced weight is rotated such that, when the unbalanced weight is rotated, the centre of the shaft will orbit in a substantially circular path. The shaft is rotatably driven by means connected thereto at the self-aligning bearing such that the balance of the shaft about the bearing is not affected by the drive means. The displacement of the shaft during rotation is measured by a washer-like registration disc mounted coaxially on the shaft. Means is also provided for displacing the registration disc relative to the shaft until the registration disc rotates without orbital action. A further feature is the provision of means for restraining the lateral displacement of the shaft while continuing to rotate in a circular orbit. The restraining means includes an annular element surrounding the shaft and resilient rubber pads extending from the annular element to the shaft.

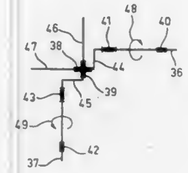
3,525,266
CONTROL FOR A HYDROSTATIC TRANSMISSION
Vern E. Brooks, Warren, and Erlen B. Walton, Farmington, Mich., assignors to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Apr. 8, 1968, Ser. No. 719,363
Int. Cl. G05g *11/00*
U.S. Cl. 74—481 **20 Claims**

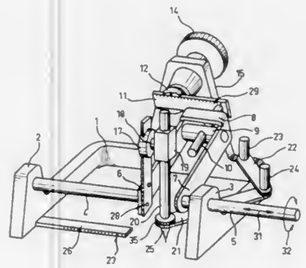


The speed ratio of a hydrostatic transmission can be varied by operation of a control mechanism which includes a manually movable control member and a pair of control members in the form of foot pedals. One of the foot pedals comprises a forward foot pedal and the other comprises a reverse foot pedal. Means is provided for positively actuating the hydrostatic transmission to a neutral condition when the control members are in a position within a predetermined distance of their neutral position. In addition, the operation of one foot pedal does not effect movement of the other foot pedal. Moreover, an indicator member is provided in association with the manually movable control member and provides an indication to the operator when the control member reaches a preselected position.

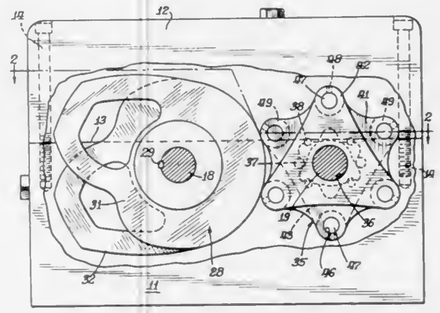
3,525,267
CRANK DRIVE
Detlef Hofmann, 7531 Kieselbronn uber Pforzheim, Germany
Filed Nov. 13, 1968, Ser. No. 775,440
Int. Cl. F16h *21/48*
U.S. Cl. 74—69 **12 Claims**

A three-dimensional transmission with at least two shafts at a right angle with respect to each other including interconnecting joint-forming means having axes parallel to axes of the shafts for advantageous transfer of high torque movements. Diverse shafts also at right angles to at least one of the shafts lie coplanar therewith. Branch shafts located at angular position with regard to each other are always perpendicular to the transmitting shaft. A chassis and a housing rotatable with respect thereto are provided and shaft bearings are disposed in the housing at a location opposite to the chassis.



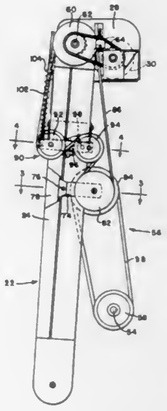


3,525,268
PARALLEL SHAFT CAM DRIVE
Ronald H. Kenny, Addison, Ill., assignor to Commercial Cam & Machine Company, Chicago, Ill., a corporation of Illinois
Filed May 14, 1969, Ser. No. 824,638
Int. Cl. F16h *27/04*
U.S. Cl. 74—84 **4 Claims**



Cam follower wheel having yoke mounting for follower rollers which cooperate with conjugate cam in parallel shaft cam drive to provide maximum accuracy, strength and useful life, while insuring zero-backlash, proper preloading, eliminating vibration during operation and reducing manufacturing costs, including use of investment castings for cam and follower wheel, and improving serviceability by providing casing with separable parts for substantially exposing entire operating mechanism and simplified eccentrically-bored bearing caps for follower wheel shaft adjustable to preload follower rollers and to compensate for wear.

3,525,269
HARVESTING MACHINE COMPONENT DRIVE
Loren William Peters, Bettendorf, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Nov. 4, 1968, Ser. No. 773,007
Int. Cl. F16h *7/12*
U.S. Cl. 74—227 **7 Claims**

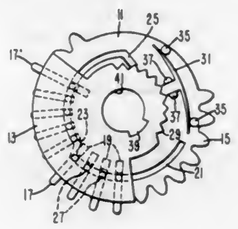


A self-propelled combine has an elevated grain tank that laterally overhangs the main separator body and is loaded by a conveyor driven by a belt drive with an input sheave adjacent the combine body and an output sheave outwardly of the input sheave and adjacent the grain tank side wall. The belt drive includes one belt between the input sheave and an intermediate sheave and a second belt between the output sheave and another intermediate sheave spaced from the first intermediate sheave on a transversely shiftable shaft. A spring-loaded idler tensions one belt and the tension therein is transmitted to the other belt through the shiftable shaft.

3,525,270
PINWHEEL WITH RETRACTABLE PINS
Jacques Michel Queffeleant, Franconville, France, assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 23, 1968, Ser. No. 786,290
Int. Cl. G06c *27/00;* **F16h** *1/06, 55/00*
U.S. Cl. 74—415 **20 Claims**

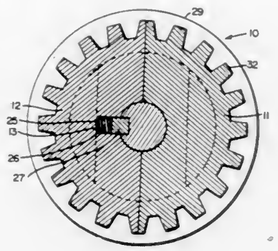
A pinwheel having a plurality of teeth and a plurality of extendable pins disposed along its outer circumference is comprised of a pin-carrying portion attachable to a suitable supporting shaft, and a grooved tooth-bearing portion adjacent the pin-carrying portion and rotatably connected therewith. Each of the plurality of pins is slideably disposed in a corresponding slot formed in the pin-carrying portion and each is provided with an inwardly directed stud housed by the groove of the tooth-bearing portion. The differential rotation of the tooth-bearing portion in one direction is effective to translate a corresponding number of pins from their normally re-

tracted positions to their extended positions, whereas the rotation of the tooth-bearing portion in the opposite



direction is effective to translatably restore the extended pins to their normal retracted positions.

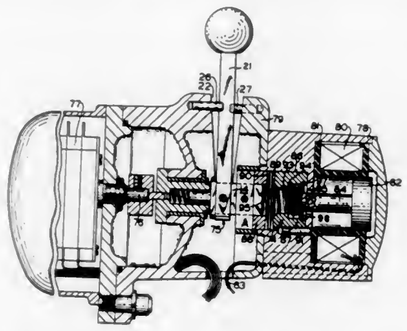
3,525,271
SEGMENTED GEAR STRUCTURE AND MANNER OF SECURING AND REMOVING THE SAME FROM A SHAFT
Moffett H. Raines, Rte. 1, Newport, Va. 24128
Filed Sept. 6, 1968, Ser. No. 768,585
Int. Cl. F16h *55/12, 55/30;* **B60b** *27/06*
U.S. Cl. 74—450 **3 Claims**



A segmented gear structure having a spring pressed key mounted therein which cooperates with a bevelled slot formed on a shaft so as to enable the gear to be removed from the shaft either when the shaft is rotating or when the shaft is stationary.

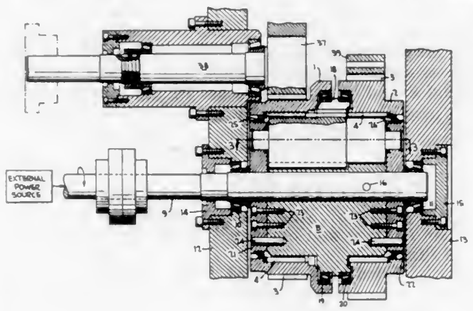
3,525,272
MULTIPOSITION CONTROL HANDLE HAVING DETENT MEANS
Paul E. Olson, Lexington, Ky., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Oct. 20, 1967, Ser. No. 676,889
Int. Cl. G05g *5/06*
U.S. Cl. 74—530 **4 Claims**

A multiposition control handle having detent means in which a handle operated control shaft in a housing is detented for axial rotation to different control positions by a pair of axially toothed detent members, one member of which is nonrotatably mounted in the housing and axially movable into intermeshed engagement with the other member which is coaxially disposed on the shaft for axial rotational movement therewith. In one embodiment the teeth on the detent members are V-shaped so that rotation of the shaft in either direction cams the housing-mounted member oppositely relative to a constantly applied bias to provide overriding, sliding or ratcheting movement between the teeth as the shaft is moved from one control position to the other. In other embodiments the detent members are normally biased



apart and the teeth are of saw-tooth shape to provide only uni-directional rotation of the shaft when the clutch members are electrically or pneumatically engaged.

3,525,273
DIFFERENTIAL DRIVE MECHANISM
Raymond G. Brownstein, Ellwood City, Pa., assignor to Thomas Machine, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 23, 1968, Ser. No. 699,894
Int. Cl. F16h *37/08, 1/42*
U.S. Cl. 74—675 **9 Claims**

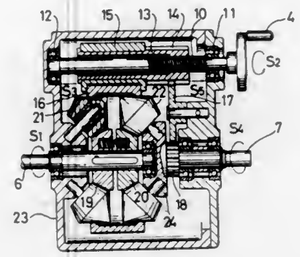


A differential drive mechanism of compact structure utilizing spaced internally and externally toothed ring gear means, carrier suported intermeshing internal differential pinion means in mesh with the internal teeth of the ring gear means, direct external input and take-off gear means meshing with the external teeth of the ring gear means and means to rotate the carrier to provide a differential drive relationship.

3,525,274
MOTOR CAR TRANSMISSION FOR DISABLED PERSON
Koichi Kubota, Kyoto, Japan, assignor to Shimpi Kogyo Kabushiki Kaisha, Kyoto, Japan, a corporation of Japan
Filed Apr. 26, 1968, Ser. No. 724,343
Claims priority, application Japan, May 4, 1967, 42/28,357
Int. Cl. B60k *17/00*
U.S. Cl. 74—796 **2 Claims**

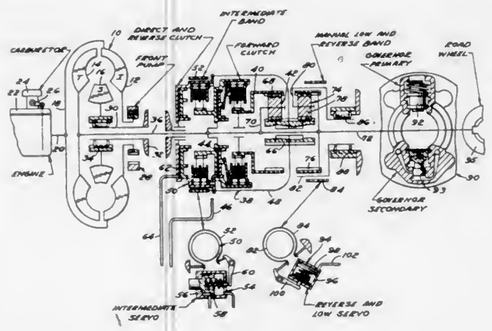
A transmission device by which the power input, at constant speed, is transmitted to the output through an infinitely variable transmission which operates as a servomotor. The transmission ratio may be continuously varied,

by hand for example, in either direction from a neutral position and the output of the transmission tends to re-



turn the transmission ratio to the neutral position so that the output is effective only as long as the first variation of the transmission ratio is continued.

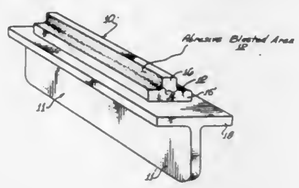
3,525,275
BRAKING DOWNSHIFT CONTROL VALVE SYSTEM FOR AN AUTOMATIC POWER TRANSMISSION MECHANISM
George E. Lemieux, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Continuation of application Ser. No. 704,425, Feb. 9, 1968. This application June 12, 1969, Ser. No. 837,993
Int. Cl. B60k *17/04;* **G05g** *1/00*
U.S. Cl. 74—868 **11 Claims**



This specification describes an automotive vehicle driveline having multiple torque delivery paths, each having a separate different torque multiplication ratio extending between the internal combustion engine for the vehicle and the vehicle traction wheels. The torque delivery paths are defined by planetary gear elements. The relative motion of the gear elements is controlled by clutch and brake mechanisms that are actuated and released by fluid pressure operating servos.

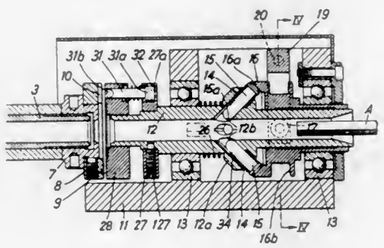
Valve controlled conduit structure connects the servos with a fluid pressure source. The control system of which the conduit structure forms a part responds to engine torque and vehicle speed to initiate ratio changes. Torque is delivered in a forward drive operating mode from the engine to the traction wheels. During coasting, provision is made for overruling the automatic ratio controlling tendencies of the valve system. This is done by a braking downshift control, the operation of which is under the control of the vehicle operator.

3,525,276
METHOD OF FABRICATING ELECTRODE DRESSING TOOL
Eugene G. Freehauf, Ontario, Calif., assignor to General Dynamics Corporation, a corporation of Delaware
Original application Dec. 30, 1966, Ser. No. 606,292, now Patent No. 3,497,932, dated Mar. 3, 1970. Divided and this application Oct. 9, 1968, Ser. No. 794,439
Int. Cl. B21k *21/00*
U.S. Cl. 76—101 **10 Claims**



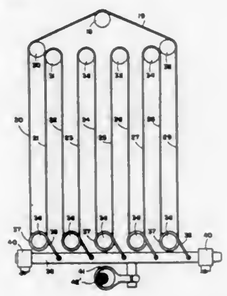
This disclosure relates to a structure and method of making an electrode dressing tool which is properly shaped, provided with cutting edges, and employed as a file to dress the faces of welding electrodes and provide same with the proper radii. The illustrated embodiment of the tool is produced by machining a bar of stock into a T-shaped form having suitable radii between the legs, abrasively blasting those radii areas to produce minute cutting or burnishing edges, and bonding the resultant article in an inverted position onto a T-shaped aluminum extrusion or the like to provide a square orientation. The cutting edges of the tool may be refurbished by an additional abrasive blast.

3,525,277
AUTOMATIC LATHE
Francis Jeanpretre and Charles Gurtner, Moutier, Switzerland, assignors to Fabrique de machines Andre Bechler S.A., Moutier, Bern, Switzerland, under the laws of Switzerland
Filed June 25, 1968, Ser. No. 739,823
Claims priority, application Switzerland, June 29, 1967, 9,283/67
Int. Cl. B23b *13/00*
U.S. Cl. 82—2.5 **8 Claims**



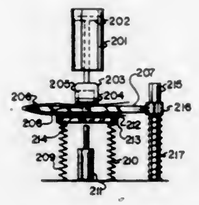
A lathe with an automatic loader and a chuck for accepting bar stock of polygonal cross section and having a tubular transmission member free to rotate about the workspindle axis and to move longitudinally, which member incorporates pusher elements acting on the stock as it is loaded and rotationally orienting the member with respect to the stock, and a clutch arrangement operated by the longitudinal movement of the member for rotating the latter and the stock with the workspindle until the stock is correctly positioned in the chuck.

3,525,278
RECIPROCATING AND ADVANCING ENDLESS BAND SAW, CUTTING BLADE OR THE LIKE
Charles Sagona, Brooklyn, New York (73 Bay 34th St., New York, New York)
Filed Jan. 3, 1969, Ser. No. 788,795
Int. Cl. B26d *1/48, 1/50*
U.S. Cl. 83—201.02 **14 Claims**



The food to be sliced is slid on a platform against a series of horizontally-spaced, vertical flights of endless cutting band structure supported on shafts, a plurality of which are provided with shaft-encircling clutch devices whose operating members are driven by a powered horizontally reciprocating bar or the like. The resulting cutting band movement is oscillatory as in a jig saw, but the strokes in one direction are longer than the return strokes, thus the band will present a changing cutting region to the food mass. This construction having but a single flight for the actual cutting, can serve as a one-blade slicer or as a jig saw apparatus.

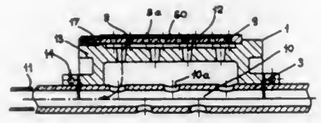
3,525,279
DEFLATION HOLE PUNCH AND METHOD
Donald K. Christian, Spartanburg, South Carolina, assignor to W. R. Grace & Co., Duncan, South Carolina, a corporation of Connecticut
Filed Nov. 6, 1967, Ser. No. 680,702
Int. Cl. B26d *7/10*
U.S. Cl. 83—171 **2 Claims**



A tear resistant deflation hole in heat-shrinkable packaging film is produced by using a heated punch in combination with a heat sink that cools the film surrounding the punched hole.

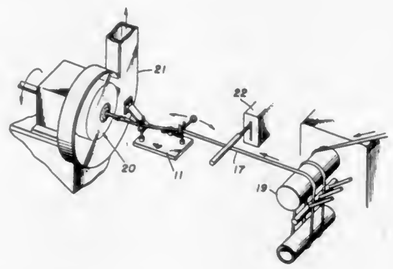
3,525,280
ROLLER CONSTRUCTIONS FOR ROTARY PERFORATING MACHINES
Luigi Pavesi, Milan, Italy, assignor to De La Rue Giori S.A., a company of Switzerland
Filed March 18, 1968, Ser. No. 713,749
Claims priority, application Italy, March 21, 1967, 13,970/67 A/67
Int. Cl. B26d *3/08;* **B26f** *1/24*
U.S. Cl. 83—345 **4 Claims**

This abstract pertains to rotary perforating apparatus in which cooperating rollers are utilized carrying perforating pins and die holes, respectively. The die hole roller has bores of substantially greater diameter than the pins, the perforating surface being provided by a layer of metal electroplated on the roller surface and perforated by the pin roller for accurate alignment. The pin bearing roller has an outer sleeve



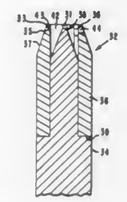
in which the pins are set and an inner core member upon which the pins rest. The latter has bores through which the pins may fall for removal upon rotational displacement of the core with respect to the sleeve.

3,525,281
TOW GUIDE
Charles H. McGill, Decatur, Alabama, assignor to Monsanto Company, St. Louis, Missouri a corporation of Delaware
Filed Nov. 14, 1968, Ser. No. 775,848
Int. Cl. B65h *57/22*
U.S. Cl. 83—443 **5 Claims**



This invention concerns a tow guide having a pair of U-shaped guide members through which the tow passes to a cutter. The U-shaped guides are parallel to each other and are mounted for pivotal movement so that the pressure applied to the tow by the opposed facing surfaces of each of the guides can be adjusted.

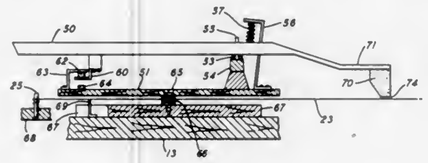
3,525,282
SPINNERET PUNCHING TOOL
Curtis Owen Hawkins, Cove City, North Carolina, assignor to E.I. du Pont de Nemours and Company, Wilmington, Delaware a corporation of Delaware
Filed Jan. 10, 1968, Ser. No. 696,878
Int. Cl. B26d *1/04*
U.S. Cl. 83—695 **3 Claims**



A punch tool for single step forming a complex spinneret orifice having a plurality of segmented slot configurations is made in two parts and assembled. The tool includes a body member having die segments formed on one end corresponding to the inner portion of the slot configuration and a sleeve fitted over the body member. Finish-machining the punch to

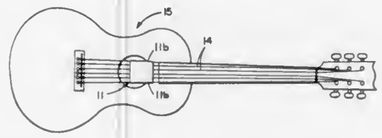
the precise configuration desired is accomplished after assembly.

3,525,283
STRINGED KEYBOARD INSTRUMENT WITH ADHESIVE ACTUATOR
Leonard W. Pavia, Florham Park, New Jersey, assignor to Pavia-Farny Associates, Morris Plains, New Jersey
Filed March 4, 1968, Ser. No. 709,970
Int. Cl. G10c *3/18;* **G10d** *1/00*
U.S. Cl. 84—173 **13 Claims**



A musical instrument of the stringed keyboard type wherein each individual string is vibrated by an action utilizing an adhesive effect. The vibrator normally rests on the string which adheres to it. When the vibrator is lifted, upon depression of the key, the string initially rises with the vibrator. When the pull of the string exceeds the adhesive pull, the string snaps away and is set into vibration. A sounding board is not employed, particularly formed and placed electromagnetic pick-ups being used instead, each pick-up being a coil of wire would around magnetic material and extending over five or six strings, the pick-ups being electrically connected in series. The vibrator may also provide a second vibration of the string. A rocking arrangement assures that all vibrators initially adhere to their strings with the same force.

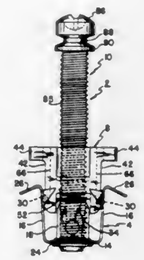
3,525,284
METHOD AND APPARATUS FOR FILING FINGERNAILS OF GUITARISTS, BANJO PLAYERS, AND THE LIKE
Laurindo Almeida, 4104 Witzel Drive, Sherman Oaks, California
Filed Feb. 19, 1969, Ser. No. 800,455
Int. Cl. G10g *7/00*
U.S. Cl. 84—453 **5 Claims**



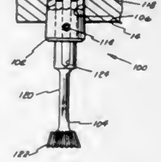
An abrading device comprises a flat sheet of abrasive material such as sandpaper, affixed to a backing support member having opposite edges folded over to form grasping means. The abrading device is placed over the strings of an instrument such as a guitar. The musician simulates his playing of the instrument, instead of plucking the strings, running his fingernails over the surface of the abrasive material thereby filing the nails. In subsequent actual playing, the edges of the fingernails are thus filed so that they are substantially parallel to the strings when such strings are plucked, thereby assuring optimum plucking action.

3,525,285
FASTENING ASSEMBLY DEVICE
Clarence R. Van Niel, North Olmsted, Ohio and William L. Seitz, Parma, Ohio, assignors to Tinnerman Products, Inc., Cleveland, Ohio a corporation of Ohio
Filed Oct. 8, 1968, Ser. No. 765,947
Int. Cl. F16b *13/04*
U.S. Cl. 85—75 **10 Claims**

A fastening assembly device for mounting an article in spaced, superposed relation on an apertured support member including a resilient retainer member insertable into the aperture in the support member and an expander member insertable into initial generally floating and final locking positions within the retainer member, and a connector member carried by the expander member for mounting the article on the support member.



3,525,286
GEAR SHAPING TOOL
Thomas Lombardo, Lake Orion, Michigan and Joseph Silvagi, Warren, Michigan, assignors to Camdale Enterprises, Roseville, Michigan a partnership composed of John W. Conforti and Joseph Silvagi
Filed July 3, 1968, Ser. No. 742,317
Int. Cl. B23f *9/06;* **B26d** *1/04*
U.S. Cl. 90—8 **4 Claims**

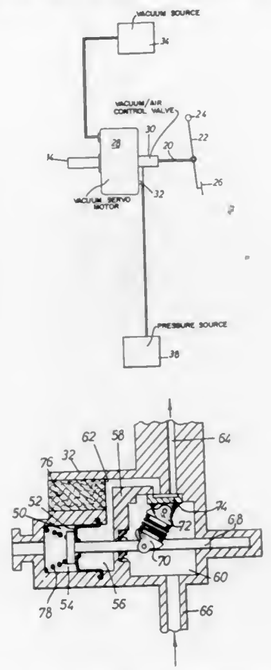


A gear shaping tool is disclosed in which a cutting gear is removable attached to a shank so that several gears of different sizes can be attached to a given shank, or a cutting gear can be replaced on the shank without removing the shank from the shaping machine. One embodiment employs an internally mounted spacer in the shank in abutment with the end of the cutting gear to provide means for adjusting the position of the cutting gear with respect to the gear blank.

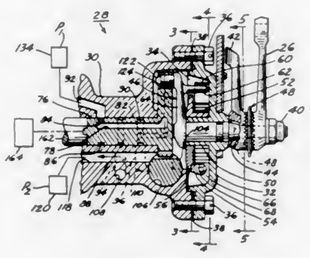
3,525,287
DIFFERENTIAL PRESSURE MOTOR SYSTEMS
Desmond H. J. Reynolds, Sutton Coldfield, England, assignor to Girling Limited, Birmingham, England, a British company
Filed Feb. 5, 1968, Ser, No. 703,070
Claims priority, application Great Britain, Feb. 10, 1967, 6,455/67
Int. Cl. F15b *13/042*
U.S. Cl. 91—33 **5 Claims**

The invention concerns a vehicle brake operating servo motor system in which, in addition to the two fluid pressure levels conventionally employed to provide brake actuating pressure differentials a third pressure level is used and is

made available for brake actuating service by a differential pressure operable valve arrangement which operates responsive to inadequacy in or failure of one of the first-mentioned two pressure levels.

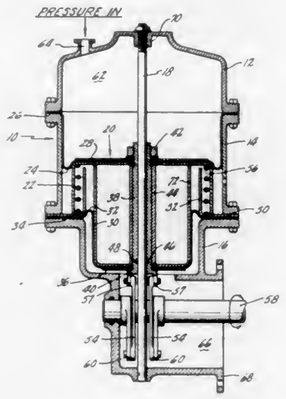


3,525,288
FAIL-SAFE SERVO DEVICE
Carl F. Schorn, Troy, Michigan, assignor to Holley Carburetor Company, Warren, Michigan a corporation of Michigan
Filed Nov. 19, 1968, Ser. No. 776,906
Int. Cl. F15b *20/00, 9/02*
U.S. Cl. 91—360 11 Claims



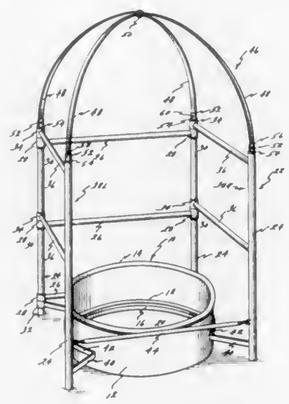
A servo device is provided with an input lever, rotatable in accordance with input signals directed thereto by cooperating motion transmitting members, which cooperates with a plurality of servo valves for causing a pressure responsive piston to supply an actuating force to an associated output member; the output member includes a rotatable housing containing the servo valves and carrying resilient biasing springs urging the servo valves into abutting engagement with the input lever which is also closely contained by said housing for rotation therewith; an additional resilient biasing member is engageable by the input lever when the input lever and housing have been rotated to some predetermined angular position; the resilient biasing springs and the resilient biasing member cooperating with each other to determine a null condition for the servo valves whenever there is a failure in the cooperating motion transmitting members.

3,525,289
PNEUMATIC ACTUATOR
Ettore C. Cercone, Flushing, New York, assignor to United Aircraft Corporation, East Hartford, Connecticut a corporation of Delaware
Filed Feb. 18, 1969, Ser. No. 800,231
Int. Cl. F16j *3/00*; F01b *19/00*
U.S. Cl. 92—49 3 Claims



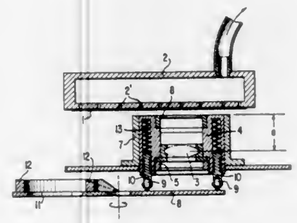
An actuator is disclosed wherein a half-area piston assembly traverses a fixed shaft. The piston assembly consists of two pistons having overlying rolling diaphragms fixed at the peripheries to the housing. The pistons are coupled by a sleeve which slides over the fixed shaft. The actuator converts axial motion to rotary motion in a compact assembly and provides a shorter actuator for given stroke.

3,525,290
MANHOLE TENT
Thurman A. Pelsue, 3706 S. Hibiscus Way, Denver, Colorado
Filed Feb. 1, 1968, Ser. No. 702,338
Int. Cl. E02d *29/14*
U.S. Cl. 94—38 9 Claims



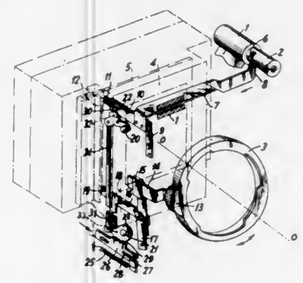
This invention relates to a tent for covering open manholes that includes a foldable spring metal frame having four arms interconnected at one end to a common pin-type fastener and with the free ends thereof provided with plugs adapted to telescope down inside the open-topped tubular uprights of a manhole guardrail. When so connected, the spring metal arms cooperate to define a pair of diagonally-disposed intersecting arches adapted to support a similarly-shaped canvas or plastic canopy. The canopy has sidewalls extending down alongside the guardrail which can be rolled up to provide ventilation and at least one of which preferably includes a window. With the guardrail fastened to a manhole shield of the type detachably secured inside an open manhole, the entire installation is essentially wind and weather proof due to its being positively anchored.

3,525,291
HIGH RESOLVING POWER PHOTOGRAPHIC CAMERA
Yoshio Hakamata, Tokyo, Japan and Kiyoji Nakamura, Tokyo, Japan, assignors to Fugi Shashin Film Kabushiki Kaisha, Kanagowa, Japan
Filed Oct. 9, 1967, Ser. No. 673,748
Int. Cl. G03b *17/00, 17/42*
U.S. Cl. 95—11 3 Claims



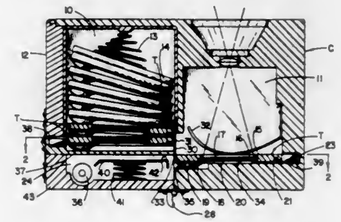
A photographic camera having picture frame fixed to a lens barrel which is movable in a direction parallel to the optical axis of the lens. The camera has a rotary disc shutter, with a cam mounted thereon, for rotation about an axis parallel to the optical axis. A cam follower is provided on the lens barrel to engage the cam on the rotary disc shutter. During exposure, when the shutter opening and the optical axis coincide, the cam on the rotary disc shutter moves the cam follower and the picture frame on the lens barrel is pressed into contact with the film to produce pictures of high resolution.

3,525,292
SAFETY INTERLOCKS FOR THE CAMERAS WITH INTERCHANGEABLE MAGAZINE AND LENS
Shin Okamoto, Tokyo, Japan and Yutaka Seto, Tokyo, Japan, assignors to Konica Camera Corporation, Woodside, New York
Filed Feb. 26, 1968, Ser. No. 708,398
Claims priority, application Japan, Feb. 24, 1967, 42/15,540
Int. Cl. G03b *19/00*
U.S. Cl. 95—11 7 Claims



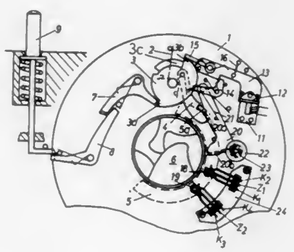
A photographic camera is arranged to mount exchangeable film magazines and includes a shutter release button and a ring for interchangeably mounting objectives on the camera. A movable member has a first position operating a latch rod to lock the release button against movement and releasing a detent plate to provide for rotation of the ring, and a second position, to which it is moved responsive to mounting of a magazine on the camera, operating the rod to disengage the release button for movement and the detent plate to lock the ring. An opaque slide is disengageably insertable into a magazine to block entry of light thereinto and, when in a magazine mounted on the camera, is operable on the movable member to lock the release button and release the ring. When the opaque slide is withdrawn, the release button is unlocked and the ring is locked.

3,525,293
CAMERA FOR EXPOSING AND PROCESSING SLIDE TRANSPARENCY UNITS
Donald M. Harvey, Rochester, New York, assignor to Eastman Kodak Company, Rochester, New York a corporation of New Jersey
Filed Feb. 29, 1968, Ser. No. 709,463
Int. Cl. G03b *17/50*
U.S. Cl. 95—13 10 Claims



A camera wherein slide transparency units can be transported from a storage chamber by a first slide mechanism to an exposure chamber. After exposure, the transparency unit can be transported from the exposure chamber to a developing chamber by a second slide mechanism while another transparency unit is transported from the storage chamber to the exposure chamber by the first slide member. The camera may be reloaded while transparency units remain in the exposure chamber and developing chamber, respectively.

3,525,294
SHUTTER OPENING DELAY MECHANISM
Waldemar T. Rentschler, Calmbach, Black Forest, Germany, assignor to Prontor-Werk, Alfred Gauthier G.m.b.H., Calmbach, Black Forest, Germany
Filed April 11, 1968, Ser. No. 720,590
Int. Cl. G03b *9/64*
U.S. Cl. 95—53.3 7 Claims

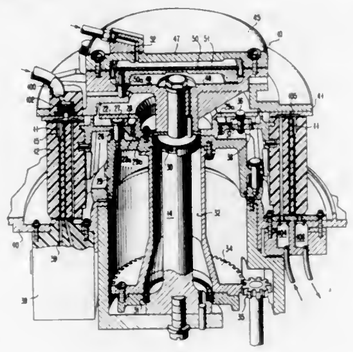


In a camera having a shutter system opened by a drive mechanism and locked open for a predetermined time by an electro-magnet, it is essential that the electro-magnet shall be fully energised before the mechanism opening the shutter blades reverses its action to prepare to close them. For this purpose actuation of the shutter release first moves the shutter blade driving ring to close the electro-magnet energising contacts, whereafter a mechanical delay mechanism delays further movement of the ring by a time sufficient to fully energise the electro-magnet so that it is capable of holding the shutter blade system as soon as the blades subsequently open.

3,525,295
AUTOMATIC FILM PROCESSOR

Richard B. Mulvany, San Jose, California and Clyde C. Roshon, San Jose, California, assignors to International Business Machines Corporation, Armonk, New York a corporation of New York

Filed Nov. 6, 1967, Ser. No. 680,646
Int. Cl. G03d 3/00, 3/08, 15/02
U.S. Cl. 95—89 22 Claims

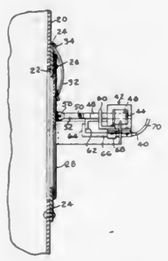


An automatic wet process film processor having a film holder with a body portion forming a cavity for receiving the film to be developed. The automatic processor has several developing stations each including a device for pumping selected ones of the necessary processing fluids into the cavity to develop the film. The automatic processor also has components for effecting relative movement between the film holder and the developing stations, to introduce processing fluids into the cavity in a predetermined sequence. The cavity is positioned in a vertical plane and pumps introduce developing fluid into the bottom of the cavity to limit air entrapment. One configuration utilizes several film holders mounted equi-distant from central supporting axis, and moved about the axis to processing stations positioned thereabout.

3,525,296
AIR PRESSURE RELEASE DEVICE FOR AN ENCLOSURE

Arvo A. Haapanen, 6601 Trudy Way, Sacramento, California

Filed July 30, 1968, Ser. No. 748,818
Int. Cl. F24f 7/00
U.S. Cl. 98—2 10 Claims

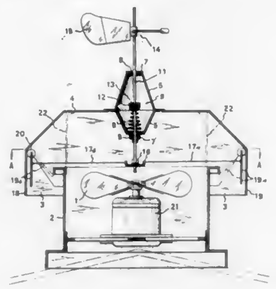


An enclosure, such as an automobile body, walk-in refrigerator and freezer, or the like, is provided with a suitable normally closed vent opening. The sudden closing of a door of such enclosure forces additional air thereinto thereby raising the pressure therein with disadvantageous results. The vent is provided with automatic means, usually electrical means, which is operable when the door is closed to open the vent and thus relieve pressure in the enclosure.

3,525,297
ANEMOMETER TYPE BACK FLOW ARRESTING DEVICE ON ROOFTOP VENTILATING FAN

Yuzo Kawai, 12, Karasugatsuji - cho, Tennouji - ku, Osaka-shi, Japan

Filed Feb. 25, 1969, Ser. No. 802,135
Claims priority, application Japan, Feb. 28, 1968, 43/15,052
Int. Cl. F23l 17/02
U.S. Cl. 98—74 1 Claim

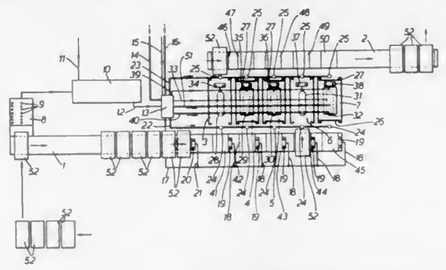


The invention of the present application relates to a ventilation fan mounted on the rooftop which is provided with an anemometer to inhibit rain and wind from sweeping or blowing into the fan assembly. The anemometer is provided with a novel mechanism which operates the shutters of exhaust to open or close according to the direction of wind so that the back blow of wind or rain into the fan assembly is reduced.

3,525,298
COOKING EQUIPMENT

Norbert Nicolaus, Elze, Germany, assignor to Homann-Maytag GmbH, Sarstedt, Germany a joint-stock company of Germany

Filed Sept. 30, 1968, Ser. No. 763,878
Claims priority, application Germany, May 18, 1968, 1,778,637
Int. Cl. A47j 37/00
U.S. Cl. 99—334 11 Claims



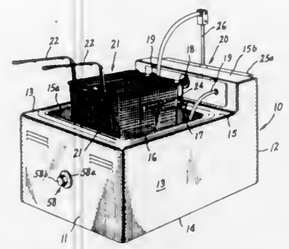
Cooking equipment includes a plurality of chambers having entry and exit doors, a supply conveyor to lead containers with food to be treated therein and a delivery conveyor to remove containers with treated food from the chambers. A control system is effective to control the chambers according to the contents of individual containers, and the system includes a control panel at the upstream end of the supply conveyor.

3,525,299
AUTOMATIC BASKET LIFT MECHANISM

Harry A. Gouwens, South Holland, Illinois and Earl E. Spillar, Lisle, Illinois, assignors to General Electric Company, a corporation of New York

Filed Nov. 8, 1968, Ser. No. 774,361
Int. Cl. A47j 37/12
U.S. Cl. 99—336 6 Claims

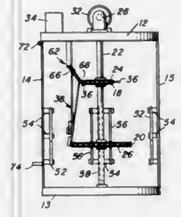
A timer-controlled, automatic basket lift mechanism for use in food fryers including a basket hanger, a vertical shaft which is connected to the basket hanger at one end and secured at its other end to a carriage, a lift motor which is connected by a link and lever assembly to the carriage, and wherein a timer activates the lift motor shaft which by means of said link arm and lever arm lowers the carriage and hence the basket hanger into the frying area and after a predetermined time as set by the timer, automatically raises the carriage and basket hanger out of the frying area, the carriage moving on ball bearings which are located in channels which are laterally offset from the openings in the rear of the fryer so as to seal the ball bearings from contact with any of the cooking oil.



3,525,300
APPARATUS FOR PREPARING FOOD

Stanley V. Genetti, 755 E. Broad St., Hazleton, Pennsylvania

Filed April 14, 1969, Ser. No. 815,624
Int. Cl. A47j 43/18
U.S. Cl. 99—427 8 Claims



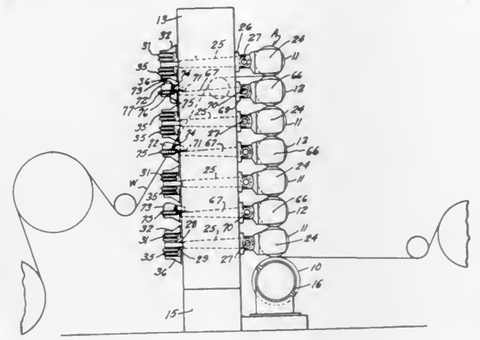
This disclosure relates to a food preparation apparatus for broiling both sides of a food product simultaneously. The apparatus includes a casing for enclosing an upper elongated continuous drive chain that carries a plurality of holders upon which food products are placed. A lower elongated drive chain which is parallel to but follows a path which is slightly longer and wider than that of the upper chain drive supports the bottom of the holders, disposing them at a predetermined angle so that food products will be properly exposed to a plurality of heating elements which have a variable temperature control. The heating elements are located on both sides of the elongated paths of the drive chains. A variable speed driving means controls the speed of the drive chains, whereby the drive chains travel at a predetermined speed through the heating elements for further control of the broiling process.

3,525,301
CALENDER STACK

Edgar J. Justus, Beloit, Wisconsin and Carl B. Dahl, Rockton, Illinois, assignors to Beloit Corporation, Beloit, Wisconsin a corporation of Wisconsin

Continuation-in-part of application Ser. No. 764,372, Sept. 21, 1968, which is a continuation of application Ser. No. 572,423, Aug. 15, 1966. This application Nov. 8, 1968, Ser. No. 774,469
Int. Cl. B30b 3/04
U.S. Cl. 100—161 17 Claims

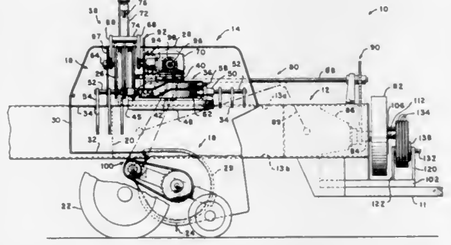
Calender stack including a plurality of stacked calender rolls having nip pressure cooperation with each other and with a bottom king roll. Means are provided for externally relieving the bearing loads on all of the rolls. Means are also provided for externally loading the bearings of alternate rolls and thereby increasing the nip pressures. The rolls in which the bearing loads may be both relieved and loaded are controlled crown rolls having opposed pressure shoes reacting against the stationary center shafts of the rolls, and the inner peripheries of the rolls. The top pressure shoes serve to relieve the nip pressures by trueing the surfaces of the calender rolls while the bottom pressure shoes serve to load the nips between the calender rolls and to equalize the pressure reactions on the center shaft, and to thereby damp vibration of the rolls.



3,525,302
STEP-UP DRIVE FOR A BALING MACHINE

Harry C. Eberly, Narvon, Pennsylvania and Raymond E. Fisher, New Holland, Pennsylvania, assignors to Sperry Rand Corporation, New Holland, Pennsylvania a corporation of Delaware

Filed June 3, 1968, Ser. No. 734,005
Int. Cl. A01f 15/10
U.S. Cl. 100—179 5 Claims



A step-up drive for a baling machine to increase the operating speed of the baler using a belt drive which is disposed between a tractor power take-off and the baler flywheel.

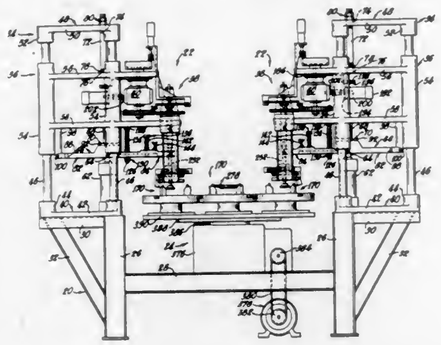
3,525,303
APPARATUS FOR DECORATING POTTERY

Howard B. Cummings, New Castle, Pennsylvania, assignor, by mesne assignments, to Interspace Corporation, Parsippany, New Jersey a corporation of Delaware

Original application Fed. 4, 1964, Ser. No. 342,560. Patent No. 3,388,658. Divided and this application June 11, 1968, Ser. No. 765,714
Int. Cl. B41f 17/28
U.S. Cl. 101—35 5 Claims

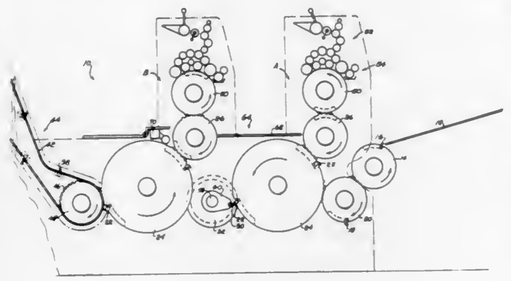
Apparatus for decorating china ware. Pieces of ware are carried successively by chucks on a turntable for positioning of their decorating surfaces into a path of operation of a silk

screen decoration applicator. The applicator is movable to and from the path of operation. A squeegee is moved over



the silk screen to transfer color therethrough to the decorating surface of the ware.

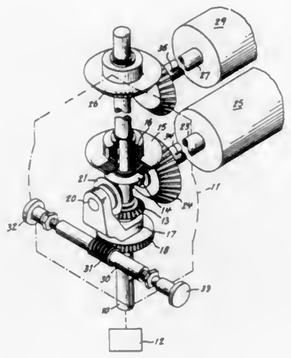
3,525,304
SHEET FEED BETWEEN MULTIPLE COUPLE ROTARY PRESS UNITS
Robert K. Norton, Twinsburg, Ohio and William H. Weldman, Independence, Ohio, assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed May 5, 1967, Ser. No. 636,373
Int. Cl. B41f *7/06*
U.S. Cl. 101—136 **2 Claims**



A printing press for printing sheet material at a printing nip formed between an impression cylinder and a printing cylinder. The impression cylinder has a diameter which is an integer multiple of the diameter of the printing cylinder and carries a plurality of grippers at spaced circumferential locations with the number of locations being equal to the diameter multiple of the impression cylinder. Grippers on a transfer cylinder engage a leading edge of the sheet at a transfer location. The transfer location is spaced from the printing nip by a distance along the path of sheet travel which is greater than the maximum sheet length to be printed by the printing press so that the sheet is entirely clear of the printing nip prior to being gripped by the grippers on the transfer cylinder.

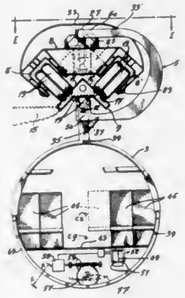
3,525,305
ANGULAR ADJUSTMENT DEVICE FOR CYLINDER REGISTERING
Philip Kenneth Daniels, Huntington Station, New York, assignor, by mesne assignments, to American Type Founders Co., Inc., Franklin, Tennessee, a corporation of Delaware
Filed June 20, 1967, Ser. No. 647,366
Int. Cl. B41f *13/14*
U.S. Cl. 101—181 **2 Claims**

A device for adjusting the instantaneous relative angular positions of two or more rotating shafts of a printing press powered by a common drive means while maintaining the shafts at a constant speed. A first and second bevel gear of the same diameter are fixed to a drive and output shaft respectively, both shafts having coincident axes of rotation. These bevel gears are in mesh with a third bevel gear, having



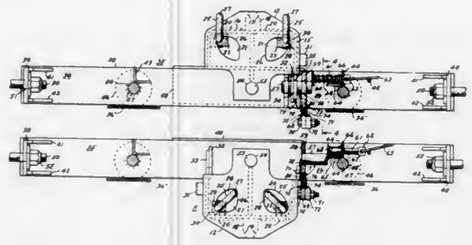
an axis of rotation orthogonal to and pivotable around the axis of the shafts. Pivoting the axis of the third bevel gear displaces the first and second bevel gears relative to one another whereby the angular positions of the input and output shafts are adjusted without changing the speed of either shaft.

3,525,306
SUSPENDED RAILWAY
Alfred Edel, Montreal, Quebec, Canada and Ranko M. Bubic, Montreal, Quebec, Canada, assignors, by mesne assignments, to Common Market Trading Corporation Limited, Nassau, Bahamas, a corporation of the Bahamas
Filed Dec. 21, 1967, Ser. No. 692,428
Int. Cl. B61b *3/02*; **B61c** *13/08*; **E01b** *25/22*
U.S. Cl. 104—95 **7 Claims**



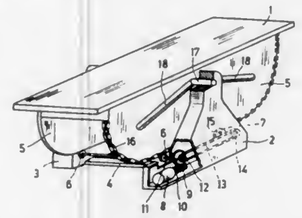
The present invention relates to a high-speed monorail suspension in which the car is carried within two rings pivotally suspended underneath two monorail carriages and in which the center of gravity of the monorail is automatically adjusted whenever the car is eccentrically loaded.

3,525,307
LATCHING DEVICE FOR DOUBLE CONTAINER PEDESTAL
James T. Brown, Johnstown, Pennsylvania, assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed July 11, 1968, Ser. No. 744,108
Int. Cl. B65j *1/22*; **B60p** *7/08*
U.S. Cl. 105—366 **2 Claims**



On a railway flat car, a carriage pivotally supports a retractable corner pedestal for a container. By a coacting shutter and latch arrangement, said pedestal is automatically locked in place when the pedestal is raised to upright position, and is manually released for retraction when desired.

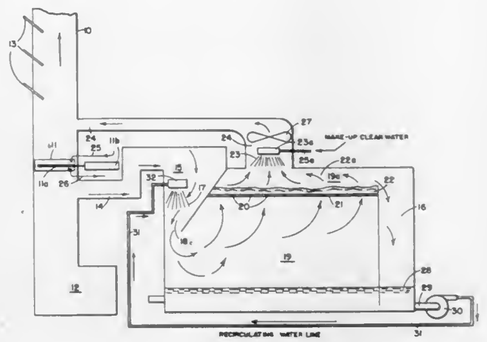
3,525,308
PATIENT SUPPORTING TABLE FOR X-RAY EXAMINATION
Adriaan Koopmans, Emmasingel, Eindhoven, Netherlands, assignor to U.S. Philips Corporation, New York, New York a corporation of Delaware
Continuation of abandoned application Ser. No. 667,999 Sept. 15, 1967. This application Nov. 27, 1968, Ser. No. 779,658
Claims priority, application Netherlands, Sept. 17, 1966, 6613163
Int. Cl. A47f *5/12*
U.S. Cl. 108—8 **9 Claims**



An adjustable table has a table top with a downward extending side member and a base including on each side lower roller supports for engaging a curved drive surface of a side member and an upper pivot support for engaging a slot in the side member. The supports have fixed positions and cooperate with the drive surfaces and slots, such that the table top is movable between horizontal and vertical orientations without any part extending below the lower support.

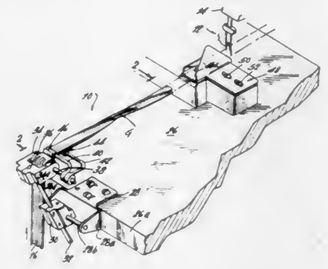
3,525,309
PROCESS AND APPARATUS FOR CLEANING FURNACE GASES
Robert Katz, Woodmere, New York, assignor to Scrubaire, Inc., Forest Hills, New York a corporation of New York
Filed May 21, 1968, Ser. No. 730,851
Int. Cl. F23g *3/00*; **F23j** *15/00*
U.S. Cl. 110—18 **12 Claims**

Furnace flue gases, and particularly incinerator flue gases of apartment houses wherein the same chimney or stack, provided with a damper, serves for discharging the furnace combustion gases and for receiving garbage at the different levels, are withdrawn from the stack in advance of the damper and subjected to a plurality of stages of scrubbing with water of different degrees of purity, and then returned to the stack by means of a fan or blower at a point above the



damper, the damper being cooled with fresh water to prevent ignition of garbage deposited thereon either during or between combustion cycles, such cooling water being employed in the last gas-scrubbing stage.

3,525,310
ATTACHMENT FOR SEWING MACHINE
William T. Gensheimer, Valley Stream, New York, assignor to W. T. Gensheimer Inc., New York, New York a corporation of New York
Filed May 7, 1968, Ser. No. 727,198
Int. Cl. D05b *35/02*, *35/10*
U.S. Cl. 112—142 **6 Claims**

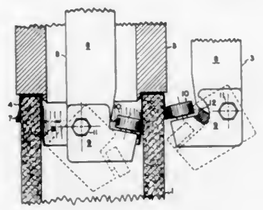


A sewing machine attachment formed by two elongated parts mounted in a clearance position with respect to each other so as to define a guide channel for an elastic strip and fabric fed to a sewing machine and wherein the cooperating body parts have a helical twist and, as a consequence, cause the elastic and fabric to similarly undergo a helical twist which results in the elastic being encapsulated within a hem formed along an edge of the fabric.

3,525,311
APPARATUS AND METHOD FOR CAPPING A CYLINDRICAL TUBE
Stanley C. Elder, Cincinnati, Ohio and Frederick J. Ebbers, Cincinnati, Ohio, assignors, by mesne assignments, to The Mead Corporation, Dayton, Ohio, a Corporation of Ohio
Filed Sept. 18, 1968, Ser. No. 760,592
Int. Cl. B21d *51/00*
U.S. Cl. 113—121 **6 Claims**

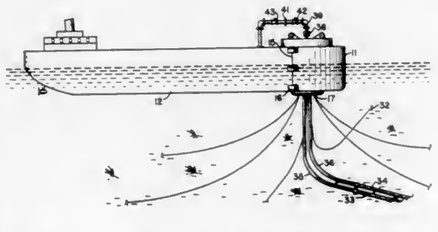
Apparatus and method for securing caps on the ends of cores, drums, and the like. A novel pivotally mounted roller

performs a longitudinally advancing spinning action upon the skirt of a pre-applied cap. Upon withdrawal of the spinning



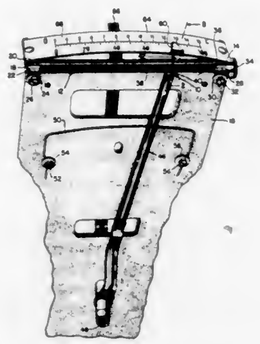
head the roller automatically imparts a narrow peripheral crimp to the spun down skirt.

3,525,312
STORAGE OR SIMILAR VESSEL
Robert W. Beck, Houston, Texas and Richard P. Knapp, Houston, Texas, assignors to Esso Production Research Company, a corporation of Delaware
Filed Oct. 6, 1967, Ser. No. 673,510
Int. Cl. B63b *21/00, 35/00*
U.S. Cl. 114—.5 8 Claims



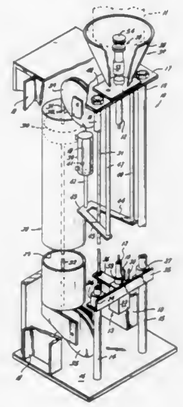
A vessel for use in unprotected waters including a bow section containing a well extending vertically through the lower portion of the vessel, a cylindrical turret mounted in the well and rotatable with respect to the bow section, means for connecting mooring lines to the turret, an elongated stern section, and means for detaching the stern section from the bow section without disturbing the mooring lines.

3,525,313
CONTROLLING APPARATUS
Arthur H. Jordan, Ardmore, Pennsylvania, assignor to Honeywell Inc., Minneapolis, Minnesota a corporation of Delaware
Filed June 4, 1968, Ser. No. 734,476
Int. Cl. F16k *37/00*
U.S. Cl. 116—133 10 Claims



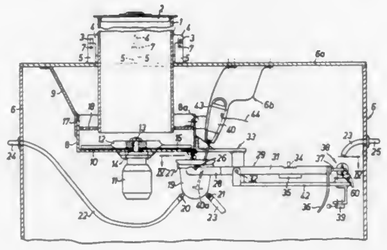
A control device having a control pointer arm which may be manually adjusted for either making a rapid coarse adjustment or a fine adjustment of the pointer along a set point indicating scale. A rod is fixedly mounted adjacent the indicating end of the pointer arm and a spring to retain this rod in slidable engagement with a threaded shaft except when conditions require the pointer arm to be rapidly moved along the set point indicator scale. A manually rotatable disc is fixed to the end of the screw shaft for moving the rod there along when making the fine set point adjustment.

3,525,314
APPARATUS FOR COATING THE INTERIORS OF TUBULAR MEMBERS
Thomas R. McClughan, Houston, Texas, assignor to Schlumberger Technology Corporation, New York, New York a corporation of Texas
Filed Jan. 30, 1968, Ser. No. 701,634
Int. Cl. B05b *13/06*
U.S. Cl. 118—317 17 Claims



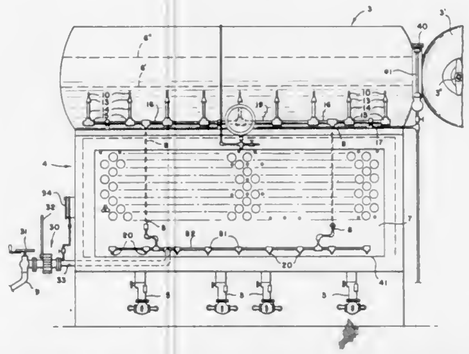
The invention disclosed herein is directed to apparatus for coating the internal bores of vertically disposed elongated tubular members such as joints of pipe. More particularly, the apparatus disclosed herein includes a vertically movable coating applicator that is arranged to be selectively traversed through the internal bore of a vertically supported pipe. A guide member is arranged to cooperate with the coating applicator for reliably centering the pipe in relation to the applicator so that, as it is being operated, the coating applicator will pass easily through the pipe.

3,525,315
ANIMAL FEEDING APPARATUS
Karl Lange, Kreis Hildesheim, Germany, assignor to Hans Lange, Gross Ilde, Germany
Filed Dec. 28, 1967, Ser. No. 694,250
Claims priority, application Germany, Jan. 4, 1967, L 55,432
Int. Cl. A01k *9/00*
U.S. Cl. 119—71 20 Claims



Automatic animal feeding apparatus having a mixing tank suspended at one end of a balance beam and movable between upper and lower end positions to receive water and dried milk or other flowable solid feed when in upper end position and to move to lower end position when the weight of its contents rises to a predetermined value. The tank is connected with hoses having nipples through which the animals can suck a dispersion or a solution of feed in water. The means for supplying solid feed to the tank includes a cylinder containing a supply of feed and extending with its open lower end into a receptacle provided with a rotary agitating wheel. The bottom wall of the receptacle has an opening which discharges a stream of feed by gravity into the tank in response to rotation of the wheel. A starter switch which is actuated by the balance beam starts the motor for the agitating wheel simultaneously with opening of a valve which admits water and simultaneously with starting of a mixer which stirs the contents of the tank when the latter moves to upper end position. A bistable switchover device is associated with the balance beam to effect abrupt movements of the tank between upper and lower positions when the weight of the tank's contents respectively reaches a predetermined maximum and a predetermined minimum value.

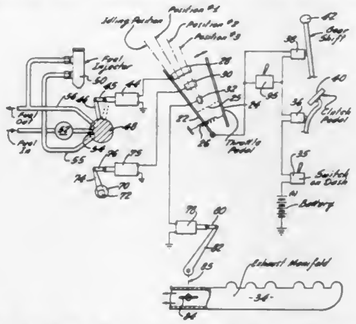
3,525,316
SYSTEM FOR MECHANICALLY CLEANING BOILERS
William M. McWilliam, 935 Harding Drive, New Orleans, Louisiana
Filed Feb. 23, 1968, Ser. No. 707,764
Int. Cl. F22b *37/54*
U.S. Cl. 122—381 16 Claims



An improved system for mechanically cleaning out boilers by a vortex or centrifuge action which is set up about each of the individual nozzle elements of upper and lower nozzle systems located in the steam and mud drums, respectively, of the boiler. The dimensions, positions, and spacing of the nozzles are critical and ideal blow down periods and materials are disclosed. Each nozzle is slotted and includes four curved vanes. The vanes can be curved to produce alternate clockwise and counterclockwise vortices.

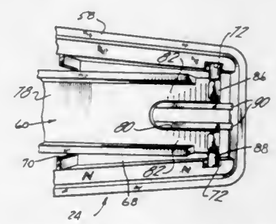
3,525,317
VEHICLE ENGINE BRAKING SYSTEM
Earl B. Muir, Rolling Hills Estates, California, assignor to White Motor Corporation, Cleveland, Ohio a corporation of Ohio
Filed March 7, 1968, Ser. No. 711,333
Int. Cl. F16d *57/00*; F02d *9/06*
U.S. Cl. 123—97 18 Claims

A multiple-position switch is actuated by a throttle pedal that is spring-loaded for retraction from an engine idling position through a series of three successive retracted positions. At the first of the three retracted positions the multiple-position switch terminates combustion in the engine to create a light braking effect which is primarily the result of friction losses in the various moving parts of the engine and vehicle. At the second retracted position of the throttle the switch is effective to create engine braking action by holding the exhaust valves of the engine continuously in slightly open position. At the third retracted position of the throttle pedal the switch operates a butterfly valve in the exhaust manifold of the engine to provide back pressure in the manifold, the



additional braking effect by the back pressure unexpectedly increasing the effectiveness of the braking effort by the partially open exhaust valves.

3,525,318
CATAPULT LAUNCHER FOR A TARGET GRID GAME
Frank Kohner, Washington Heights, New York and Albert Stubbman, New Hyde Park, New York, assignors to Kohner Bros., Inc., East Paterson, New Jersey a corporation of New Jersey
Filed Oct. 25, 1967, Ser. No. 678,076
Int. Cl. F41b *3/02*
U.S. Cl. 124—7 4 Claims



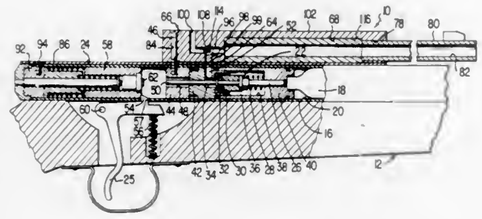
A game constituting a target grid, projectiles and a catapult launcher, wherein the target grid is composed of an array of columns and rows of abutting perforated square inverted pyramidal seats the bases of which lie in a common horizontal plane, the seats being subdivided into differently colored areas for selective target objectives, wherein the projectiles are cones with weighted balls frictionally held interiorly of the noses of the cones and different projectiles are differently colored for intended reception in areas of matching color in the target grid, and wherein the catapult launcher is a base with a spring actuated launching lever pivotally connected thereto by a locked wishbone fulcrum, the base being provided with a scoring marker that is slidably captive on the base along a row of scoring graduations.

A pair of parallel fingers on the launching lever are received in openings in the base. These fingers are spaced apart a distance less than the spacing between openings so that the fingers are squeezed together to fit into the openings. Protuberance on the base housing act to deter squeezing of the fingers together to disengage the pins.

3,525,319
SYRINGE OR DART TYPE PROJECTILE ADAPTER FOR CONVENTIONAL COMPRESSED GAS RIFLE
Robert B. Waldeisen, Hillsgrove, Pennsylvania
Filed Oct. 17, 1967, Ser. No. 675,953
Int. Cl. F41b *11/00*
U.S. Cl. 124—11 2 Claims

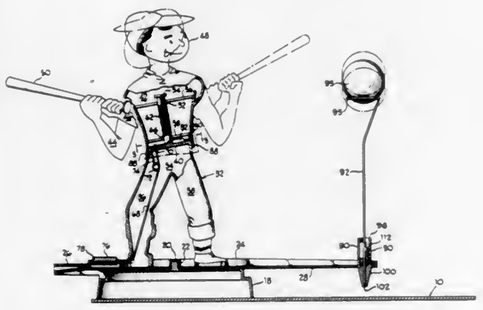
An adapter for allowing syringe or dart type projectiles to be fired from a conventional compressed gas rifle having a source of compressed air and trigger operated valve means for selectively delivering the same to the adapter, which adapter consists of a block having a receiver opening and a barrel carried by the block and having its bore opening into

the receiver opening. The receiver opening is fluid coupled to the trigger operated valve means and a magazine carrying a plurality of projectiles in separate receiving chambers is in-



sertably positioned within the adapter receiver opening with the projectile receiving chambers being selectively aligned with the barrel prior to firing.

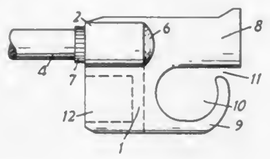
3,525,320
BATTING FIGURE FOR A SIMULATED BASEBALL GAME
Howard L. Dekan, Evanston, Illinois and Leonid Kripak, Villa Park, Illinois, assignors to Marvin Glass & Associates, Chicago, Illinois a partnership
Filed Aug. 17, 1967, Ser. No. 661,440
Int. Cl. A63f *7/10;* **F16b** *7/10;* **F16m** *11/28*
U.S. Cl. 124—16 **1 Claim**



A game apparatus for simulating baseball play including a toy figure of a batter with a rotatable upper torso section carrying a bat; a spring driver for rotating the torso and bat so that the bat strikes a ball held on an adjacent support; a playing board with indicia thereon depicting a baseball diamond; chance means for determining the advancement of the toy figure as a base runner; and playing pieces for marking such advancement. The ball support is vertically adjustable by means of a projection on a vertically movable rod which sits on a selected one of variable height shoulders in a base portion.

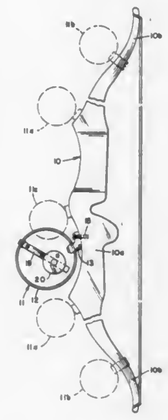
3,525,321
CATAPULT CORD ATTACHMENT DEVICE ON A PROJECTOR
Christian Drouineau, Marseille, France, assignor to Georges Beuchat, Marseille, France
Filed Sept. 6, 1967, Ser. No. 665,768
Claims priority, application France, Sept. 19, 1966, 21,574
Int. Cl. F41f *7/00*
U.S. Cl. 124—22 **1 Claim**

A catapult attachment for undersea hunting crossbows is equipped with threaded connection points for threaded cords and also with a gapped ring for looped cords so that it is possible to use either type cord or both types together to vary



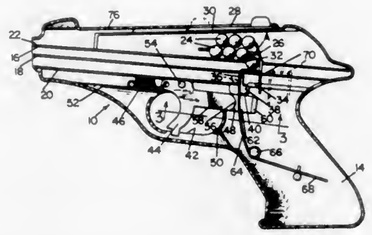
and select the force of the shot according to hunting conditions.

3,525,322
ARCHERY BOW WITH TUNING AND STABILIZING ELEMENT
Frank M. Lee, 1201 N. Tuckahoe St., Falls Church, Virginia
Filed Oct. 31, 1968, Ser. No. 772,075
Int. Cl. F41b *5/00*
U.S. Cl. 124—24 **7 Claims**



A torque ring adjustably secured at a selected point to an archery bow. A tuning bar has one end thereof universally adjustably secured to the torque ring and has a weight adjustably mounted thereon. The tuning bar is resiliently flexible for oscillation with the weight in any selected plane with respect to the plane of the bow, under shock transmitted from the bow to the torque ring.

3,525,323
TOY SPRING TYPE REPEATING PISTOL
Rene R. Carbonneau, West Boylston, Massachusetts, assignor to Ray Plastic Inc., Winchendon Springs, Massachusetts a corporation of Massachusetts
Filed Nov. 14, 1967, Ser. No. 682,791
Int. Cl. F41b *7/08*
U.S. Cl. 124—27 **3 Claims**

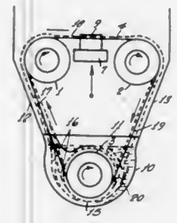


A toy repeating pistol for shooting pellets placed loosely in a magazine, the gun having a trigger which is retractable against a main spring for impelling the pellets held singly in the barrel by means of a flexible finger, the spring cutting off the entry of further pellets until such time as the trigger is pulled back, the trigger and spring having inter-engaging means with a releasing device whereby at a certain instant of stress on the spring it is automatically released to move forward under its own power to strike the pellet and move the same through the barrel past the flexible finger.

ERRATUM

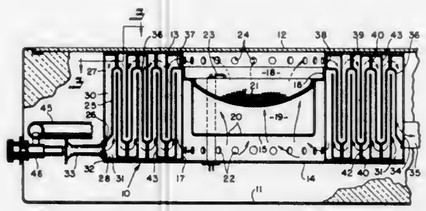
For Class 62—202 see:
Patent No. 3,525,222

3,525,324
MACHINES FOR SAWING SAMPLES OF BRITTLE MATERIALS
Jean Roger Bonnefoy, Montrouge, France and Bertrand Alain Dreyfus, Sevres, France, assignors, by mesne assignments, to Photocircuits Corporation, Glen Cove, New York a corporation of New York
Filed June 15, 1967, Ser. No. 646,392
Claims priority, application France, Dec. 27, 1966, 88,986
Int. Cl. B28d *1/08*
U.S. Cl. 125—16 **4 Claims**



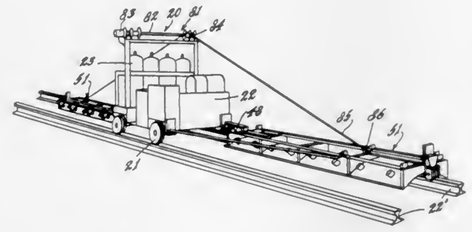
In a machine for sawing samples of brittle materials which acts by rubbing the samples with an array of metal wires against which they are placed while driven in an alternating lateral motion within an abrasive medium, said array being made from a wire which is wound several times over wire-guides having multiple grooves, the abrasive medium is placed within a tank wherein at least part of one of the said wire-guides is immersed whereby the said abrasive medium is continuously homogenized while being carried by the very turns of the array up to a sawing location in the machine.

3,525,325
HIGH PRESSURE GAS BURNER
Richard L. Perl, Mansfield, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio
Filed May 3, 1968, Ser. No. 726,487
Int. Cl. F24c *3/04*
U.S. Cl. 126—39 **2 Claims**



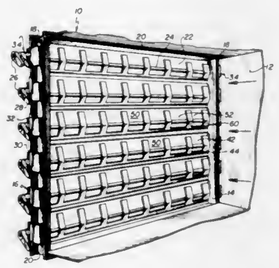
An infrared gas range burner assembly including a pump in the gas supply to substantially boost the line pressure, so that the burner is powered by such high gas pressure, with inspirated air. A stationary heat exchanger is included through which the supply and exhaust flow reversely to preheat the former and cool the latter.

3,525,326
CONTINUOUS WELDED RAIL HEATER
Charles D. Deal, Mohnton, Pennsylvania, assignor to Reading Company, Philadelphia, Pennsylvania a corporation of Pennsylvania
Filed Jan. 31, 1969, Ser. No. 795,490
Int. Cl. F23c *5/28;* **C21d** *1/08*
U.S. Cl. 126—271.2 **3 Claims**



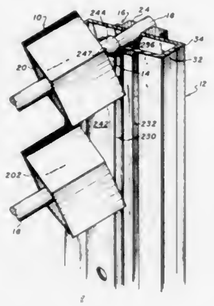
A continuous welded rail heater utilizing a plurality of propane burners projecting flames on opposite sides of the rail in such a way as to equalize the temperature, operating during continuous progression of the heater along the length of the rail, and guided on the rail. The liquid propane is vaporized by heat transfer from the heater guard to the liquefied propane tube. One heater is usually supported forwardly and one rearwardly of a propulsion vehicle, and the heaters at the ends remote from the vehicle are capable of being raised by hoists, permitting optional use of either one or both heaters at the same time.

3,525,327
DAMPER BLADE FOR HIGH DIFFERENTIAL TEMPERATURE SERVICE
Joseph C. Crudden, Dallas, Texas, assignor to Forney Engineering Company, Dallas, Texas a corporation of Texas
Filed July 16, 1968, Ser. No. 745,281
Int. Cl. F23l *13/08*
U.S. Cl. 126—285 **2 Claims**



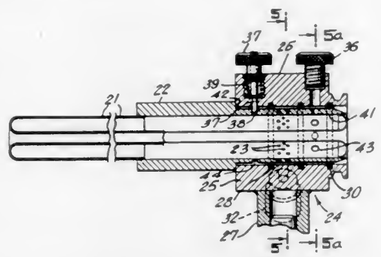
A high temperature damper construction for regulating the flow of hot gases through a duct opening which is exposed to exterior ambient conditions at a temperature substantially lower than the temperature of the hot gases within the duct. The damper construction includes an exterior blade which is exposed to the outer ambient conditions and an interior blade which is exposed to the hot gases. The interior blade is formed with openings and is spaced apart from the exterior blade to form an internal chamber for receiving the flow of hot gases.

3,525,328
DAMPER FLOATING SIDE RAIL BAR
Joseph C. Crudden, Dallas, Texas, assignor to Forney Engineering Company, Dallas, Texas a corporation of Texas
Filed July 16, 1968, Ser. No. 745,282
Int. Cl. F23l *13/00*
U.S. Cl. 126—285 6 Claims



A damper unit for regulating the flow of hot gases through a duct opening under high ambient temperature conditions. The damper blades are provided with a floating side rail arrangement to allow for lateral growth of the damper blades due to thermal expansion.

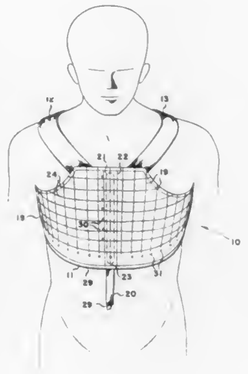
3,525,329
EVERTABLE, EXTENDIBLE PROBE
Harry S. Zeimer, Jerusalem, Israel and Ariel Simkin, Jerusalem, Israel, assignors to Prime Minister's Office of the State of Israel, Jerusalem, Israel
Continuation-in-part of application Ser. No. 474,404, July 23, 1965. This application June 10, 1966, Ser. No. 556,768
Claims priority, application Israel, June 16, 1965, 23,743
Int. Cl. A61b *1/00, 5/00*
U.S. Cl. 128—2 11 Claims



The specification describes a probe that may be used by a physician to explore body cavities. The probe may be a long, inwardly folded flexible tube, the ends of which are secured to the rim of an annular fitting adapted to be sealingly fitted to a fluid pressure distribution device, provided with fluid inlet and outlet ports. Fluid admitted to the pressure distribution device will enter the flexible probe and extend it into the body cavity to be examined.

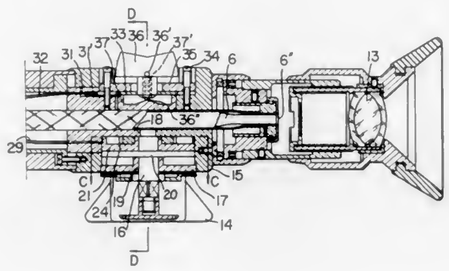
3,525,330
SURGICAL GARMENT PRESCRIPTION METHOD AND APPARATUS
Reginald E. Greene, Chamblee, Georgia, assignor to Lockheed Aircraft Corporation, Burbank, California
Filed Feb. 24, 1966, Ser. No. 529,685
Int. Cl. A61b *5/04*; A41d *1/04*
U.S. Cl. 128—2.06 7 Claims

Method and apparatus for prescribing the location on a vest-like garment of articles such as cardiological electrodes to facilitate fitting such articles onto a vest-like garment which supports and positions the articles with respect to the body of a wearer. A fitting garment is provided having a grid-like pattern over at least a portion of its outer surface. The fitting garment is worn by a prescribee and the grid coordinates of the desired electrode locations are noted. This grid location information is used to locate the point of attachment



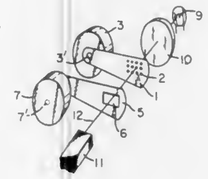
of electrodes on the vest provided for a user. A depending element is attached to the fitting garment so that this garment can be positioned with respect to the navel of the wearer to provide repeatability of measurement.

3,525,331
FLEXIBLE LIGHT TRANSMITTING INSTRUMENT AND FLEXIBLE TUBE FOR SAID INSTRUMENT
Toshiyuki Mori, Tokyo, Japan, assignor to Olympus Optical Co., Inc., Tokyo, Japan
Filed Aug. 4, 1965, Ser. No. 477,259
Claims priority, application Japan, Aug. 10, 1964, 39/62,841, 39/62,842
Int. Cl. A61B *1/06*
U.S. Cl. 128—6 3 Claims



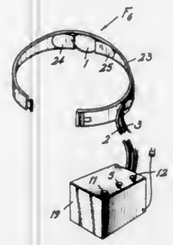
A flexible tube extends between a proximal, maneuvering end and a distal end. Within this tube runs a fiber bundle for the transmission of light. A lens is located at the distal end and the relative position of the lens and the fiber bundle at the distal end is controlled by a rope passing within a conduit tube from the maneuvering end to the distal end. The rope movement is stepwise between predetermined positions. Flexing of the flexible tube is achieved by a double-pawl ratchet device which controls at the maneuvering end the reciprocal movement of ropes passing clockwise and counterclockwise from a drum through the flexible tube to its distal end. Stable flexing is achieved in the tube by a flexible wire net covering of individual guide rings.

3,525,332
SHUTTER MECHANISM IN AN AUTOMATIC EXPOSURE CONTROL DEVICE OF AN ENDOSCOPE
Shinya Kosaka, Tokyo, Japan, assignor to Olympus Optical Co., Ltd., Tokyo, Japan a Japanese corporation
Filed April 30, 1968, Ser. No. 725,318
Claims priority, application Japan, Sept. 21, 1967, 42/80,170
Int. Cl. A61b *1/06*
U.S. Cl. 128—6 3 Claims



An automatic exposure control device for an endoscope having a light conducting fiber optical system which receives a light from an external light source comprising a photo-diagnosing light passing plate member having a plurality of apertures therein and adapted to displace between a position in which a reduced intensity light may pass through and another position in which a high intensity light may pass through; a photographing light passing plate member having a larger hole therein and adapted to displace between a position in which a high intensity light may pass through and another position in which no light may pass through; and a control circuit adapted to electromagnetically displace said two plate members between said two positions, respectively, thereby to control the exposure of said endoscope.

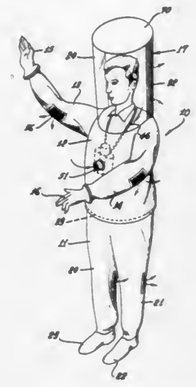
3,525,333
DEVICE TO STIMULATE PERISTALTIC MOVEMENTS
Samuel A. Mencaccl, 30 Ahornenlaan, Wilrijk, Belgium
Continuation-in-part of application Ser. No. 433,996, Feb. 19, 1965. This application Oct. 5, 1967, Ser. No. 673,108
Claims priority, application Belgium, Sept. 4, 1967, 47,164
Int. Cl. A61h *23/00*
U.S. Cl. 128—24.2 6 Claims



A device to stimulate peristaltic movements including a fluid filled bladder having inlet and outlet conduits, the latter comprising a valve operated at a desired frequency.

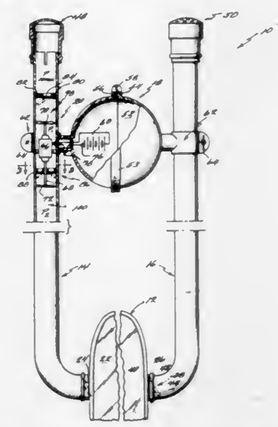
3,525,334
GARMENT ASSEMBLY
Richard J. Braman, 1520 Louise Ave., Arcadia, California and Robert D. Scott, 1324 S. Glen Alan, West Covina, California
Continuation-in-part of application Ser. No. 293,115, July 5, 1963, This application Apr. 7, 1966, Ser. No. 540,957
Int. Cl. A62b *7/00*
U.S. Cl. 128—142.5 10 Claims

A garment assembly useful in clean rooms and similar low contamination areas to prevent personnel carried contamination from entering the room is provided which includes suiting comprising a jacket, pants and a helmet and fitted thereto an air inflow means. An air outflow means occupies the



major rear area of the helmet comprising a sub-micron filter means impermeable to wearer-generated contamination, but permeable to air.

3,525,335
SHALLOW WATER BREATHING APPARATUS WITH AIR PUMP
Wilbern M. Freeman, 23 Rhyne Avenue, Winston-Salem, North Carolina
Filed Sept. 26, 1968, Ser. No. 762,809
Int. Cl. A62b *7/12*
U.S. Cl. 128—145 3 Claims

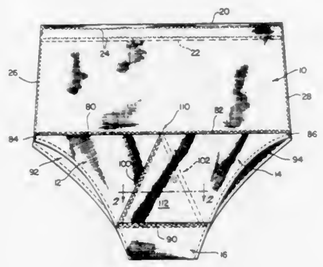


The underwater breathing apparatus for shallow depths comprises a mouthpiece or a face mask provided with flexible air intake and exhaust lines secured to a flotation member which supports the free ends of the intake and exhaust lines above the surface of the water. The intake line is provided with a pair of impellers for increasing the flow of air in the intake line and a plurality of check valves which divide the intake line into separate chambers and prevent the back flow of air within the intake line.

3,525,336
SUPPORT UNDERGARMENT
Louis Wadman, 58 Ferncroft Road, Waban, Massachusetts
Filed July 22, 1968, Ser. No. 746,622
Int. Cl. A61f *5/40*
U.S. Cl. 128—159 10 Claims

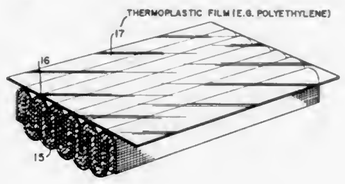
An undergarment includes a tubular elastic waist band portion. The lower part of the undergarment includes a pair

of front panels and a rear panel all of which are secured along the top edges thereof to the bottom edge of the waist band portion. The front panels include fly edges which diverge from one another in a downward direction with a portion of one front panel overlying a portion of the other



front panel. The bottom edges of each of the front panels are joined with the bottom edge of the rear panel, and the front and rear panels are joined along seam edges thereof. The front panels and the rear panel cooperate to define curved leg edges to define a pair of leg holes.

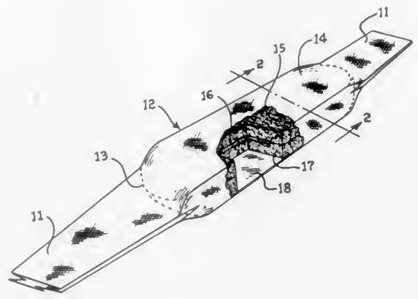
3,525,337
ABSORBENT ACCORDION PLEATED SHAPED PAD WITH BACKING SHEET
Richard C. Simons, Hendersonville, North Carolina and Howard A. Whitehead, Appleton, Wisconsin, assignors to Kimberly-Clark Corporation, Neenah, Wisconsin a corporation of Delaware
Filed Oct. 30, 1967, Ser. No. 678,927
Int. Cl. A61f *13/16*
U.S. Cl. 128—290 18 Claims



An absorbent element for sanitary napkins or the like consisting of an accordion-pleated pad formed from a thin layer of absorbent fibers faced on each side with sheets of absorbent cellulose wadding. The pleats are secured in their folded configuration by having the peaks of the folds on one side of the pad attached to an anchoring sheet.

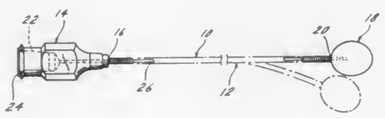
3,525,338
ABSORBENT PAD
Leo J. Bernardin, Appleton, Wisconsin, assignor to Kimberly-Clark Corporation, Neenah, Wisconsin a corporation of Delaware
Filed April 17, 1968, Ser. No. 722,004
Int. Cl. A61f *13/16, 15/00*
U.S. Cl. 128—290 5 Claims

An absorbent pad having a central element with exceptional ability to receive and hold absorbed liquid. The central element comprises a batt of glass microfibers in which the individual fibers have a diameter of less than about 0.75



microns. The remainder of the pad consists of conventional absorbent materials.

3,525,339
FLEXIBLE GAS ENDARTERECTOMY SPATULA
Janes C. Halligan, Fair Lawn, New Jersey, assignor to Becton, Dickinson and Company, East Rutherford, New Jersey a corporation of New Jersey
Filed May 20, 1968, Ser. No. 730,413
Int. Cl. A61b *17/00*
U.S. Cl. 128—303 3 Claims

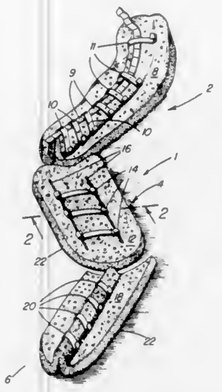


An instrument for use in gas endarterectomy procedures including a flexible cannula having one end adapted to receive a supply of gas and having a spatula at the opposite end. The spatula has a multiplicity of openings in the forward edge thereof in communication with the cannula bore, thus enabling gas to flow through the cannula and out the spatula. The flexibility of the cannula enables the instrument to be used on curved as well as straight sections of the vascular system.

3,525,340
SURGICAL DRESSING WITH SKIN CLIPS THEREON
Joseph G. Gilbert, 75 Barberry Lane, E. Hills, Roslyn Heights, New York
Filed Oct. 31, 1967, Ser. No. 679,365
Int. Cl. A61b *17/08*
U.S. Cl. 128—337 2 Claims

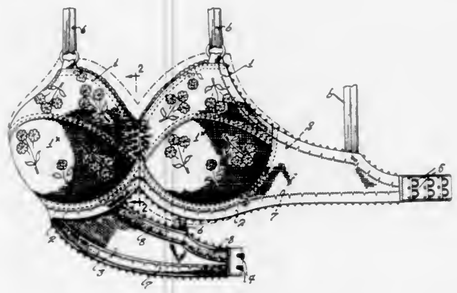
A surgical dressing is disclosed in which one side of a relatively thin, elastic and flexible substrate, such as of foam rubber is provided with surgical clips for simplified insertion thereof through the substrate into skin, for coaptation of edges of lacerations. This can be accomplished by simple manual pressure upon the clips. The substrate simultaneously serves as a means for mounting and for permitting simple insertion of clips, and also provides a dressing for the wound. Optionally, the side of the substrate which faces the wound can be provided with an adhesive coating constituted either of a conventional adhesive, or of a novel, pharmacologically active adhesive coating comprising a solution or residue of solution of 0.5—20 percent by weight, solids basis, of tannic

acid, 0.5—5 percent cinnamic alcohol, with the balance of solids being polyvinylpyrrolidone. The novel composition can



be employed in conjunction with substrates without the provision of surgical clips.

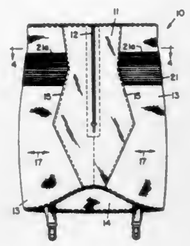
3,525,341
BRASSIERE
Sam Guberman, Bayonne, New Jersey and Raymond Pioli, Floral Park, New York, assignors to Maidenform, Inc., New York, New York a corporation of New York
Filed Feb. 13, 1968, Ser. No. 705,149
Int. Cl. A41c *3/00*
U.S. Cl. 128—493 1 Claim



A brassiere provided with means to overcome a condition when the wearer of a usual type of brassiere is relaxed, such brassiere at the top line tending to stay away from the chest wall, forming a gap, and the breasts not having a desired separation. Said means comprises an elastic-induced shirring of the brassiere fabric vertically in an area between the cups of the brassiere and extending from its upper margin downwardly to a termination at or below a line horizontally crossing the apex of each cup.

3,525,342
TORSO CONSTRICTING AND MOLDING GARMENTS
Joseph M. Kamin, Brooklyn, New York, assignor to Glamorise Foundations, Inc., New York, New York a corporation of New York
Filed March 6, 1968, Ser. No. 710,930
Int. Cl. A41c *1/00*
U.S. Cl. 128—547 9 Claims

A foundation garment such as a girdle, corselet, brassiere, etc., which has a non-elastic front panel and elastic side and back sections. An elastic control band extends around the entire circumference of the garment with exception of the front panel, the full length of the upper and lower edges of the control band being detached from the garment. The control band consists of side band members which are superposed on the outer surface of the side sections, and back

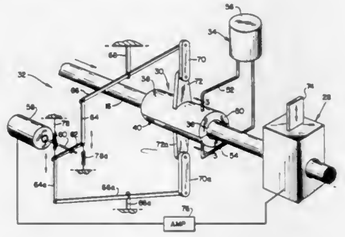


band member means underlying the inner surface of the back section.

ERRATUM

For Class 131—9 see:
Patent No. 3,525,582

3,525,343
APPARATUS FOR PRODUCING NON-FILTER CIGARETTES
George C. Wiles, Jr., 7206 Galax Road, Richmond, Virginia
Filed Oct. 5, 1967, Ser. No. 673,094
Int. Cl. A24c *5/00*
U.S. Cl. 131—24 5 Claims

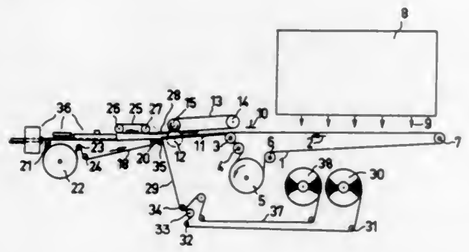


Non-filter cigarettes with water repellant, crush resistant ends (mouthpieces) produced by coating the mouthpieces with lecithin through the use of a stationary or travelling bar type coater including an applicator for applying a lecithin containing coating material to an elongated, multiple cigarette rod at locations spaced therealong, a dryer for drying the coating thus applied, and a cutting machine for severing the cigarette rod at the locations at which the coating material is applied.

3,525,344
METHOD AND APPARATUS FOR PRODUCING BUNCHES, CIGARS OR CIGARETTES
Dieter Neuber, Jakobsberg, Sweden, assignor to Arenco Aktiebolag, Stockholm-Vallingby, Sweden
Filed Oct. 8, 1968, Ser. No. 765,786
Claims priority, application Sweden, Oct. 30, 1967, 14,817/67
Int. Cl. A24c *1/26, 5/18*
U.S. Cl. 131—66 4 Claims

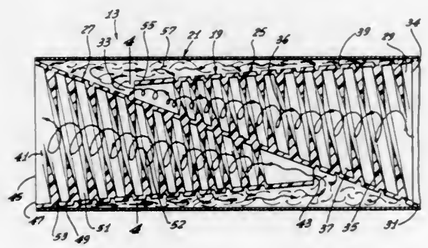
A method and a machine for producing a tobacco rod used in the manufacture of cigars, cigar bunches or cigarettes includes a hopper for tobacco to be used in the filler thereof, adapted to feed shredded tobacco or the like onto a filler conveyor whose width is twice that needed to produce a single rod. Excess tobacco is included in the filler stream as formed and the excess is removed by a rotating trimming knife located above and adjacent to the same. A circular

knife rotating on a horizontal axis is placed with the plane of the knife in the longitudinal axis of the filler stream at the downstream end thereof for cutting the same into two equal



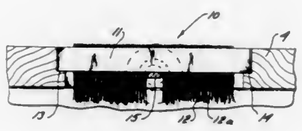
rod streams which are then separated slightly from each other, wrapped into a rod and finally formed or cut into individual units.

3,525,345
TOBACCO SMOKE FILTER
Walter Harris, 1843 Fox Hill Drive, Los Angeles, California
Filed Feb. 3, 1969, Ser. No. 796,016
Int. Cl. A24d *1/04*; A24f *1/16*
U.S. Cl. 131—261 7 Claims



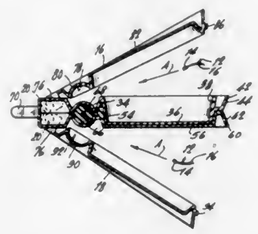
A tobacco smoke filter having overlapping first and second filter elements with an inlet passage and an outlet passage, respectively, through which the tobacco smoke can pass. The outlet of the inlet passage is spaced axially and radially from, and overlaps, the inlet of the outlet passage. The inlet passage converges as it extends towards its outlet, and the outlet passage diverges as it extends from its inlet. Conduit means interconnects the outlet of the inlet passage to the inlet of the outlet passage.

3,525,346
MEANS AND METHOD FOR MAKING HAIR PIECES
Victor A. Reeves, Philadelphia, Pennsylvania, assignor to Premi-Hair, Inc., Philadelphia, Pennsylvania a corporation of Pennsylvania
Filed Feb. 9, 1968, Ser. No. 704,486
Int. Cl. A41g *5/00*
U.S. Cl. 132—5 16 Claims



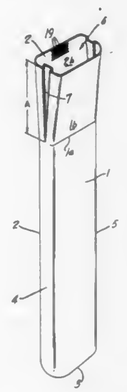
An apparatus for making hair pieces. A plurality of magnetized strips are arranged in a frame and hold the hair between successive strips. The hair is held in a flexible plastic base. A method of making hair pieces including positioning sets of strands of hair between adjacent magnetized strips and spraying liquid plastic over short ends of the hairs extending above the strips.

3,525,347
ELECTRIC FALSE EYELASH CURLER
Anthony N. D'Elia, 3555 Netherland Avenue, Riverdale, New York, and Edward M. Stolarz, R.F.D. 2 Horton Drive, Yorktown Heights, New York
Filed April 1, 1968, Ser. No. 717,650
Int. Cl. A45d *2/00*
U.S. Cl. 132—31 5 Claims



An eyelash curler comprising a body provided with a convex surface. The body has a chamber in alignment with the convex surface with heating means being provided in the chamber to heat the convex surface. At least one presser plate is hingedly secured to the body and has a concave presser head extending into and cooperating with the convex surface on the body for holding false eyelashes against the convex surface for curling the false eyelashes.

3,525,348
SHEATH FOR UMBRELLA
Heinz Seitel, Solingen-Ohligs, Germany, assignor to Telesco Brophey Limited, Montreal, Quebec, Canada
Filed Jan. 17, 1969, Ser. No. 792,104
Claims priority, application Germany, April 13, 1968, 1,757,240
Int. Cl. A45b *25/18*
U.S. Cl. 135—33 5 Claims

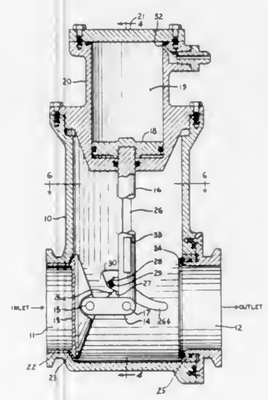


A carrying sheath for collapsible umbrellas having a flattened cross section. One end of the sheath defines an opening for permitting insertion of the umbrella into the sheath. The one end resiliently grips the umbrella when in the sheath.

3,525,349
CONTROL OF GYPSUM DEPOSITS FROM SUPERSATURATED GYPSUM SOLUTIONS
Paul R. Scott, Houston, Texas and Richard E. Christensen, Midland, Texas, assignors to Shell Oil Company, New York, New York a corporation of Delaware
No Drawing. Filed Aug. 19, 1968, Ser. No. 753,771
Int. Cl. C02b *5/00*
U.S. Cl. 137—1 7 Claims

A method of transporting supersaturated aqueous gypsum solutions through conduits such as pipelines without deposition of gypsum on the conduit walls thereby preventing plugging of the conduits, or removing such deposits from conduit walls by injecting into the conduit transporting supersaturated aqueous gypsum solutions, and maintaining therein a small amount of an aqueous sodium chloride solution.

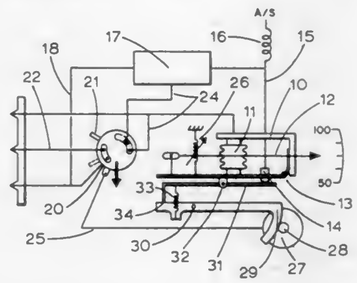
3,525,350
REUSABLE HERMETICALLY SEALED VALVE
William S. Hosek, Mount Tabor, New Jersey, assignor to Thiokol Chemical Corp., Bristol, Pennsylvania a corporation of Delaware
Filed July 12, 1968, Ser. No. 744,358
Int. Cl. F16k *13/04*
U.S. Cl. 137—68 7 Claims



This invention provides a hermetically sealed valve which can be reused as a valve because its closure poppet is automatically directed to a second seat unhampered by the torn edge of the ruptured hermetic seal. A large mechanical advantage is provided to break the hermetic seal and pressure and mechanical forces are combined to assist the sealing effect between the valve cover and second seat.

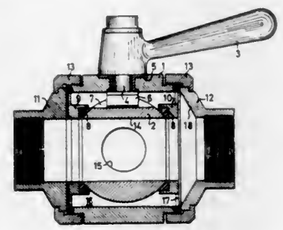
3,525,351
FLUID INSTRUMENT RECEIVER-TRANSMITTER
Hoel L. Bowditch, Foxboro, Massachusetts and George F. Williams, Riverside, Rhode Island, assignors to The Foxboro Company, Foxboro, Massachusetts a corporation of Massachusetts
Filed Nov. 1, 1968, Ser. No. 772,597
Int. Cl. F15b *5/00*
U.S. Cl. 137—85 7 Claims

For fluid instrument devices, a receiver-transmitter unitary assembly changeable by switch action from one to the other of the operative modes of receiver and transmitter in which both modes are operated through at least a part of the same nozzle-baffle device, wherein the receiver mode is fluid signal input to mechanical position, and the transmitter mode is mechanical position to fluid signal output. The receiver positionable device is a transmitter element in the transmitter mode. A clutching device is used to free a mechanical system



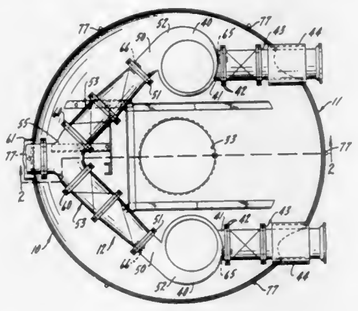
for the receiver mode, and to engage the mechanical system for the transmitter mode.

3,525,352
BALL VALVE
Willy Henry Jensen, Buddingevej 29c, Lyngby, Denmark
Filed Oct. 25, 1967, Ser. No. 677,986
Claims priority, application Denmark, Nov. 1, 1966, 5,673/66
Int. Cl. F16k *51/00*
U.S. Cl. 137—238 6 Claims



A valve having a valve body and a ball-shaped valve member rotatably supported therein, said valve member having an open and a closed position plus a cleaning position in which latter position there is a flow passage extending between the valve inlet and outlet and including the normal flow passage through the valve member as well as the space defined between the valve body and valve member.

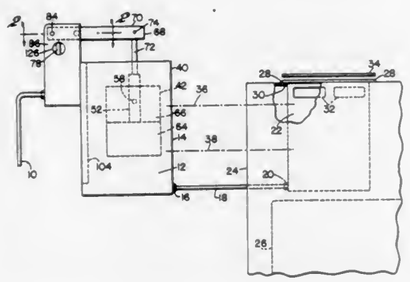
3,525,353
SEWAGE LIFT STATION STRUCTURE
John W. Parks, Overland Park, Kansas, assignor to Union Tank Car Company, Chicago, Illinois a corporation of Delaware
Filed Sept. 16, 1968, Ser. No. 759,947
Int. Cl. F16l *5/00*
U.S. Cl. 137—363 7 Claims



A sewage lift station construction wherein a vertically disposed, cylindrical housing for the lift equipment has a

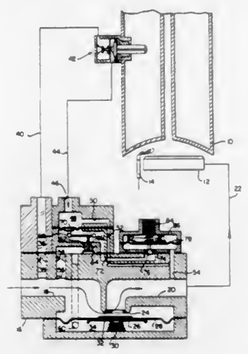
domed bottom which provides its own support in compressive stress under external load. The lift equipment is supported within the housing on four column members pinned in pivotal relationship at their upper ends to the equipment and welded in suitable angular relationship at their lower ends to the inner surface of the domed floor. A plurality of yieldable support legs for the housing below the floor are designed to fail individually under load prior to failure of the housing itself.

3,525,354
LIQUID LEVEL CONTROL DEVICE
Bloys D. Parrish, 1012 Matthews Drive, Cincinnati, Ohio
Filed Aug. 7, 1968, Ser. No. 750,993
Int. Cl. F16k *31/24*
U.S. Cl. 137—421 13 Claims



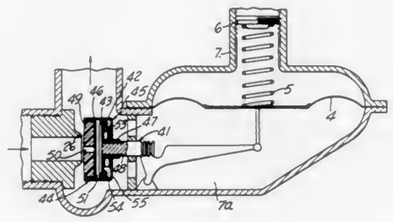
The liquid level control device includes a float having a variable ballast, and means cooperating therewith to minimize movement and wear of a liquid inlet valve which controls a flow of liquid to a float tank and an auxiliary tank connected thereto. The inlet valve never operates in a cracked condition such as might wear and injure the seats thereof, and no small orifices subject to clogging are employed. All vital parts are protected from atmospheric dirt and other foreign substances.

3,525,355
FLOW CONTROL APPARATUS
Jay R. Katchka, Long Beach, California, assignor to Robertshaw Controls Company, Richmond, Virginia a corporation of Delaware
Filed Oct. 13, 1967, Ser. No. 675,099
Int. Cl. F16k *31/365*
U.S. Cl. 137—489 4 Claims



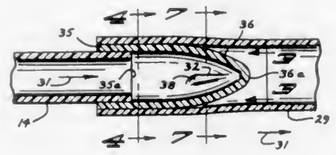
Flow control apparatus having an external bleed path and an internal bleed path and wherein a main stream of flow is controlled in response to the pressure of the flow in the internal bleed path which flow is controlled in response to the pressure of the flow in the external bleed path.

3,525,356
PRESSURE REGULATOR
Dwight N. Johnson, 325 N. Bel Air, Anaheim, California and Albert R. Cameron, 10121 Cutty Sark Drive, Huntington Beach, California
Continuation-in-part of application Ser. No. 509,488, Nov. 24, 1965. This application Oct. 18, 1968, Ser. No. 768,619
Int. Cl. F16k *31/12*
U.S. Cl. 137—505.15 5 Claims



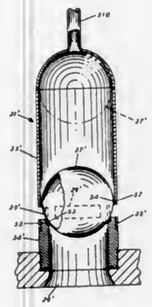
A pressure regulator of the spring loaded diaphragm type has a chamber on one side of the diaphragm provided with an inlet and an outlet. A valve at the inlet has relatively movable parts, one of which is moved by the diaphragm. A movable element on one of the valve parts employs a calibrated spring to permit movement of the element to compensate for the change in force of the diaphragm spring, due to a change in operating position of the diaphragm, brought about by an increase in inlet pressure.

3,525,357
PUMP VALVE APPARATUS
William R. Koreski, Rochester, Minnesota, assignor to The Waters Company, Rochester, Minnesota a corporation of Minnesota
Filed Nov. 18, 1968, Ser. No. 776,345
Int. Cl. F16k *15/14*
U.S. Cl. 137—516.11 13 Claims



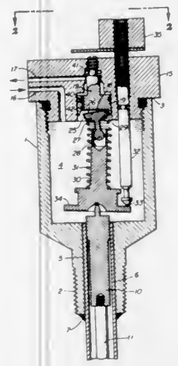
Pump valve apparatus including a pump for cyclically forcing liquid through lines and tricuspid type valves mounted in the lines for restricting flow through a line in one direction. Each valve is made of flexible plastic material and has a somewhat conical section extending forwardly of the tubular section in the direction of desired flow. Each conical section has a plurality of circumferentially spaced slits elongated in a direction toward the tip and an interior thickened portion adjacent each slit to provide a sturdy base against which the thin wall portion that in part defines the slit rests in a valve closed position.

3,525,358
RELIEF VALVE SYSTEM FOR VESSELS UNDERGOING INTERMITTENT EXPLOSIONS
Milton Ludwig, Berkeley, California, assignor to California Research Corporation, San Francisco, California a corporation of Delaware
Original application July 16, 1964, Ser. No. 383,195, now Patent No. 3,417,776, dated Dec. 24, 1968. Divided and this application Aug. 15, 1968, Ser. No. 763,045
Int. Cl. F16k *15/04*, *17/02*
U.S. Cl. 137—529 2 Claims



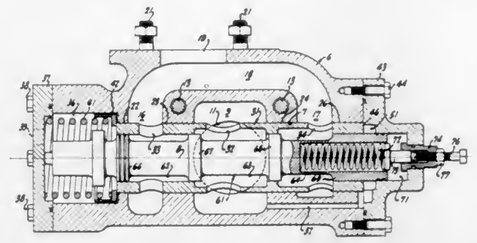
Fluid pressure acting on a portion of a spherical relief valve provides the seating bias for the valve. Another portion of the valve is subjected to explosion created pressure changes which cause the valve to open against the seating bias.

3,525,359
RANGE ADJUSTMENT FOR A TILTING VALVE WITH A FLOATING LINK OPERATOR
Edward H. Short, III, Tulsa, Oklahoma, assignor to Combustion Engineering, Inc., New York, New York a corporation of Delaware
Filed June 21, 1968, Ser. No. 738,961
Int. Cl. F16k *31/52*, *1/16*
U.S. Cl. 137—553 3 Claims



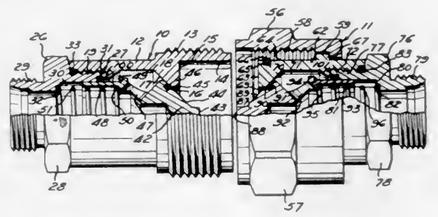
A tilting valve is actuated by linkage responsive to temperature. The valve tilts on a seat to vary a passage opening for fluid whose supply influences the temperature condition. The passage opening is positioned relative the pivot point on the seat to vary the proportion of the range of the tilt of the valve and the range of the passage opening sizes.

3,525,360
LUBRICATING OIL CONTROL VALVE
Ray M. Bacchi, Oakland, California, assignor to De Laval Turbine Inc., a corporation
Filed Sept. 30, 1968, Ser. No. 763,719
Int. Cl. F16n *7/40*
U.S. Cl. 137—563 8 Claims



An engine lubricating oil control valve has a housing with a bore with which communicate an inlet port from an oil pressure pump and outlet ports either side of the inlet port, the outlet ports being open to a sump and there being lands either side of both outlet ports. A sleeve slidable in the bore is ported like the housing, is urged in one direction by a control spring and oil pressure in an engine oil distributing conduit, and is urged in the opposite direction by inlet oil pressure. A spool slidable in the sleeve and having grooves defining lands controlling the sleeve ports is urged in the opposite direction by a regulating spring and sump oil pressure and is urged in the one direction by oil pressure in the engine oil distributing conduit.

3,525,361
QUICK DISCONNECT COUPLING
William G. Cerbin, Willowick, Ohio and James R. Jeromson, Jr., Willoughby, Ohio, assignors to The Weatherhead Company, Cleveland, Ohio a corporation of Ohio
Filed Dec. 11, 1967, Ser. No. 689,360
Int. Cl. F16 *29/00*
U.S. Cl. 137—614.04 4 Claims



A valved fluid coupling in which each member has an axially sliding poppet. These poppets engage each other to open when the coupling members are connected together. When open, the axially sliding poppets force each other against resilient elastic stops which positively restrain the poppets against further axial movement.

3,525,362
RACK AND PINION STEERING GEAR
Walter Henry Briggs, Severnstoke, Worcestershire, England, and Benjamin Ward, Rednal, near Brimingham, England, assignors to Burman & Sons Limited, Birmingham, England
Filed April 22, 1968, Ser. No. 723,145
Claims priority, application Great Britain, May 8, 1967, 21,329/67
Int. Cl. F15b *9/10*; F16k *11/12*
U.S. Cl. 137—625.24 1 Claim

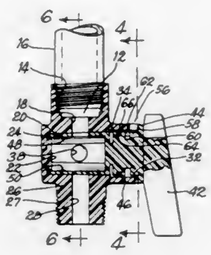
A rack and pinion steering gear of the kind having hydraulically actuable means for assisting operation of the gear

wherein there is provided a control valve for said means, said control valve comprising a pair of co-axial valve members which are interconnected by a torsion bar, one valve member



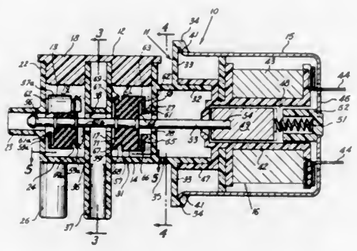
being rotatable in use by the driver of the vehicle in which the steering gear is mounted and the other valve member being connected to the pinion of the steering gear.

3,525,363
MEANS FOR CONTROLLING THE DIRECTION OF THE FLOW OF A LIQUID OR FLUID THROUGH A SELECTED OUTLET
William C. Gore, Elgin, Illinois and Eugene B. Shapiro, Highland Park, Illinois, assignors to Chicago Specialty Manufacturing Company, a corporation of Illinois
Filed Aug. 2, 1968, Ser. No. 749,700
Int. Cl. F16k *5/16*
U.S. Cl. 137—625.47 **10 Claims**



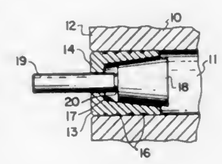
The device includes a housing within which is supported a manually rotatable member, with the housing having a plurality of outlets so that by manually rotating the rotatable member the liquid or fluid can be discharged through the selected outlet. It has particular application to bathroom showers, although it is not limited thereto.

3,525,364
CONTROL VALVE ASSEMBLY
Delbert E. Esche, Westland, Michigan, assignor to McCord Corporation, Detroit, Michigan a corporation of Maine
Filed Sept. 4, 1968, Ser. No. 757,348
Int. Cl. F16k *31/06, 11/04*
U.S. Cl. 137—625.65 **8 Claims**



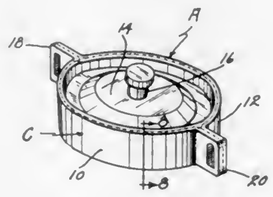
The valve assembly has application for use in the control of vehicle vacuum door locks, headlamp shutters and other utilization devices that require in their operation alternate applications of sub-atmospheric and atmospheric pressures. A valve housing is formed with a pair of adjacent chambers that are separated by a dividing wall that has a transverse passage therethrough connectible intermediate its ends with a source of sub-atmospheric pressure. Each sidewall of the chamber opposite the dividing wall has a transverse passage that is open to the atmosphere, is substantially equal in diameter to the sub-atmospheric passage and is arranged in coaxial alignment with the sub-atmospheric passage. Each chamber additionally is fluid connected with the utilization device that is to be controlled. An operating rod extends in a spaced relation through all of the passages and is mounted at one end on the plunger of a solenoid unit that is carried on the valve housing. Mounted on the rod in coaxial alignment therewith and located in each chamber is a rubber valve member of a cylindrical shape. Each end of the body portion of a valve member is formed with an annular seating section that has a diameter greater than the diameter of the transverse passages and is spaced axially outwardly from the body portion within the transverse confines thereof. Each seating section is connected to the body portion by an annular neck portion that extends axially of the body portion so that a seating section is yieldably movable axially of the body portion. The outer side surface of a seating section is reversely tapered to form an annular apex portion that points toward an adjacent side wall of a chamber means. On movement of the operating rod to either one of two positions in response to the actuation of the solenoid unit the valve members are moved to corresponding positions providing for a sub-atmospheric pressure in one chamber concurrently with the venting to the atmosphere of the other chamber.

3,525,365
EXPANSION PLUG
John W. Meulendyk, Kalamazoo, Michigan, and Robert F. Boyle, Parchment, Michigan, assignors to Pneumo Dynamics Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Oct. 17, 1966, Ser. No. 587,137
Int. Cl. F16l *55/12*; **B65d** *39/12*
U.S. Cl. 138—89 **7 Claims**



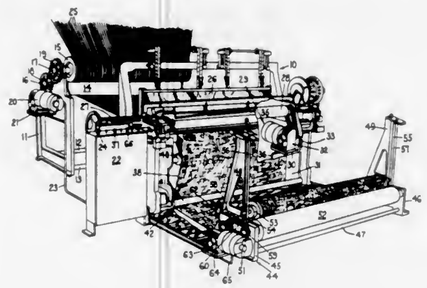
A pre-assembled cylindrical plug with a tapered bore and expander to be placed in the end of a passage or opening and fixed by holding an end of the plug while pulling outwardly on the expander, the latter having a stem for such pulling which is removed by breaking at an inner end. The plug can have adjusting screw extension which adjustably threaded in a body part and then locked by the expansion of the plug.

3,525,366
PIPE CAP
Joseph H. De Frees, 414 Liberty St., Warren, Pennsylvania
Filed July 12, 1968, Ser. No. 744,467
Int. Cl. F16l *9/00*
U.S. Cl. 138—109 **12 Claims**



A pipe cap formed by bending two elongated flat metal blanks into circular halves, joining the halves together to form a circular collar, cutting threads in the interior longitudinal wall of the collar, and securing a cap to the collar to form the finished pipe cap. In one form of the invention all parts are welded together. In another form, the cap is secured to the collar by fusible solder to form a fusible pipe cap.

3,525,367
LOOM TENSION CONTROL APPARATUS
Frederick L. Sprague, Hopedale, Massachusetts, assignor to North American Rockwell Corporation, Pittsburgh, Pennsylvania a corporation of Delaware
Filed Jan. 6, 1969, Ser. No. 789,276
Int. Cl. D03d *49/06, 49/20*
U.S. Cl. 139—1 **5 Claims**



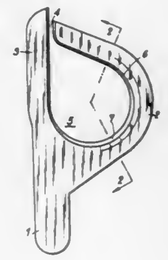
A tension control apparatus including means for selectively controlling the linear rate of warp yarns fed into a loom with cooperating mechanisms for maintaining automatically a predetermined amount of tension on the warp yarns and fabric formed thereby in the weaving area through to the wind-up of said fabric.

3,525,368
METHOD AND APPARATUS FOR WEAVING MEMORY BRAIDS
Jonathan J. Sirota, Brookline, Massachusetts, assignor, by mesne assignment, to Memory Technology Inc., a corporation of Massachusetts
Filed Oct. 22, 1965, Ser. No. 502,249
Int. Cl. D03c *19/00*
U.S. Cl. 139—55 **6 Claims**



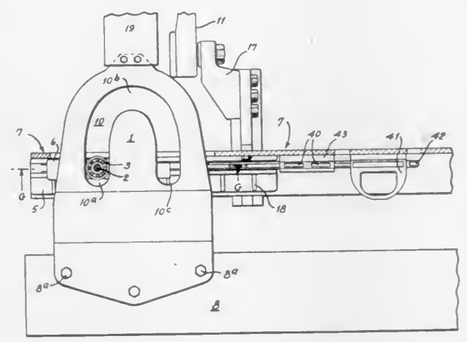
Apparatus and method for justifying type composition including a syllabification memory, and a woven read-only memory and an apparatus and method of forming such woven memory. A proposed line is sensed, and character widths are noted. When a last word oversets a line, it is determined whether the line can be justified by space-band expansion. A hyphenation memory contains syllabification information including root words representing a vocabulary and comprises magnetic cores threaded by wires representing words. Woven memory braids are formed by reading paper tape to control the positions of heddles on a loom.

3,525,369
CONDENSER BLADE FOR AIR JET LOOMS
Karel Vystrčil, Brno, Czechoslovakia and Josef Nespečhal, Brno, Czechoslovakia, assignors to Vyzkumny a vyvojovy ustav zavodu vseobecneho strojirenstvi, Brno, Czechoslovakia
Filed Sept. 17, 1968, Ser. No. 760,170
Int. Cl. D03d *47/30*
U.S. Cl. 139—127 **6 Claims**



A guide member to be used in a condenser assembly of an air jet loom having a substantially ring-shaped configuration with inner and outer peripheral surfaces and formed with a slot extending therebetween, so that it can be separated from the weft. The inner peripheral surface of the guide member at a location opposite the slot being provided with a configuration adapted to brake the movement of air therethrough and thus balance the air stream with respect to the slot.

3,525,370
APPARATUS FOR ACTUATING SHUTTLES IN A MULTI-SHUTTLE LOOM
Mikko Kiema, Turku, Finland, assignor to Kutomo & Punomo Osakeyhtio, Turku, Finland a corporation of Finland
Continuation-in-part of application Ser. No. 597,818, Nov. 29, 1966. This application Nov. 26, 1968, Ser. No. 779,105
Int. Cl. D03d *35/00*
U.S. Cl. 139—136 **6 Claims**

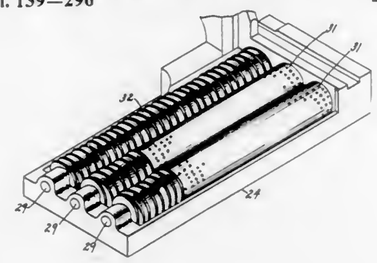


An apparatus for actuating shuttles in a multi-shuttle loom in which a guide plate having a U-shaped slot cooperates with a pin secured to a rack and pinion driving mechanism to give shuttles a reciprocating movement with respect to the batten of a loom by converting forces acting in the direction of movement of the batten into forces in a perpendicular direction to the batten's movement.

3,525,371
TEMPLE ROLLS

Owen E. Hux, Roanoke Rapids, North Carolina and Floyd A. Stokes, Sr., Roanoke Rapids, North Carolina, assignors to J. P. Stevens & Co., Inc., New York, New York a corporation of Delaware

Filed Feb. 19, 1968, Ser. No. 706,244
Int. Cl. D03j 1/22
U.S. Cl. 139—296 2 Claims

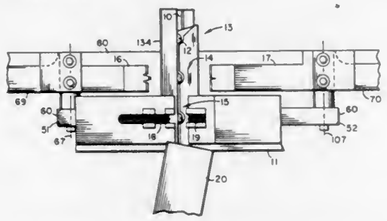


A loom temple assembly for gripping the selvage edges of a fabric as it is being drawn from the fell line of a loom comprising at least two rotatable temple rolls, at least one of which comprises a solid, resilient, unburred member having helical grooving over its entire surface, said unburred member being positioned adjacent to at least one other composite temple roll, said composite roll being a rigid member spirally burred from one end for a substantial portion of its length, the remainder of the roll's length extending to the other end being a helically grooved, resilient member.

3,525,372
AUTOMATIC FABRICATION MACHINES

John C. Haven, Phoenix, Arizona, assignor to Motorola, Inc., Franklin Park, Illinois a corp. of Illinois

Filed April 8, 1968, Ser. No. 719,561
Int. Cl. B21f 1/02
U.S. Cl. 140—147 11 Claims



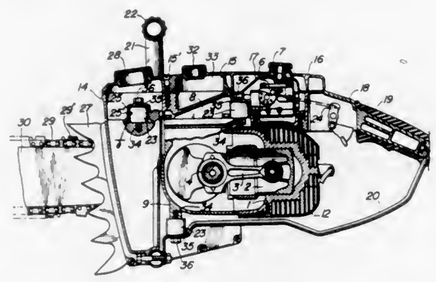
A cyclically operable fabrication machine having two work stations along a single unit-feeding track that transports electrical units with leads extending in a first direction. The stations have successively operated work-performing members acutated by a single power-transfer assembly. Both stations are mounted on the same opening and closing power-transfer members. When an electrical unit is in each station, the leads of the unit in the second station are formed in the first part of the cylce while the unit leads in the first station are combed during the second or over-travel portion of a machine cycle. Semiconductor unit-transfer means index the electrical units through the two work stations. The first station has a pair of lead combs which comb the unit leads in a sweeping manner.

3,525,373
CHAIN SAW

Torao Kobayashi, Tokyo, Japan, assignor to Kyoritsu Noki Co., Ltd., Tokyo, Japan a Japanese corporation

Filed Oct. 9, 1967, Ser. No. 673,700
Claims priority, application Japan, Dec. 10, 1966, 41/80,637
Int. Cl. B27b 17/02
U.S. Cl. 143—32 4 Claims

A chain saw in which an engine having a saw chain and a guide plate mounted thereon is combined with a machine frame comprising in a unitary form a fuel tank, oil tank, main handle and auxiliary handle, through the intermediary of

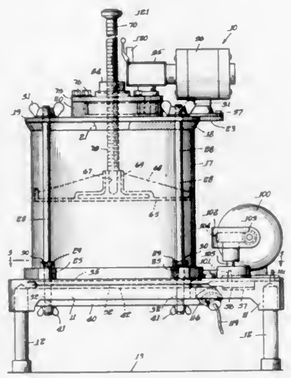


shock-absorbing members, whereby vibration of the engine is prevented from being transmitted to the handles.

3,525,374
PIZZA MEAT DISPENSER

Clifford E. Fitch, 279 Homewood Court, Chicago Heights, Illinois and Clifford E. Fitch, Jr., 38 W. 23rd St., Chicago Heights, Illinois

Filed Feb. 8, 1968, Ser. No. 704,119
Int. Cl. A22c 17/00; B02c 18/36
U.S. Cl. 146—62 20 Claims



A pizza meat dispenser includes a hopper or the like for containing pizza meat, a dispensing means associated with the hopper for extruding pizza meat from the hopper and severing the extruded pizza meat, and means such as a plunger in the hopper for forcing pizza meat from the hopper through the dispensing means. The pizza meat dispenser may be readily disassembled for cleaning and sanitation purposes. The dispensing means includes a mold plate, a shear plate and a knife plate therebetween, all having holes in alignment when the knife plate is in one position. The plunger is moved by a lead screw and nut means driven by a first motor. A second motor reciprocates the knife plate. The first and second motors are driven in timed relation to provide the aforementioned extrusion and severing of the pizza meat. The dispensing means is heated to prevent the lard and tallow of the pizza meat from sticking thereto.

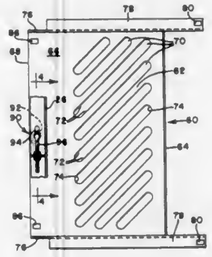
3,525,375
FORAGE HARVESTER RECUTTER SCREEN

Robert Albert Heising, Bloomfield, Iowa and John Joseph Hennen, Ottumwa, Iowa, assignors to Deere & Company, Moline, Illinois a corporation of Delaware

Filed Aug. 12, 1968, Ser. No. 751,947
Int. Cl. A01d 55/18
U.S. Cl. 146—117 8 Claims

A pull-type forage harvester has an axially transverse rotary reel-type cutterhead with helical knives which register

with a shear bar at the front of the cutterhead housing to reduce the crop being fed rearwardly into the housing over the shear bar. A removable arcuate screen is placed over the rearwardly and downwardly directed discharge opening closely adjacent to the cutterhead and has a number of elon-



gated diagonal slots canted relative to the cutterhead knives. The rotating knives force the crop through the slots to further reduce it and a transverse auger collects the crop forced through the screen and delivers it to a blower-type discharge elevator.

3,525,376
RECEPTACLE AND DISPLAY PACKET

Fritz Muhlhauser, 544 N. Paulina St., Chicago, Illinois

Filed Jan. 17, 1969, Ser. No. 792,113
Int. Cl. B65d 5/50, 65/02, 73/00
U.S. Cl. 150—52 10 Claims

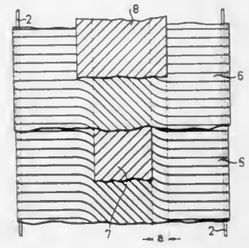
A receptacle and display packet formed of a flexible material which may be rolled up and which is provided with spaced hooking means to which are applied jewelry carrying members which have cooperating means detachably engaging the hooking means whereby the jewelry is supported on the jewelry carrying member and whereby the carrying member may be detachably secured to the hooking means with the jewelry supported thereon.

3,525,377
PNEUMATIC VEHICLE TIRE

Hans Menell, Ahlem, Germany and Günter Johannes, Hannover-Herrenhausen, Germany, assignors to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany

Filed Feb. 16, 1968, Ser. No. 706,016
Claims priority, application Germany, Feb. 17, 1967, C 41,532
Int. Cl. B60c 5/00, 9/00, 11/00
U.S. Cl. 152—361 8 Claims

A pneumatic vehicle tire having at least one group of two reinforcing insert layers in superimposed relationship to each other and comprising strength carrying means in the form of parallel thread means extending from bead core to bead core through the side walls of the tire and the tread strip zone radially inwardly of the tread strip while those portions of said thread means which are located in said side walls extend at an approximately right angle to the circumferential direction of the tire, whereas those portions of said thread means which are located within said tread strip zone form an acute angle with the circumferential direction of said tire, and a plurality of zenith layers comprising thread means and being arranged radially inwardly of said tread strip while extending over the width of said tread strip. At least one of the

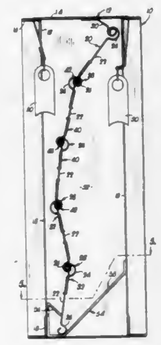


said zenith layers is located between the two reinforcing insert layers of a group of reinforcing insert layers, the thread means of those reinforcing insert layers which pertain to one and the same group having all of their thread portions within the tread strip area extending at substantially the same acute angle with regard to the circumferential direction of the tire whereas the thread means of said zenith layers describe opposite acute angles with the circumferential direction of the tire.

3,525,378
DAMPER CONSTRUCTION AND SPRING

James R. Root, Independence, Missouri, assignor to Ruskin Manufacturing Company, Kansas City, Missouri a corporation of Missouri

Filed May 17, 1968, Ser. No. 729,995
Int. Cl. E05d 7/10; E06b 3/32
U.S. Cl. 160—1 9 Claims



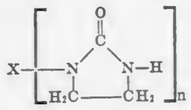
A folding blade damper comprising a rectangular frame and an assembly of blades hingedly interconnected along longitudinal marginal edges by tubular hinge elements. A torsion spring is interposed between each interconnected pair of blades to resiliently urge the blades from a folded to an unfolded, flow blocking position across the frame. The torsion spring comprises an initially straight wire component bent upon itself to present a pair of elongated torsion elements received in the tubular hinge, and integral hook structure on each element and secured to a respective blade to exert a torque between said blades.

3,525,379
FOUNDRY COMPOSITIONS, CORES AND METHOD OF MAKING SAME

Calvin Keith Johnson, Palos Heights, and David Ray Armbruster, Addison, Ill., assignors to CPC International Inc., a corporation of Delaware

No Drawing. Filed Apr. 18, 1968, Ser. No. 722,210
Int. Cl. B22c *9/12, 1/22*
U.S. Cl. 164—16 **13 Claims**

Self-supporting, handleable foundry cores are made by a process which comprises coating sand or other refractory material with a mixture of a curing catalyst and a resin binder of resorcinol resins, phenolic resorcinol resins, or certain ethylene urea terminated resins characterized by the formula:

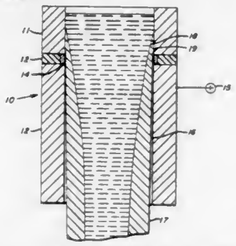


wherein X is an organic structure having a molecular weight between about 100 and 5,000 and *n* is greater than 1. The coated sand is then shaped into a foundry core and contacted for about 2 to about 60 seconds at room temperature or above with an aldehyde containing gas. Such contact cures the resin binder and thereby forms a strong and useable foundry core.

3,525,380
MOLD AND METHOD FOR INCREASING THE RATE OF HEAT ABSTRACTION FROM A CONTINUOUS CASTING

Michael R. Moore, Monroeville, Pa., assignor to United States Steel Corporation, a corporation of Delaware

Filed Mar. 27, 1968, Ser. No. 716,642
Int. Cl. B22d *27/02, 11/02*
U.S. Cl. 164—48 **1 Claim**



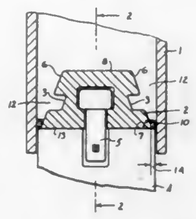
A non-uniform (i.e., converging or diverging) electric field of high intensity is applied across the air gap between a continuous casting and the mold in which it is formed, caused by contraction of the casting from the mold wall as a result of cooling. The mold is formed in two parts, an upper portion which is in contact with the continuous casting and therefore grounded, and a lower portion which is insulated from ground, charged to a high-voltage and separated from the continuous casting by the air gap. The non-uniform field between the lower mold portion and grounded continuous casting causes increased movement of the molecules in the gap and this increases the rate of convection.

3,525,381
WITHDRAWAL HEAD FOR CONTINUOUS-CASTING MOULDS AND METHOD OF USING SAME

Frederick John Leese, Stoke-on-Trent, and William H. Summers, Hampton Hall, near Malpas, England, assignors to Concast AG, Zurich, Switzerland

Filed Mar. 25, 1968, Ser. No. 715,694
Claims priority, appplication Switzerland, Apr. 6, 1967, 4,901/67
Int. Cl. B22d *11/08*
U.S. Cl. 164—82 **14 Claims**

A withdrawing head for plugging a rectangular continuous-casting mould at the start of casting is in the form of a truncated pyramid having four inclined sides with transverse recesses formed in opposite side faces. The base is slightly smaller than the cross section of the

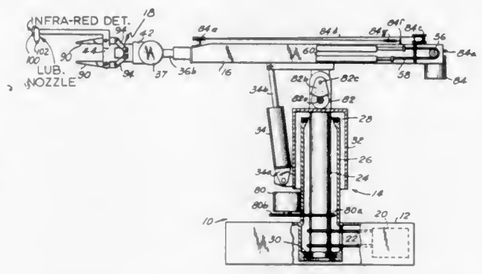


mould and is placed in the mould with the inclined sides extending up into the mould, suitable sealing material being packed around the base.

3,525,382
PROGRAM-CONTROLLED EQUIPMENT

George C. Devol, 990 Ridgefield Road, Wilton, Conn. 06897

Filed Oct. 26, 1967, Ser. No. 678,340
Int. Cl. B22c *19/04;* **B22d** *47/00;* **B29c** *3/06*
U.S. Cl. 164—154 **14 Claims**



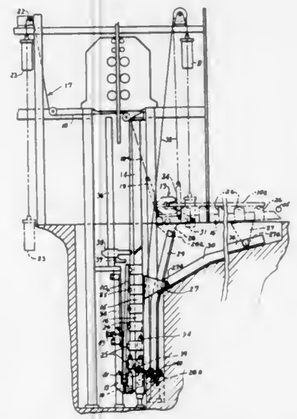
The present invention relates to automatic apparatus for servicing the cavity of die-casting machines, forging machines and the like, after each casting or forging cycle, to prepare the die or cavity for the ensuing cycle by clearing it, inspecting it to be sure it is empty, and coating it with lubricants or release agents. One particular aspect of the invention relates to automatic apparatus for treating a casting cavity with controlled amounts of a release agent or lubricant. More generally, this aspect of the invention relates to controlled treatment of various objects with fluids, as by coating an article with paint and sealant, and by applying spots and strips of glue in controlled amounts and at controlled areas. In the discussion that follows, there is specific mention of die-casting machines to which several features of the invention have special application; but that discussion is intended as illustrative, as to features of the invention that have general application.

3,525,383
APPARATUS FOR TRANSFERRING A CASTING FROM VERTICAL TO HORIZONTAL POSITION

Karl-Heinz Golde, Ratingen, Germany, assignor to Schloemann Aktiengesellschaft, Dusseldorf, Germany, a company of Germany

Filed May 7, 1968, Ser. No. 727,302
Claims priority, application Germany, May 10, 1967, 1,558,309
Int. Cl. B22d *11/12*
U.S. Cl. 164—263 **9 Claims**

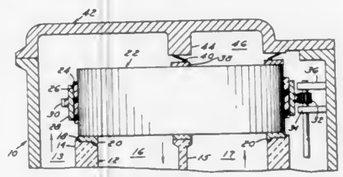
A vertically movable first carriage is adapted to receive and support the lower end of a continuous casting that moves down in vertical alignment. A second carriage having an elongated bed to support a section severed from the casting is movable from a first position, in which its bed is adjacent and approximately parallel to the vertical path of movement of the first carriage, to a second position, in which its bed is approximately horizontal. A severing device is arranged to sever a lower end section from the casting which is supported on the first carriage, and means is provided to support the severed end section on the first carriage as the first carriage moves down to a position adjacent the lower end of the second carriage when the latter is in its first position. A tilting device is then operable to tip several sections so that its upper portion leans on the bed of the second carriage. When the first carriage is adjacent the lower end of the second carriage and the latter is in its first position, a lever is operable to slide a latch pin on the first carriage for latching, or unlatching, the first carriage to the second. The first carriage is moved up and down by a driven chain or cable hoist connected in such a way as to be operable also to move the second carriage when the carriages are latched together and the hoist is operated to lift the first carriage. Each carriage is also counterbalanced by its own counterweight, the counterweights for the respective carriages being arranged to act in concert when the two carriages are latched together.



3,525,384
GAS TURBINE HEAT EXCHANGING SYSTEM USING AN ELASTOMERIC PAD FOR TORQUE TRANSMISSION

Emmett J. Horton, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Aug. 29, 1968, Ser. No. 756,132
Int. Cl. F28d *19/04;* **F16h** *55/12, 55/14*
U.S. Cl. 165—7 **6 Claims**

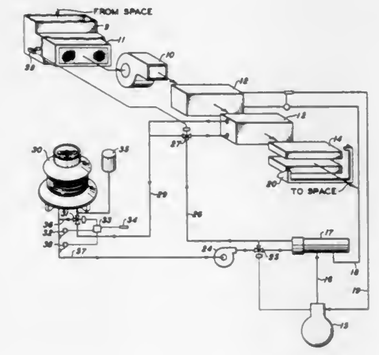


An annular metal ring gear has its inner surface compressing an elastomeric pad against the exterior periphery of a disc-shaped regenerator core. The pad has a foamed structure and transmits driving torque from the ring gear to the regenerator core while absorbing slight radial and axial dimension changes caused by differences in thermal expansion.

3,525,385
COMPUTER REFRIGERATION SYSTEM

Ralph C. Liebert, 580 Keyes Lane, Worthington, Ohio 43085

Continuation of application Ser. No. 526,169, Feb. 9, 1966. This application Oct. 7, 1968, Ser. No. 781,666
Int. Cl. F25b *29/00*
U.S. Cl. 165—30 **5 Claims**

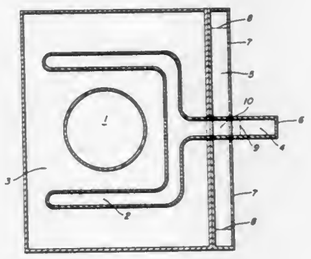


The invention relates to an air conditioning system having a filtered air flow directed sequentially past two heat exchange coils. The first coil is operated when the outdoor weather is warm and comprises a direct expansion evaporator coil. The second coil is operated in the alternative for reheat or cooling such that when the evaporator coil is operative for cooling, a liquid heated from the refrigeration condenser is circulated thereto to reheat the air passing from the evaporator coil. When the evaporator coil is inoperative, the same liquid is cooled by an outdoor located heat exchanger and circulated to the second coil to effect air cooling.

3,525,386
THERMAL CONTROL CHAMBER

George M. Grover, Los Alamos, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission

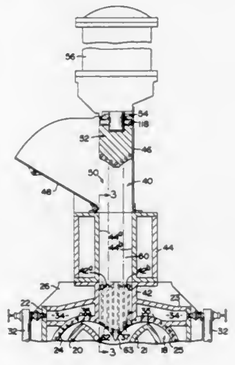
Filed Jan. 22, 1969, Ser. No. 793,042
Int. Cl. G05d *23/00;* **F28d** *15/00*
U.S. Cl. 165—32 **5 Claims**



A device for maintaining an enclosure containing a heat generating body at a constant temperature even though the quantity of heat generated by said body varies. A first

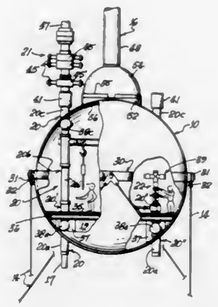
heat pipe transfers heat to a second heat pipe through a surface common to both heat pipes and the heat is radiated away by the second heat pipe.

3,525,387
MIXING MACHINE
James T. Matsuoka, Brecksville, Ohio, assignor to Intercole Automation Inc., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 10, 1968, Ser. No. 782,566
Int. Cl. F24h *3/00*
U.S. Cl. 165—47 **4 Claims**



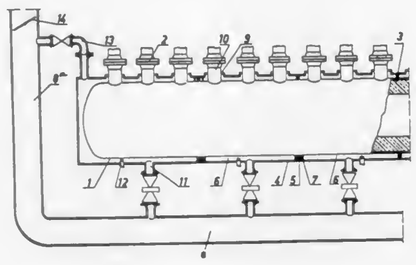
A machine for mixing rubber, plastic and the like in which throat plates and a floating closure at a charging opening to a mixing chamber are provided with drilled passageways beneath surfaces adjacent the mixing chamber for the circulation of heat exchange fluid to in part control the temperature of material within the mixer.

3,525,388
SUBSEA DRILLING APPARATUS
Ross A. McClintock, Orange, Calif., assignor to Pike Corporation of America, Los Angeles, Calif., a corporation of California
Filed Jan. 31, 1968, Ser. No. 702,062
Int. Cl. E21b *43/01, 15/02*
U.S. Cl. 166—.5 **11 Claims**



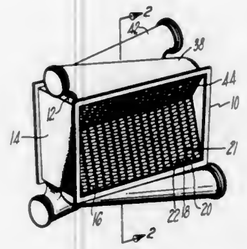
A device in accordance with the present invention in its presently preferred form includes a submerged structure, such as a sphere, with a positive buoyancy and means for adjusting such buoyancy from positive to slightly negative. The submerged structure is anchored or moored to the floor beneath the body of water by lines or elongate members which are slightly in tension due to the positive buoyancy of the structure. The structure contains working space which is maintained free of water and at a predetermined pressure which is most generally atmospheric. The submerged structure is buoyed in the water at a depth which is below the wave and surface action of the water, but spaced above the ocean floor at a depth beneath the surface which is readily accessible. Means for access from the water surface to the working space is provided. Within the working space of the structure or adjacent to the structure exploration, mining or well drilling equipment such as blowout preventers, completion equipment or production equipment, or remedial equipment is positioned. Means are provided for passing through the structure from a vessel, barge or other floating or moored platform, positioned above the submerged structure. Conduits or similar means are extended from the submerged structure to the floor beneath the body of water and generally to the portion of ocean floor being drilled, worked or completed. The conduits are in operative connection with the equipment within the working space of the structure. For drilling or well working operations, other than completion or production, means are provided for passing to the ocean floor from the vessel, or other moored or floating platform, through the top of the submerged structure and into operative connection with well drilling equipment such as blowout preventers, rotating heads or other completion equipment positioned adjacent or within the submerged structure. In effect, the structure establishes a wellhead and working space for drilling, completion, production, remedial and like operations at a level which is below the surface of the water at a depth to avoid interference by wave and current action, surface hazards or the like, so that useful work can be more readily performed and access to the apparatus and equipment is more readily available. The submerging of such structures also removes objects having an aesthetically undesirable appearance from the public view.

3,525,389
PROTECTION AGAINST UNDESIRABLE TEMPERATURES IN HOT GAS CONTAINERS
Paul Mevenkamp, Lichtendorf, and Hans-Dieter Marsch, Dortmund, Germany, assignors to Friedrich Uhde G.m.b.H., Dortmund, Germany, a corporation of Germany
Original application Oct. 24, 1967, Ser. No. 677,666. Divided and this application Mar. 26, 1969, Ser. No. 810,496
Int. Cl. F28f *19/00*
U.S. Cl. 165—134 **6 Claims**



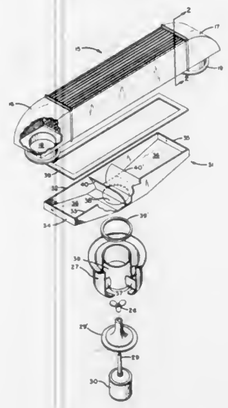
Inside insulated container for conveying hot gas has an outside radiation cover which is spaced from the walls of the container to provide a space which is sub-divided into chambers separated one from another. The chambers are connected to a common chimney and they provide temperature measuring locations. The intake points for the air current are so arranged that predetermined portions of the container are cooled by the intake air.

3,525,390
HEADER CONSTRUCTION FOR A PLATE-FIN HEAT EXCHANGER
Edward A. Rothman, South Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Aug. 12, 1968, Ser. No. 751,961
Int. Cl. F28f *3/08*
U.S. Cl. 165—166 **4 Claims**



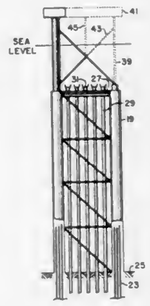
The headering of a plate-fin heat exchanger is constructed to contain a series of stacked triangular-shaped plates attached to and coplanar with the parting sheets of the core and are supported by support means within the header. The triangular plates can be made integral with the normal parting plates.

3,525,391
HEAT EXCHANGER AND METHOD OF MAKING SAME
Phillip E. Day, Los Angeles, Calif., assignor to Waterdome Corporation, Los Angeles, Calif., a corporation of California
Filed Jan. 21, 1969, Ser. No. 792,355
Int. Cl. F28f *3/00*
U.S. Cl. 165—166 **13 Claims**



A heat exchanger comprising a plurality of identical corrugated metallic sheets. Tube assemblies comprising a plurality of closely spaced tubes are formed by turning alternate sheets end for end and joining adjacent sheets at the minor corrugations which connect the major corrugations and along the flanges which form the edges of the corrugated sheets. A plurality of ramp-shaped turbulators are positioned on the inside surface of each major corrugation to create turbulence in the tubes. A plurality of tube assemblies are positioned in parallel spaced relation so as to form a heat exchanger core which is the equivalent of the conventional heat exchanger tube bundle. In this heat exchanger core, the tubes form a staggered pattern when viewed from the end. A header at each end of the core conducts a first body of liquid or gas into and out of the tubes. Gaskets at each end of the heat exchanger core separate alternate tube assemblies and seal the space between the tube assemblies themselves and between the tube assemblies and the opening in the header into which the tube assemblies are fitted. Means are provided for circulating a second body of liquid or gas through the spaces between the tube assemblies where it is brought into heat exchange relation with the first body of liquid or gas flowing through the tubes of the heat exchanger core.

3,525,392
OFFSHORE PLATFORM HAVING A PARTIALLY REMOVABLE DRILLING DECK
James R. Lloyd, Houston, Tex., Charles E. Kolodzey, New Orleans, La., and Kent T. Bailey, Houston, Tex., assignors to Esso Production Research Company, a corporation of Delaware
Filed Dec. 10, 1968, Ser. No. 782,574
Int. Cl. E21b *7/12, 43/01*
U.S. Cl. 166—.5 **6 Claims**



A bottom-supported drilling platform is provided with a partially removable upper section so that part of the drilling deck can be removed after drilling operations are completed, leaving only a small production deck protruding above the water surface. Wellheads are mounted on a deck below the ocean surface, and lines connect the wellheads with the production deck so that pumpdown tools may be introduced into the wells from the production deck.

ERRATUM

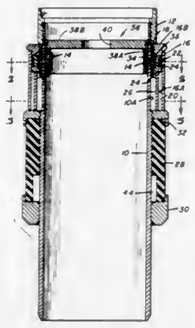
For Class 166—.5 see:
Patent No. 3,525,388

3,525,393
PACKER
James H. Cobbs and Albert K. Kline, Tulsa, Okla.; said Cobbs assignor to Fenix & Scisson, Inc., Tulsa, Okla., a corporation of Oklahoma
Filed Nov. 18, 1968, Ser. No. 776,833
Int. Cl. E21b *23/06, 33/14*
U.S. Cl. 166—187 **7 Claims**

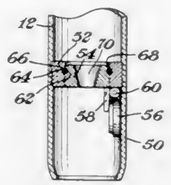
This invention relates to a packer for use in an oil well bore hole.

More particularly, the invention relates to a packer including a tube member carried into a bore hole by a length of casing, a cylinder member supported to the exterior of the tube forming an annular cylindrical cavity, a tubular packer member surrounding the tube below

the cavity, a piston member in the cylindrical cavity having communication with the interior of the tube through an opening, the piston member being actuatable by fluid pressure within the cavity to force downwardly against the packer member and thereby expand the packer member outwardly against the bore hole and a valve interior of the tube normally covering the opening communicating with the cylinder cavity and slidable to expose the cylinder cavity when it is desired to actuate the packer element.



3,525,394
TOOL HAVING COMBINATION SEAL AND SHEAR RELEASING MECHANISM
Charles A. Pitts, Tulsa, Okla., and William R. Lewis, Wichita Falls, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed May 28, 1968, Ser. No. 732,643
Int. Cl. E21b *33/00*
U.S. Cl. 166—225 **4 Claims**



The invention concerns down-hole apparatus for use especially in casing cementing operations wherein a so-called string of casing is lowered into a well bore and cemented in place. The apparatus comprises an insert which is adapted, on the application of suitable pressure, to rupture an O ring sealing a shear-releasing device disposed in abutting channels in the insert wall and the wall of a device surrounding the insert. A ball seal or other flow-closing device is utilized in applying pressure on the insert.

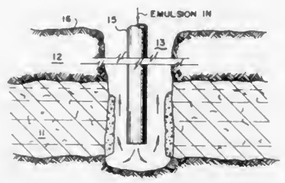
3,525,395
ALTERNATE GAS AND WATER FLOOD PROCESS FOR RECOVERING OIL
Ju-Nam Chew, Dallas, Tex, assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Dec. 26, 1968, Ser. No. 787,208
Int. Cl. E21b *43/18, 43/20*
U.S. Cl 166—263 **6 Claims**

The specification discloses a process of alternately injecting gas and water into a reservoir that has undergone a prior waterflood to recover additional oil therefrom. The process includes a pulse step between the injection of gas and the injection of water during which the reservoir is produced by pressure generated by the gas injection. The process comprises injection of gas into a watered-out reservoir and producing same until gas breaks through at the production system. The production system is then closed in and injection of gas is continued until the pressure at the production system is equal to at least 50% of the injection pressure. The reservoir is then produced with the injection system closed until the reservoir pressure declines below a productive level. Water is then injected into the reservoir and the reservoir produced until water breakthrough. The steps are repeated until production becomes uneconomical.

3,525,396
ALTERNATE GAS AND WATER FLOOD PROCESS FOR RECOVERING PETROLEUM
Ju-Nam Chew, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Dec. 26, 1968, Ser. No. 787,216
Int. Cl. E21b *43/18, 43/20*
U.S. Cl. 166—263 **6 Claims**

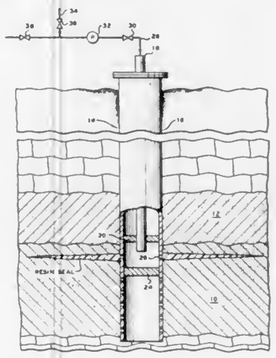
The specification discloses a process for recovering petroleum from a reservoir which is unable to maintain an economic level of production due to partial depletion by primary production or due to unfavorable, initial reservoir conditions. The process comprises injection of inert gas into the reservoir and producing same while maintaining back pressure on the production system. At gas breakthrough, injection of gas is stopped and the reservoir is produced until production declines to an uneconomical rate. Water is then injected under the same injection and back pressures as those used in the gas injection cycle until water breaks through at the production system. The water injection is stopped and the reservoir is produced until production drops below an economical rate. The above alternate gas-water cycles can be then repeated until production becomes uneconomical.

3,525,397
METHOD OF TEMPORARILY PLUGGING AN EARTH FORMATION
Henry C. H. Darley, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Dec. 26, 1968, Ser. No. 787,139
Int. Cl. E21b *33/138, 43/26*
U.S. Cl. 166—283 **5 Claims**



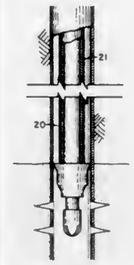
A method for temporarily preventing fluid invasion into a porous subterranean earth formation and subsequently permitting fluid flow thereto by dispersing a water-phase liquid in an oil-phase liquid and mixing the resultant dispersion with an amount of oil-wet, fine, acid-soluble solid particles sufficient to form an emulsion which is stable at the temperature of the earth formation only as long as the solid particles are present in their solid state. The earth formation is contacted with the emulsion at a pressure exceeding the pressure of fluid present in the earth formation so as to form a substantially impermeable, emulsified filter cake on the surface of the earth formation. The filter cake is subsequently contacted with an acidic fluid capable of dissolving the emulsion stabilizing solid particles so as to break down the emulsion and permit the fluid to invade the earth formation.

3,525,398
SEALING A PERMEABLE STRATUM WITH RESIN
Henry B. Fisher, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Continuation-in-part of application Ser. No. 503,183, Oct. 23, 1965. This application Nov. 19, 1968, Ser. No. 777,079
Int. Cl. E21b *33/138*
U.S. Cl. 166—288 **16 Claims**



A natural or artificial fracture in a permeable formation or stratum is sealed by injecting into the fracture a stable suspension of powdered deformable solid resin in a suitable liquid inert to the resin (preferably water), and releasing the fluid pressure within the fracture to allow the stratum or formation pressure, preferably aided by formation or stratum temperature, to deform and/or fuse the particles of resin into an impermeable sheet or layer. If the stratum or formation temperature is below about 150° F., a hot fluid can be injected, if desired, to raise stratum or formation temperature in the region of the fracture to at least about 150° F. but below the melting point of the resin.

3,525,399
TECHNIQUE FOR INSULATING A WELLBORE WITH SILICATE FOAM
Jack H. Bayless and Walter L. Penberthy, Jr., Houston, Tex., assignors to Esso Production Research Company, a corporation of Delaware
Filed Aug. 23, 1968, Ser. No. 754,887
Int. Cl. E21b *43/24*
U.S. Cl. 166—303 **8 Claims**

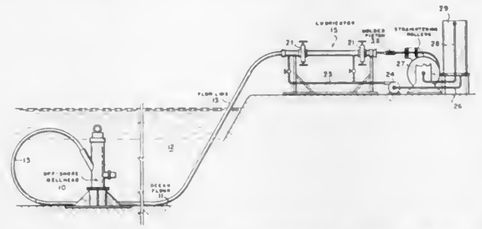


A method and apparatus for thermally insulating a well for use in a thermal process for oil recovery. The well is insulated by boiling a silicate solution in contact with the well tubing to form a coating of alkali metal silicate foam on the tubing. The insulated tubing may be fabricated on the surface or within the wellbore.

3,525,400
METHOD FOR DECREASING WATER PRODUCTION BY GAS INJECTION IN A SINGLE WELL OPERATION
Charles B. Pollock, Littleton, Colo., and Jack L. Shelton, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Nov. 18, 1968, Ser. No. 776,566
Int. Cl. E21b *43/25*
U.S. Cl. 166—305 **9 Claims**

Where water is produced with crude oil, either commingled with the oil or from a different level in the formation, it has been found that water production rates can be substantially lessened by injection of a gas having a relatively high preferential solubility in oil into the formation. Under these conditions a trapped gas saturation is developed in the water, reducing its mobility and thereby bringing about a substantial decrease in the flow thereof to the well bore. This effect is generally only temporary lasting for several months. After water production again approaches pre-gas injection levels the procedure may be repeated.

3,525,401
PUMPABLE PLASTIC PISTONS AND THEIR USE
Harry R. Hanson, Jefferson Parish, La., and Thomas W. Childers, Los Angeles County, Calif., assignors to Esso Production Research Company, a corporation of Delaware
Filed Aug. 12, 1968, Ser. No. 751,894
Int. Cl. B29f *1/10;* **E21b** *19/08, 33/124*
U.S. Cl. 166—315 **8 Claims**

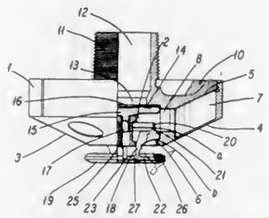


A method for forming a pumpable plastic piston on equipment to be pumped through either a surface or well conduit. The plastic piston is shaped and bonded to such equipment at the pumping site. It is shaped so that an outer surface of the piston sealingly engages the inner wall surface of the conduit (or a sufficient closure of the conduit is achieved to permit the piston to be pumped through the conduit). The plastic, when set or hardened, has sufficient flexibility to traverse bends and curves in the conduit. After the piston is formed and attached to the pumpable equipment, that equipment and the piston are pumped through the conduit.

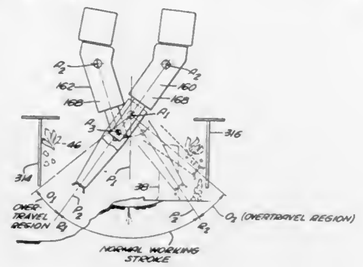
3,525,402
SPRINKLER HEAD
Tadashi Hattori, 15–20 1-chome, Kamori-cho, Kishiwada, Japan
Filed Jan. 29, 1968, Ser. No. 701,351
Int. Cl. A62c *37/08*
U.S. Cl. 169—40 **3 Claims**

This invention relates to a sprinkler head which, being installed on the ceiling or the like of a building, spurts water or extinguishing chemicals on the occasion of a fire. The sprinkler head is provided with a plurality of jet holes and characterized by the fact that the greater part of the functioning equipment is concealed inside the main body except the thermo-sensitive plate and the

lower part of the lever member which is connected with the said thermo-sensitive plate by means of thermo-sensitive fuse, with the result that in case of emergency the sprinkling covers a very wide range with perfect uniformity without any dead angle. In addition to the foregoing advantage, the sprinkler head has the effects of not spoiling the beauty of any building of the highest quality because of its extremely beautiful appearance prior to its functioning as well as its functioning equipment being free from damage while the body is handled.



3,525,403
CROP THINNING MACHINE
David Walter Cayton, Whittier, William Sadayuki Tsuchiya, Los Angeles, and Merlin Dale Hosler, Compton, Calif., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Dec. 12, 1966, Ser. No. 601,108
Int. Cl. A01b *63/10*
U.S. Cl. 172—107 **8 Claims**

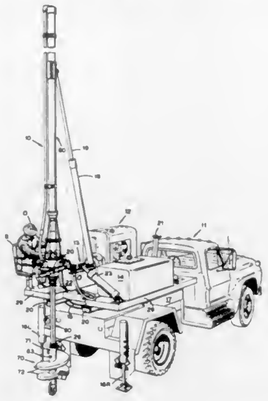


An agricultural machine for thinning row crops by driving a cutting blade alternately back and forth across each plant row in response to contact of an electrical probe with plants in the row as the machine moves along the row, in such a way as to cut spaced blocks of plants from the row and leave standing in each row a number of plants which are generally uniformly spaced at the proper intervals for optimum plant growth.

3,525,404
ROTARY DRILLING RIG WITH DIRECT POWER DRIVE AND SIMPLIFIED CONTROLS
Elmer F. Newman and Hollis H. Travis, Dallas, Ross McKee, Houston, and Joseph L. Kelly, Jr., Dallas, Tex., assignors to Hughes Tool Company, Houston, Tex., a corporation of Delaware
Filed Feb. 23, 1968, Ser. No. 707,820
Int. Cl. E21c *5/10, 11/02, 5/16*
U.S. Cl. 173—4 **17 Claims**

A rotary rig for drilling shallow holes, exemplified in a truck mounted hydraulic power auger used in drilling holes for electrical transmission and distribution pole lines, pilings, foundation footings, etc. The invention lies in the direct coupling of a rotary power motor to the drill stem or kelly having a drill bit (auger) mounted on its lower end for supplying torque to rotate the kelly and auger. The kelly is non-circular in cross section, and received in common rotary relationship in a congruent axial opening in the shaft of the motor, preferably hydraulic, using a sliding fit to permit axial movement of the kelly. A direct coupling is also used for thrust, the kelly extending above the drive motor into the bore of a hydraulic crowd cylinder and terminating in a direct connection to the piston of this cylinder, so that as hydraulic pressure is applied on the upper face of the piston this pressure is transmitted directly through the kelly to the auger.

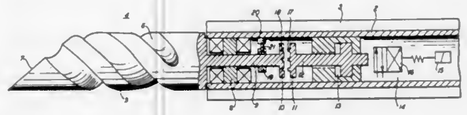
Another feature of the invention lies in the combination of two or more hydraulic power units, particularly the rotary motor and crowd cylinder, with a simplified hydraulic control system. Such system may be used either with or without the direct power application mentioned above. Preferably two valves are used, one for a fast movement of the crowd cylinder and the other for operating the rotary motor. The flow lines of these two valves are connected so that no operating fluid flows to the motor or its valve when the fast crowd valve is actuated to circulate operating fluid through the crowd cylinder, and when the fast crowd valve is in its neutral position such circulation through the crowd cylinder is blocked and all the fluid flows to the valve controlling the motor. This makes it possible to leave the rotary valve open most of the time, so that in running the bit in and then rotating it to disintegrate the earth only the fast crowd valve need be manipulated. When an auger is used, the same valves make it possible to raise the auger and spin off the cuttings by mainpulating only the same fast crowd valve.



An optional hydraulic circuit improvement is also disclosed, utilizing a pilot operated relief valve between the flow lines connecting the crowd cylinder and a slow crowd valve used to apply thrust when the auger is on bottom and drilling. This relief valve senses the fluid pressure in the pressurized end of the crowd cylinder, and when such pressure reaches a predetermined operating value or level the relief valve is actuated to dump the inflowing fluid into the tank line. A check valve in the input line locks the pressurized fluid in the cylinder, and this valve may be equipped for pilot operated reverse opening to drain off such fluid when the slow crowd valve is actuated for reverse flow to lift the auger.

3,525,405
GUIDED BURROWING DEVICE
James C. Coyne, New Providence, N.J., and Hamilton Southworth, Jr., New York, N.Y., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed June 17, 1968, Ser. No. 737,592
Int. Cl. E21b *7/04, 47/02*
U.S. Cl. 175—19 **8 Claims**

A subterranean penetrator or mole for use in burrowing at relatively shallow ground depths is steered by impingement of soil on the planar beveled face of its nose. As the mole advances, the soil impinges on flutes or the equivalent extending from the nose, causing the latter to rotate passively. In such case, the mole motion is a helix that approaches a straight line. Steering is accomplished by locking the nose in a selected position with respect to the nonrotating mole body, as with a clutch mechanism. The soil force component vertical to the nose face then causes the mole to arc in the plane normal to the beveled face and containing the mole's longitudinal axis.

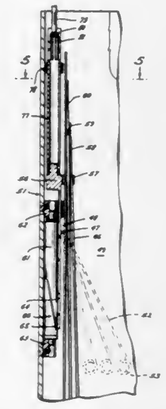


3,525,406
METHODS AND APPARATUS FOR MONITORING AND CONTROLLING A TOOL IN A BOREHOLE
Herbert J. Hart, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed June 29, 1967, Ser. No. 649,978
Int. Cl. E21b *3/08, 49/06*
U.S. Cl. 175—26 **20 Claims**



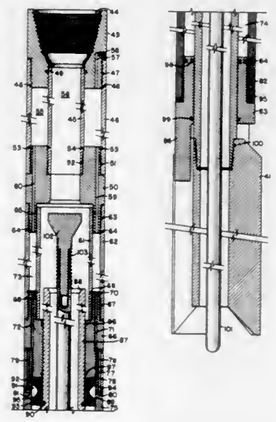
The particular embodiment described herein as illustrative of the invention shows methods and apparatus for use with a core slicing tool in a borehole. Various circuits for monitoring and controlling the core slicing operation are disclosed, as well as circuits for deriving directional and depth control information. Means are disclosed for transmitting information from a plurality of information sources in the tool on one conductor pair. Also, automatic bias control means at the surface of the earth are shown for accurately detecting the transmitted information. Power can be selectively applied to either the core slicing circuits or the directional and depth circuits on the same conductor set by providing two different power modes. Means in the tool are responsive to one or the other power mode to switch various circuits in the tool onto various cable conductors. Also, a plurality of core slicing operations are controlled from the surface of the earth on one conductor pair by utilizing switching means responsive to a plurality of current logic states. Additionally, a method of determining the overload operating point of a motor in a tool in a borehole is disclosed.

3,525,407
FORMATION-SAMPLING APPARATUS
Harold J. Urbanosky, Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas
Filed Oct. 7, 1968, Ser. No. 765,383
Int. Cl. E21b *49/06*
U.S. Cl. 175—78 **19 Claims**



The particular embodiment described herein as illustrative of the invention is directed to formation-sampling apparatus for successively collecting and segregating a plurality of samples from earth formations traversed by a borehole. To accomplish this, the disclosed borehole apparatus includes selectively-operable means adapted for successively collecting samples from the exposed faces of selected earth formations. During each operation of the sample-collecting means, the collected formation sample is deposited in a sample receiver on the apparatus and selectively segregated from other samples.

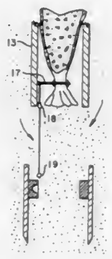
3,525,408
PERCUSSIVE DRILLING SYSTEM
Whitman D. Mounce, Houston, Tex., assignor to Esso Production Research Company, a corporation of Delaware
Filed Apr. 1, 1969, Ser. No. 812,240
Int. Cl. E21b *1/06, 5/00*
U.S. Cl. 175—93 **10 Claims**



A tool for imparting percussive energy to a subterranean formation at the bottom of a borehole which includes an elongated housing containing an annular cyl-

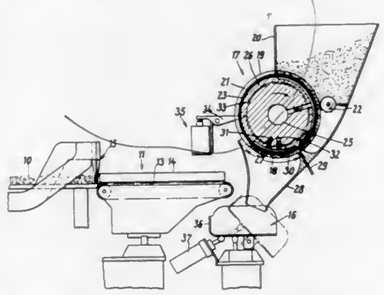
inder and a gas reservoir communicating with the cylinder, a hollow mandrel that extends through the cylinder and projects from the lower end of the housing, an annular piston which is attached to the mandrel within the cylinder and in its uppermost position prevents communication between the reservoir and cylinder, and an elongated actuating member that extends downwardly through the mandrel from a cap at its upper end.

3,525,409
CORE BARREL CLOSURE FOR SONIC DRILL
Johnston E. Holzman, La Jolla, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Dec. 12, 1968, Ser. No. 783,240
Int. Cl. E21b *9/20, 25/00*
U.S. Cl. 175—245 **4 Claims**



The coring barrel of a sonic core drill is provided with a flexible inner lining having a noose-like closure at its lower end which is connected to a suitable anchor so as to close off the lower end of the coring barrel upon withdrawal of the tubing string from a formation.

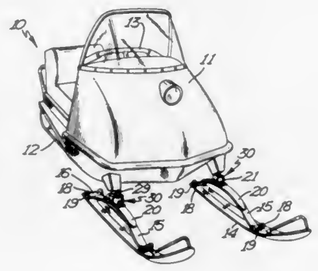
3,525,410
METHOD OF AND APPARATUS FOR FORMING PREDETERMINED QUANTITIES OF MATERIAL FROM A CONTINUOUS FIBER FLEECE
Heinz Focke, Siemenstrasse, Verden (Aller), Germany
Filed July 18, 1968, Ser. No. 745,944
Claims priority, application Germany, July 20, 1967, 1,632,189
Int. Cl. G01g *13/08, 13/24;* **G01f** *11/24*
U.S. Cl. 177—122 **19 Claims**



A method of forming individual batches or quantities of fibrous material such as cut tobacco from a continuously fed fiber fleece, comprising separating a portion of the material and weighing a first quantity of the batch in a rough manner so as to be of a weight below the desired final weight, and thereafter subsequently weighing the separated batch and simultaneously adding a desired weight of the material to the separated batch by an amount comparable to that of the deficiency of the rough weighed batch.

The apparatus for the method of the invention includes a first conveyor scale arranged to receive a batch of the fibrous material and to permit the weighing of the batch to achieve a rough evaluation of the desired quantity. The conveyor scale feeds, in turn, to a scale receptacle where the material is finally weighed while additional material is fed to the batch in accordance with the deficiency sensed by the scale of the first conveyor. The additional material is fed to the second scale by means of a dosage device comprising a rotatable wheel having suction means for picking up a quantity of the fibrous material and transferring it to a chute by the rotation of the wheel. The wheel is rotated by an amount equivalent to the desired increase of material to be transferred to the final weighing scale and the movement of the wheel is regulated by a control mechanism which is operated in accordance with the weight sensed by the weighing of the material.

3,525,411
TORSION DEVICE FOR SNOWMOBILE SKIS
Harold A. Hagen, 101 Peavey Lane, Wayzata, Minn. 55391
Filed Feb. 13, 1968, Ser. No. 705,104
Int. Cl. B62b *17/04*
U.S. Cl. 180—5 **3 Claims**

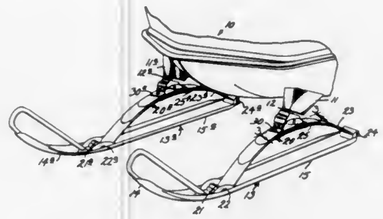


A ground engaging ski device for a snowmobile comprising an elongate ground engaging ski assembly including a leaf spring mounting member secured thereto intermediate to ends thereof and closing confining a generally rectangular shaped yieldable torsion member therein. An elongate ski standard adapted to be connected at its upper end to the conventional steering arm of the snowmobile to permit rotation of the standard about its longitudinal axis steering of the snowmobile. A generally inverted U-shaped engaging member secured to the lower end of the ski standard and embracing said mounting member and torsion member. A connector element on said torsion cooperatively engaged by a similar shaped connector element on said engaging member whereby said standard and torsion member are locked together to cause said ski standard and ski assembly to move as a unit when the standard is revolved about its longitudinal axis but permitting forceable, yieldable movement of the ski relative to the standard about a horizontal transverse axis.

3,525,412
SKI MOUNTING APPARATUS FOR SNOWMOBILES
Albin R. Erickson, Roseau, Minn., assignor, by mesne assignments, to Textron Inc., Providence, R.I., a corporation of Delaware
Filed Oct. 4, 1968, Ser. No. 765,160
Int. Cl. B62b *13/12;* **B62m** *27/02*
U.S. Cl. 180—5 **6 Claims**

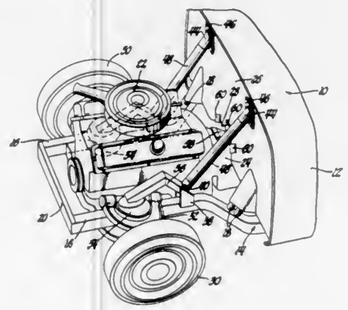
The nose portion of a snowmobile is shown including a pair of spaced steering shafts extending downwardly

therefrom for mounting a pair of skis. A mounting is provided for each ski that permits limited pivotal movement of the ski. A flexible rubber snubber member is included



as a part of the ski mounting apparatus to oppose the pivotal movements of the ski and to provide a restoring force to the ski tending to return the ski to a normal position.

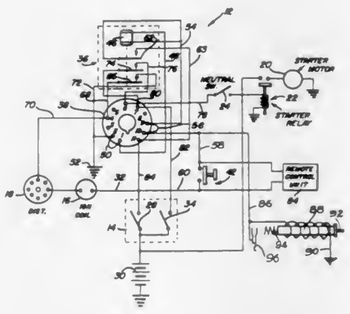
3,525,413
SEPARABLE BODY AND FRAME ARRANGEMENT
Joseph B. Kripke, Birmingham, Arthur B. Mace, Warren, and Byron E. Voight, Pleasant Ridge, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 30, 1968, Ser. No. 756,456
Int. Cl. B60r *21/00;* **B62d** *39/00*
U.S. Cl. 180—82 **4 Claims**



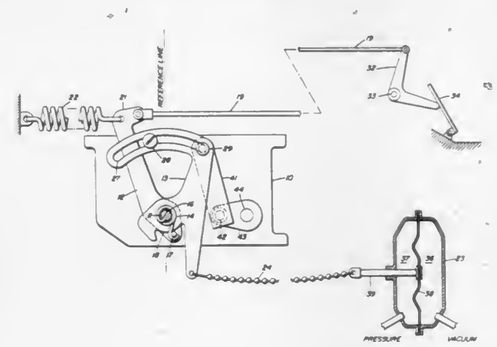
A pair of struts extend between the body fire wall and forward frame rails and are pivoted to each by socket joints. Upon relative movement between the frame and body, the struts elevate the body so that the transmission of the power plant moves underneath the fire wall.

3,525,414
PROTECTIVE AUTOMOTIVE IGNITION CIRCUIT
Aubrey I. Copelan, Los Angeles, Calif. (401 W. Manchester Blvd., Inglewood, Calif. 90301)
Continuation-in-part of application Ser. No. 659,748, Aug. 10, 1967. This application Mar. 18, 1968, Ser. No. 713,791
Int. Cl. B60r *25/00*
U.S. Cl. 180—114 **3 Claims**

A protective circuit to prevent unauthorized starting of the engine in an automotive vehicle or the unauthorized opening of the hood or trunk lid. The energizing circuits for the engine ignition system and the starting relay are interrupted by a relay component requiring actuation of a hidden switch after the ignition key is turned to the ignition position in order to start the engine by turning the key to the start position. The distributor is also grounded by a wire through the relay component and any time the ignition coil is deenergized by turning the ignition key to the off position, starting of the engine is prevented. Solenoids are also coupled to the hidden switch to lock the hood and trunk lid closed until the switch is actuated, and an external jack is provided to permit the hood or trunk to be opened in the event of battery failure.



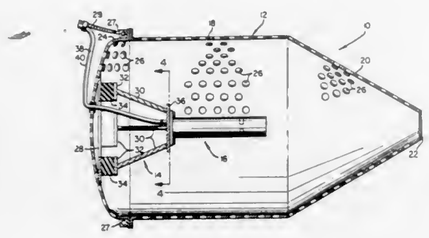
3,525,415
LINKAGE FOR VEHICLE TOP SPEED LIMITER
George T. Bata, Baltimore, and Raymen F. Emery, Lutherville, Md., assignors to The Bendix Corporation, a corporation of Delaware
Filed Nov. 5, 1968, Ser. No. 773,600
Int. Cl. B60k *31/00*
U.S. Cl. 180—109 **8 Claims**



A mechanical linkage for connecting the fuel control of a vehicle carburetor to the accelerator pedal and a speed sensing system for actuating the linkage and thereby controlling the maximum speed of the automobile is described. The fuel flow to the vehicle is engine controlled by the accelerator pedal of the vehicle in the manner ordinarily used in internal combustion engine driven vehicles. After a maximum speed, for example eighty miles an hour, is obtained the speed limiting system goes into operation and prevents the driver from accelerating the vehicle beyond the maximum predetermined speed. The linkage is designed such that the maximum speed limiting device cannot be overridden by the driver irrespective of his intentions. It is also designed

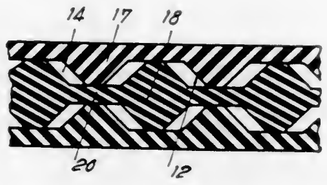
such that the accelerator pedal is not moved by the automatic control system and therefore the driver does not get the sensation that he has lost control of the speed changing function of the vehicle.

3,525,416
AIR OPERATED UNDERWATER SEISMIC SOURCE
Lewis Morton Mott-Smith, Houston, Tex., assignor to Mandrel Industries, Inc., Houston, Tex., a corporation of Michigan
Continuation-in-part of application Ser. No. 668,582, Sept. 18, 1967. This application Mar. 10, 1969, Ser. No. 806,348
Int. Cl. G01v *1/04, 1/38*
U.S. Cl. 181—.5 **3 Claims**



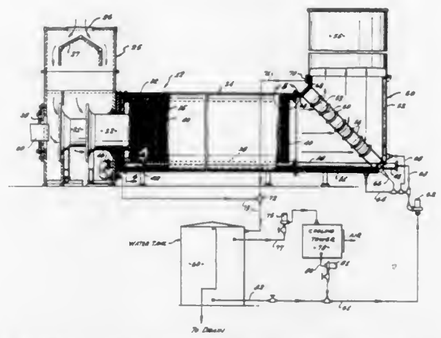
A seismic source, utilizing a high-pressure fast-acting air valve, capable of imparting a burst of air and thus a seismic signal to a fluid medium, including a perforated shell surrounding the air valve, which shell has selected dimensions and degree of perforations which are determined by the particular characteristics of a seismic signal generated by the air valve. The shell is thus particularly designed for use with an air valve source, wherein secondary pulses peculiar to an air valve source are damped out by the shell. The degree of restriction generally determines the range of frequencies of the seismic signal which is produced. The valve is shock-mounted within the shell to protect the perforated shell from the force reaction produced by the air valve.

3,525,417
COMPOSITE SOUND INSULATING BOARDS
André Giraudeau, Montmorency, France, assignor to Les Isolants Francais (Societe Anonyme), Souge-le-Ganelon, Sarthe, France
Filed Nov. 27, 1967, Ser. No. 685,839
Claims priority, application France, Nov. 28, 1966, 3,318
Int. Cl. B32b *3/30;* **G10k** *11/00*
U.S. Cl. 181—33 **4 Claims**



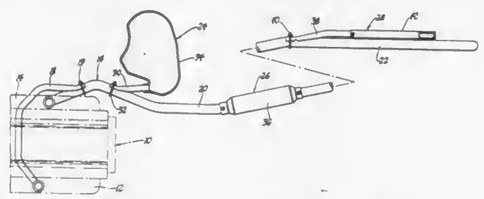
A composite board of an elastomer material for sound an insulation purposes. The board has two generally laminar components each of which has internal troughs and ridges, which may be opposite one another or may interdigitate. In some embodiments the recess formed by the opposed troughs is occupied by a further elastomer material component.

3,525,418
NOISE SUPPRESSION SYSTEM
Cloyd D. Smith, Pacific Palisades, and James H. Schmidt, Berkeley, Calif., assignors to General Acoustics Corporation, Los Angeles, Calif., a corporation of California
Filed Oct. 11, 1968, Ser. No. 766,910
Int. Cl. F01n *1/14, 3/04*
U.S. Cl. 181—35 **10 Claims**



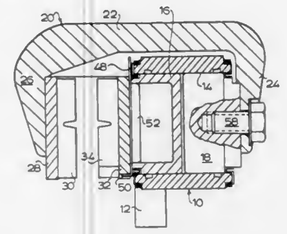
A noise suppression system for testing jet engines includes both an intake silencer and an exhaust noise suppressor. The latter is designed to remove energy from the exhaust gases by cooling them quickly and to this end provides an acoustical tubular shell with a removable liner which provides a water-cooled coil for absorbing thermal energy from the gases. The coil is part of a water circulation system which includes a cooling tower or other means through which the water is circulated to cool it, thereby permitting operation of the system over an extended period of time.

3,525,419
EXHAUST SYSTEM
Thomas R. Cassel, Birmingham, Mich., assignor, by mesne assignments, of 388/500 interest to Thomas R. Cassel, Birmingham, Mich., 80/500 interest to Kenneth W. Cassel, Jr., Cincinnati, Ohio, 20/500 interest to R. Nelson Cooksey, Indianapolis, Ind., 10/500 interest to Keevin J. Cassel, Union Lake, Mich., and 2/500 interest to William E. Neighbors, St. Petersburg, Fla.
Filed Feb. 7, 1968, Ser. No. 703,591
Int. Cl. F01n *7/02, 7/16, 1/02*
U.S. Cl. 181—48 **5 Claims**



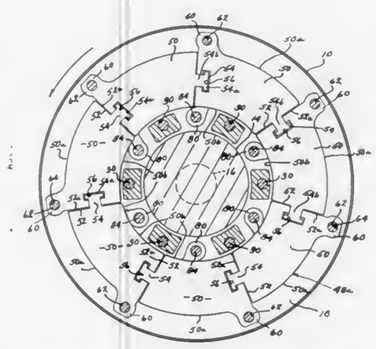
An exhaust system for automotive vehicles or the like having an internal combustion engine, wherein the exhaust system includes a conduit extending from the exhaust means of the engine toward the rear of the vehicle to convey exhaust gasses from the engine, and where sound is attenuated by a plurality of attenuating devices disposed at spaced points along the conduit, each such device being tuned to attenuate sounds in a different range of frequencies. The attenuating devices may be formed of a material permitting them to be formed in irregular shapes for optimum locations along the exhaust conduit and convenient mounting in the under structure of the vehicle.

3,525,420
DISC BRAKE AND FRICTION PAD MOUNTING MEANS
Herman Hans Honick, Immendorf, Germany, and Robin A. Cochrane, Hollington, Glewstone, England, assignors to Girling Limited, Birmingham, Warwickshire, England, a British company
Continuation of application Ser. No. 556,178, June 8, 1966. This application June 25, 1968, Ser. No. 744,608
Claims priority, application Great Britain, June 9, 1965, 24,333/65
Int. Cl. F16d *55/224*
U.S. Cl. 188—72.4 **1 Claim**



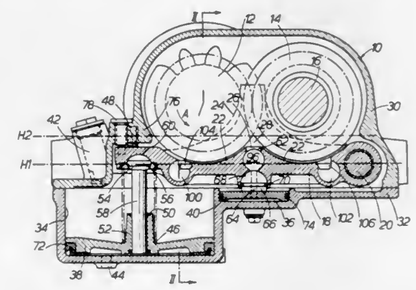
A disc brake assembly in which the brake actuator is mounted on a fixed member on one side of the braking disc and a yoke member is detachably secured to the actuator member and extends to the other side of the disc. Two friction elements are carried by the yoke, one on either side of the disc and the actuator is adapted to operate on the friction element of the same side of the disc as the actuator. The yoke and friction elements form a subassembly which is readily removable from the actuator member without disturbing the hydraulic connections to the actuator.

3,525,421
SEGMENTED DISC BRAKE
Elmer Van Sickle, Rocky River, Joseph W. Van Sickle, Berea, and Edward J. Kruke, Avon Lake, Ohio, assignors to The Cleveland Aircraft Products Co., Avon, Ohio, a corporation of Ohio
Filed July 17, 1968, Ser. No. 745,599
Int. Cl. F16d *55/32, 65/12*
U.S. Cl. 188—71.5 **13 Claims**



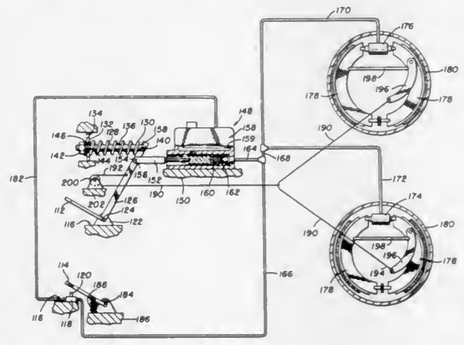
A segmented disc brake which includes interleaved braking discs adapted for frictional coaction with one another by means of fluid pressure actuating means, and wherein at least one of the braking discs is of a segmented construction. Each of the plate-like segments is of polygonal configuration in side elevation and embodies a coupling portion thereon disposed at one corner of the segment and adapted for securing or mounting the segment to a supporting portion of the braking mechanism for effectively absorbing the torque forces applied to the brake discs during operation of the mechanism. In certain embodiments, the disc segments, in addition to having the aforementioned coupling portion for mounting the segment on the said supporting portion, also include means for coupling each segment to the adjacent segment, thus facilitating the assembly of the braking discs in the braking mechanism and limiting the relative movement between adjacent segments during braking operations.

3,525,422
HYDROSTATIC BRAKES
Karl Gustav Ahlen, Stockholm, Sweden, assignor to S.R.M. Hydromekanik AB, Stockholm-Vallingby, Sweden, a corporation of Sweden
Filed Aug. 29, 1968, Ser. No. 756,119
Claims priority, application Great Britain, Sept. 15, 1967, 42,266/67
Int. Cl. F16d *57/06*
U.S. Cl. 188—92 **36 Claims**



A hydrostatic-hydrodynamic brake wherein a fluid pocket is formed between a shoe and a pair of meshing gears to be braked. For braking, fluid is introduced to tho pocket and the shoe is moved against the gears to prevent the escape of fluid from the pocket. During free running, the gears are free of oil drag. A piston and cylinder unit control movement of the shoe.

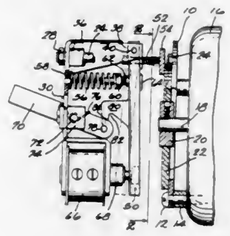
3,525,423
MECHANICAL AND HYDRAULIC BRAKE SYSTEM
William G. Sheiry, Jr., Alsip, Ill., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed May 31, 1968, Ser. No. 733,415
Int. Cl. F16d *65/24*
U.S. Cl. 188—106 **1 Claim**



A brake system for wheeled vehicles, the brake system including the provision of both hydraulic and mechanical actuating means. Normal use of the brake system requires the application of the vehicle brakes through the use of

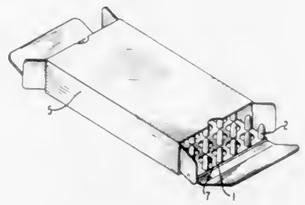
hydraulic pressure, a means is provided for the purpose of hydraulically actuating the brakes to retard the normal movement of the vehicle. The means for applying the hydraulically actuated brakes is also adapted under certain conditions to cause the actuation of the mechanical brakes.

3,525,424
ELECTROMAGNETICALLY RELEASED CALIPER BRAKE
Richard H. McCarthy, Milwaukee, Wis., assignor to Stearns Electric Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed May 3, 1967, Ser. No. 635,751
Int. Cl. B60t *13/04*
U.S. Cl. 188—171 **3 Claims**



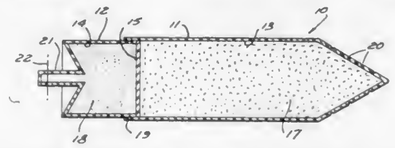
Operating parts mounted on a brake plate applicable to the end of a motor include a brake-releasing electromagnet which has an armature connected at the free end of a brake lever in opposition to a brake-applying spring acting on the intermediate portion of said lever to exert thrust on a caliper plate slidable on the mounting arms to and from engagement with a brake disk on the armature shaft.

3,525,425
PACKAGE FOR CARTRIDGES
Heinz Cramer, 22 Bruhlstr., 75 Karlsruhr-Durlach, Germany; Ludwig Hochrieser, 24 Speyerer Str., 7501 Morsch, Germany; and Bruno Stark, 5 Wilhelmstr., 7519 Johlingen, Germany
Filed Oct. 2, 1967, Ser. No. 672,288
Claims priority, application Germany, Oct. 1, 1966, D 34,237
Int. Cl. F42b *39/00;* **B65d** *85/00*
U.S. Cl. 206—3 **5 Claims**



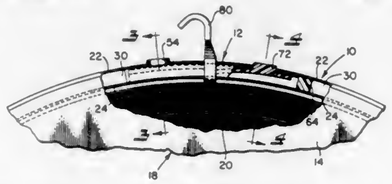
A package for cartridges, particularly pistol cartridges, with a bottom plate having pegs extending at right angles thereto, which pegs are co-related to the caliber of the cartridges and arranged in aligned rows and columns to form individual storage chambers for the cartridges. The bottom plate may be provided with a rim extending around its circumference and at right angles thereto; the rim and bottom plate may be integrally molded from a synthetic resin. Depressions may be provided in the bottom plate for each of the cartridge chambers to receive therein one axial end of a corresponding cartridge.

3,525,426
DRAIN CLEANING CARTRIDGE
James P. Miller, Box 182, R.D. 2, Stockton, N.J. 08559
Filed Aug. 21, 1968, Ser. No. 754,359
Int. Cl. B65d *81/00*
U.S. Cl. 206—47 **7 Claims**



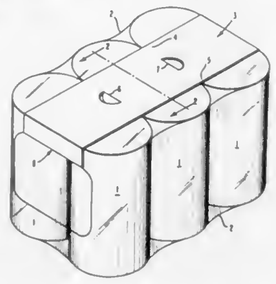
Generally cylindrical cartridge includes front compartment containing drain-cleaning compound, e.g., lye, and rear compartment containing dry water-activatable propellant, e.g., sodium bicarbonate and an acid. Cartridge shell defined by water-soluble material e.g., gelatin.

3,525,427
REEL CLOSURE
Thomas S. Kulka, 200 Film Bldg., 2108 Payne Ave., Cleveland, Ohio 44114
Filed Mar. 26, 1968, Ser. No. 716,161
Int. Cl. B65d *85/67*
U.S. Cl. 206—52 **10 Claims**



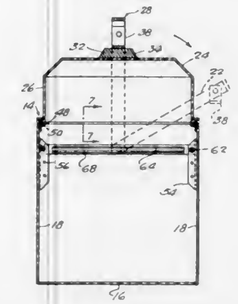
A reel closure comprising a one-piece hollow plastic band for closing the area between the flanges of a tape reel thereby protecting the tape or film wound on the reel. The band is a plastic extrusion having wall formations of relatively thin cross-section, with the inner wall of the closure disposed between the reel flanges accommodating the decrease in diameter of such inner wall upon the application of the closure to the reel. A latching member is provided, one end of which is permanently attached to the band at one end thereof and the opposite end constructed for temporary latching with the free end of said band. A modified latching member is provided for use where tape diameters prohibit the use of a hollow reel closure.

3,525,428
MULTIPLE CONTAINER PACKAGE
Paul Glenn Stephan, Landenberg, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 10, 1968, Ser. No. 735,848
Int. Cl. B65d *71/00, 65/18*
U.S. Cl. 206—65 **7 Claims**



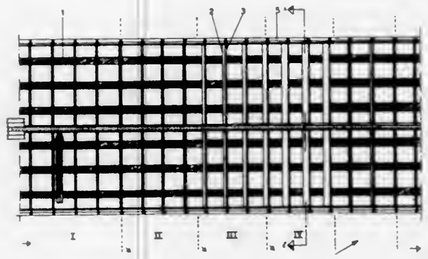
A package for cans arranged in two parallel rows comprising a web of heat-shrunken, thermoplastic film on the bottom, sides, and parts of the top and ends of the grouping of cans and a top closure of flexible material bonded to the longitudinal edges of the thermoplastic film.

3,525,429
BRUSH CARRIER
James P. Vaughn, 3403 Connelly Lane, Chattanooga, Tenn. 37412
Filed Dec. 20, 1968, Ser. No. 785,498
Int. Cl. A46b *17/06;* **B65d** *25/28*
U.S. Cl. 206—15.1 **4 Claims**



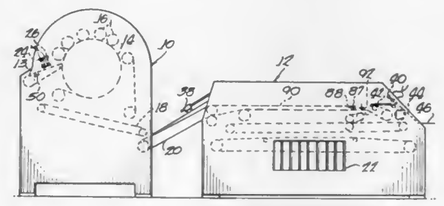
A brush carrier device with a container and removable top and a pivotal handle coactable with the top and container through the medium of a pivotal pressure foot carrier by the handle to urge the top into pressure operative engagement between the top and container, with sealing means interposed between the top and container and adjustably mounted magnetic brush supporting bars in the container adapted to engage metal portions of a brush and the like for removably suspending a brush from the supporting bars.

3,525,430
MACHINE FOR SIZING ELONGATED VEGETABLE PRODUCTS
Yvon Bruel and Alain Bruel, both of Domaine du Petit Chaumont 30, Algues-Mortes, France
Filed Mar. 15, 1968, Ser. No. 713,399
Claims priority, application France, Mar. 23, 1967, 99,955
Int. Cl. B07b *13/04*
U.S. Cl. 209—73 **2 Claims**



This disclosure concerns a machine for sizing elongated vegetable products particularly but not exclusively asparagus which is composed of an elongated frame having a product-receiving end and an opposite end; at least one pair of endless belts rotating about these ends; a plurality of shafts freely rotatably mounted at their extremities to the belts and extending transversely therebetween; at least two finger members coaxially mounted on each of the shafts and forming differently dimensioned product-supporting rows; each finger having a longitudinal longer part and a shorter vertical part, the shorter part being substantially perpendicular to the longer part at their junction point and being mounted at that point to the shaft; at least one pair of longitudinal cam sections extending parallel to the belts and outwardly spaced therefrom; the cam shaped sections having a plurality of deflection points starting from the product receiving end and rising gradually near the opposite end; a plurality of rods extending parallel to the shaft, each rod connecting the longitudinal parts of the fingers in each row; the rods having extremities resting on the cam sections, whereby upon rotation of the belts and passage of the connecting rods over the deflection points of the cam sections the fingers of each row successively pivot more so as to form a slot of a given size between the shaft thereof and the shaft of the preceding row of fingers thereby allowing passage therethrough of a product having this size but retaining larger products until said larger products encounter a larger dimensioned slot upon passing subsequent deflection points along the cam shaped sections.

3,525,431
CONTROL APPARATUS
Eduard F. Kamberg, Deerfield, Ill., assignor to Chicago Dryer Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 25, 1968, Ser. No. 715,679
Int. Cl. B07c *5/342*
U.S. Cl. 209—73 **11 Claims**

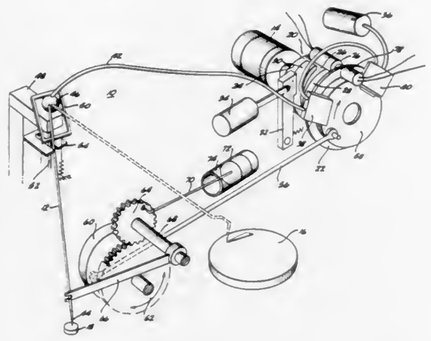


A plurailty of colored-marker dispensers are disposed adjacent the feed ribbons of laundry apparatus, such as an ironer-folder combination, adapted to automatically carry out a laundry cycle on laundered items such as sheets or the like. An attendant energizes an appropriate dispenser upon noting a defect in the sheet being fed into the ironer. The dispenser then applies a marker to trailing end portion of the defective sheet. A device sensitive to the marker and disposed in the normal path of the sheet movement energizes a by-pass which removes the defective sheet from such normal path to a collection point for repair or discard.

3,525,432
SORTING SYSTEM
Rudolf F. Zurcher, Los Angeles, Calif., assignor, by mesne assignments, to GTI Corporation, Meadville, Pa., a corporation of Rhode Island
Filed Oct. 21, 1968, Ser. No. 769,233
Int. Cl. B07c *5/344*
U.S. Cl. 209—73 **19 Claims**

This disclosure relates to a system capable of high-speed sorting of miniature parts (chips). A valve controlled vacuum transfer arm mechanically cycles between a vibratory feeder bowl and a contacting platform to pick

up a miniature part at the bowl feedout point, deliver the part to the contacting platform of a contacting mechanism, and then return to the bowl for another such part. The delivered parts are mechanically contacted, tested, classified, and sorted into appropriate classification receptacles. A clutch is provided for automatically stopping the transfer arm at an intermediate position between the

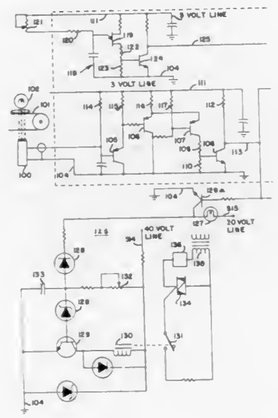


bowl and the contacting platform so that sorting of a previously delivered part may be effected before another part can be delivered. The clutch is controlled by a solenoid so that when an electrical signal, derived from the contacting operation, is received by the solenoid the transfer arm will be permitted to proceed from or through the intermediate position to the contacting platform.

3,525,433
APPARATUS FOR SORTING PRODUCTS

Raymond Earl Babb, Fremont, Calif., assignor of one-half to Genevieve I. Hanscom (formerly Genevieve I. Magnuson), and one-half to Genevieve I. Hanscom, Robert Magnuson, and Lois J. Thomson (formerly Lois J. Duggan), as trustees of the estate of Roy M. Magnuson

Filed Aug. 12, 1968, Ser. No. 751,815
Int. Cl. B07c *1/14*
U.S. Cl. 209—82 **11 Claims**



A product length sorter employing a circuit supplying electric pulses to decade counters while a product is being scanned. The output of the counters is supplied to a comparator network where it is compared with the settings of thumb wheel switches to determine if the counter registers a lower or a higher count than that set into said thumb wheel switches. Appropriate flip-flops connected to this network control selected gates in the apparatus logic in accordance with the length of the product scanned so that the output corresponding to such length is energized when the strobe pulse, which passes through a spurious signal rejector, is supplied to the apparatus logic. Command signals from the logic are transmitted to solenoid driver circuits for controlling the timing and direction of energization of selected solenoids which control air jets used to deflect the products according to the lengths thereof.

3,525,434
METHODS FOR SEPARATING CHLORIDE, SULFATE AND CARBONATE SALTS AND THE LIKE

Donald E. Garrett, 505 W. 9th St., Claremont, Calif. 91711, and William R. White, Claremont, Calif. (2983 Eaton Place, Pomona, Calif. 91767)

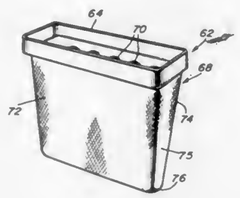
No Drawing. Continuation-in-part of application Ser. No. 491,013, Sept. 28, 1965. This application Sept. 30, 1968, Ser. No. 763,959
Int. Cl. B03b *1/04*
U.S. Cl. 209—166 **20 Claims**

A froth flotation method for the separation of chloride, carbonate, and sulfate salt mixtures using cresylic acid as a flotation reagent to selectively float carbonate salts from other salts of the mixture and selectively separating other salt components of the mixture by using naphthenic acid or one of its salts, an amine or amine acetate or a hydrocarbon sulfate or sulfonate as a flotation reagent.

3,525,435
DISPOSABLE FILTER CARTRIDGE FOR AQUARIUMS

Frank E. Conner, Jr., 703½ Grace Ave., Charleston, W. Va. 25302

Filed Mar. 19, 1968, Ser. No. 714,193
Int. Cl. E04h *3/20*
U.S. Cl. 210—169 **3 Claims**



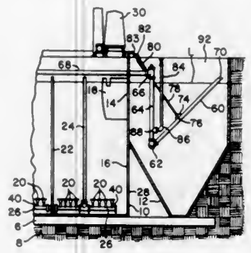
A unitary filter cartridge including a water channelling top tray-like portion, the bottom of which includes perforations therein. A frusto-conical porous filtering envelope appends downwardly from the tray bottom to which it is suitably attached. The porous envelope includes granular charcoal therein for purifying water conducted therethrough from the tray portion.

3,525,436
SEWAGE TREATMENT PLANT

Donald J. Reckers, Cincinnati, Ohio, assignor to Pollution Control, Inc., Cincinnati, Ohio, a corporation of Ohio

Filed Oct. 2, 1968, Ser. No. 764,547
Int. Cl. B01d *21/24;* **C02c** *1/12*
U.S. Cl. 210—220 **21 Claims**

The sewage treatment plant incorporates a skimmer which is quickly adjustable to changes in the level of liquid in a clarifier receptacle, without subjecting an attendant to exposure to sewage. A novel form of aeration nozzle disperses air bubbles in sewage, through

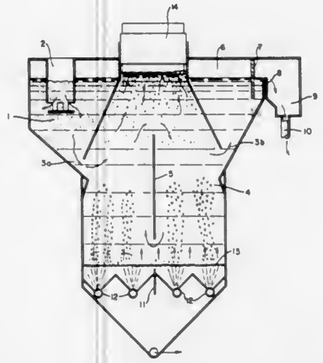


apertures which are closed automatically by a flexible diaphragm to exclude solids whenever the supply of air is terminated.

3,525,437
APPARATUS FOR SEPARATING SOLIDS FROM LIQUIDS AND FOR THICKENING SLUDGES

Joachim A. W. Kaeding, Berlin, and Willy A. Grunert, Coswig, Germany, assignors to Institut fur Wasserwirtschaft, Berlin, Germany

Filed Apr. 18, 1968, Ser. No. 722,343
Int. Cl. B03d *1/02, 1/24*
U.S. Cl. 210—221 **4 Claims**

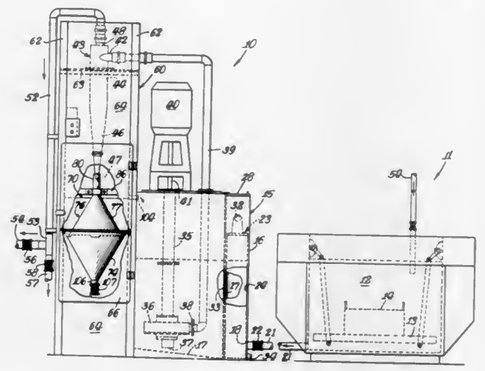


A floatation process and apparatus for separating solids from liquids and for thickening sludges. The treated liquid may be water or waste water, and it is initially subject to a resting action so as to reduce its speed of flow. Then the water is subjected in a floatation cell to aeration, so that solids will float on the surface of the liquid in the aeration cell, and these solids can be removed from the surface of the liquid in the floatation cell. Clear water is discharged through a discharge chamber which communicates with the floatation cell. At its inlet a resting chamber communicates with the floatation cell, and this cell tapers in an upward direction in the region of its upper end while at a lower region an aerating means communicates with the cell to direct small air bubbles upwardly through the liquid therein to bring about floatation of the solids at the upper part of the floatation cell from where the solids can be withdrawn by a suitable conveyor.

3,525,438
FILTERING SYSTEM

Frank E. Meyers, 1201 Hamilton, Lockport, Ill. 60446, and Florence A. Kostyra, 507 N. Eastern Ave., Joliet, Ill. 60432

Filed Jan. 27, 1969, Ser. No. 794,055
Int. Cl. B04c *5/14;* **B01d** *50/00*
U.S. Cl. 210—295 **10 Claims**

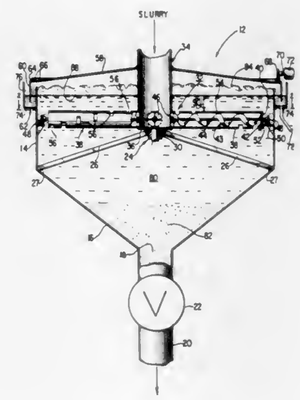


A filtering system employing a cyclone separator as a filtering element for separating solid particles in suspension in a fluid to be filtered. An anti-turbulence and particle concentrating means receives the underflow from the separator and serves to further separate solid particles from the fluid in the underflow and provides for recovery of both the solid particles and the fluid of the underflow.

3,525,439
DISTRIBUTION AND SLURRYING APPARATUS

Franklin K. Spragins, Edmonton, Alberta, Canada, assignor of thirty percent each to Cities Service Athabasca, Inc., a corporation of Delaware, Imperial Oil Limited, a Canadian corporation, Atlantic Richfield Corporation, a corporation of Pennsylvania, and ten percent to Royalite Oil Company, Limited, a Canadian corporation

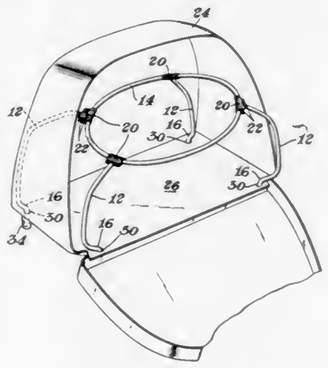
Filed Nov. 4, 1968, Ser. No. 773,243
Int. Cl. B01d *21/24*
U.S. Cl. 210—520 **7 Claims**



An apparatus for the primary separation of a bituminous emulsion from an aqueous slurry of tar sand is disclosed herein. The apparatus comprises a tank with a

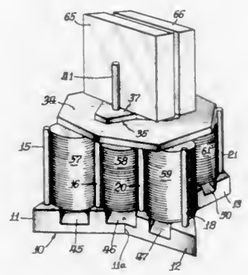
sand discharge port in its bottom, and a number of horizontally movable distributor arms connected to a rotatable vertical slurry feed tube. A rotating screw conveyer is axially mounted within each distributor arm, and acts both to move the slurry outwardly in the arm and to effectively disperse the slurry. Each distributor arm has a multiplicity of outlets along the sides thereof, preferably equally spaced with the outlet closest to the feed tube being on the top of the distributor arm and the outlet furthest from the feed tube being located on the bottom of the distributor arm while the intervening outlets are equally spaced in descending locations.

3,525,440
BOWLING BALL STAND
Robert F. Anderson, 3613 13th St., Menominee, Mich. 49858
Filed July 22, 1968, Ser. No. 746,367
Int. Cl. A47f *7/00*
U.S. Cl. 211—14 **9 Claims**



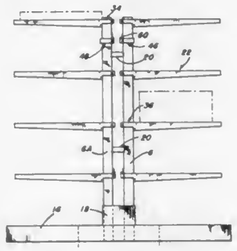
A bowling ball support stand for use in a bowling accessory bag wherein the ball is held by a ring shaped frame member. The stand possesses a high strength to weight ratio and is economical and simple to fabricate by standard metal working techniques. Various embodiments provide for either permanent or removable installation in a bag.

3,525,441
CHIP HOLDER
William H. Aincham, 3 S. York Road, Bensenville, Ill. 60106
Filed Jan. 8, 1969, Ser. No. 789,899
Int. Cl. A47f *7/00*
U.S. Cl. 211—49 **4 Claims**



A chip holder carrying chips on a star shaped base in vertical stacks with confinement by a plurality of posts against lateral shifting movement and against vertical movement by a top plate which is removably fastened to the base by centrally disposed cooperative fastener elements. When the top plate is removed the chips can be easily removed or replaced and conversely when the top plate is in fixed position the chips are securely locked in the chip holder.

3,525,442
CANTILEVER RACK
William H. Novales, Box 8364, Oakland, Calif. 94608
Continuation-in-part of application Ser. No. 549,620, May 12, 1966. This application Mar. 27, 1968, Ser. No. 717,072
Int. Cl. A47b *96/12, 96/14*
U.S. Cl. 211—176 **6 Claims**

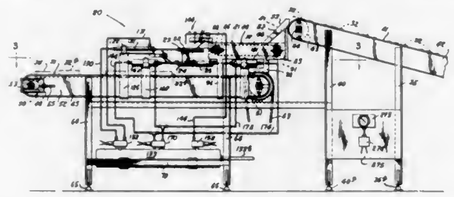


A cantilever rack having one or more rectangular vertical columns with horizontal arms extending therefrom wherein the column has a series of holes on one face of the column and the arm has a flat plate adapted to lie against the face of the column with a pin extending therefrom adapted to extend into one of said holes, the cantilever arm having extensions formed of angle iron extending on both sides of and beyond the column with means on the side of the column opposite the pin for fastening the two arms together. The fastening means can comprise a tapered pin passing through holes in the extensions or can comprise a bar held by lugs on the extension or an angle iron may be bolted to the extensions to form the holding means.

ERRATUM

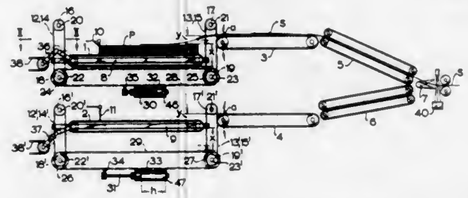
For Class 213—43 see:
Patent No. 3,525,449

3,525,443
COUNTING AND STACKING APPARATUS
Johnny B. Pomara, Jr., Dallas, Tex., assignor of fifty percent to El Chico Corporation, Dallas, Tex., a corporation of Texas
Continuation-in-part of application Ser. No. 657,244, July 31, 1967. This application June 10, 1968, Ser. No. 735,696
Int. Cl. B65g *57/06*
U.S. Cl. 214—6 **4 Claims**



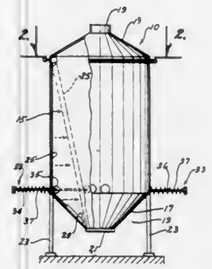
Apparatus for counting and stacking substantially flat articles including a stacking conveyor, a stacking plate, a stacking guide, stack support and discharge plates, and a discharge conveyor. The stacking conveyor deposits each article on the stacking plate which immediately retracts dropping the article downwardly to the support and discharge plates which retract when a desired predetermined number of articles are stacked dropping the stack to the discharge conveyor.

3,525,444
APPARATUS FOR FORMING PACKS OF FLAT ARTICLES
Friedrich Franz Brockmüller, Lengerich, Westphalia, Germany, assignor to Windmoller & Holscher, Lengerich, Westphalia, Germany
Filed Nov. 8, 1968, Ser. No. 774,343
Claims priority, application Germany, Dec. 15, 1967, 1,586,350
Int. Cl. B65g *57/14*
U.S. Cl. 214—6 **11 Claims**



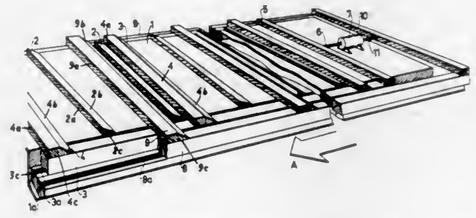
Apparatus for forming stacks of flat tube portions comprises two collecting conveyor belts and feed belts extending from a tube former to each collecting conveyor belt. Each collecting conveyor belt is mounted on a frame which can be raised or lowered by lifting gear driven by a hydraulic motor which can be operated through a metering device to lower the collecting conveyor belt during stacking of tube portions thereon by the associated feed belt at such a rate that the top of the stack remains at substantially the same level with respect to the feed belt. After the stack is completed the motor is connected directly to a fluid reservoir to lower the conveyor belt to the level of a distributing conveyor for discharge of the completed stack, after which the motor is connected to a high pressure fluid source to raise the collector conveyor rapidly to its starting position. During discharge and raising of one collecting conveyor belt the other is loaded, so that feeding of tube portions to the collecting conveyor belts is continuous.

3,525,445
MEANS FOR INDUCING THE FLOW OF MATERIAL THROUGH A STORAGE TANK OR THE LIKE
Lloyd D. Barger, Edina, Minn., assignor of one-half to Robert O. Sather, Minneapolis, Minn.
Filed July 22, 1968, Ser. No. 746,598
Int. Cl. B65g *65/40*
U.S. Cl. 214—17 **15 Claims**



A means for inducing the flow of material through a storage tank or the like having a material inlet opening at its upper end and a material discharge opening at its lower end comprising a plurality of normally flat, inflatable members in the storage area which normally extend downwardly along the interior wall of the tank. The inflation of the inflatable members causes the members to move inwardly in the tank and away from the wall thereof to dislodge any material sticking therein so that the material will flow from the material discharge opening at the lower end of the tank.

3,525,446
CONVEYOR FOR PARTICULATE MATERIAL
Stig Olof Grafstrom, Bondsjo, Sweden, assignor to Mo Och Domsjo Aktiebolag Ornskoldsvik, Sweden, a corporation of Sweden
Filed Nov. 15, 1968, Ser. No. 776,101
Claims priority, application Sweden, Nov. 15, 1967, 15,703/67
Int. Cl. B65g *25/08*
U.S. Cl. 214—83.3 **10 Claims**

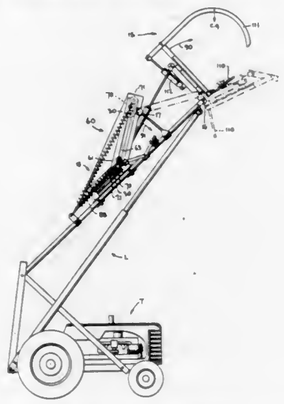


A conveyor for moving particulate material from one place to another is provided, having a generally flat conveyor support, and, arranged on the conveyor, two arrays of transport members each reciprocable in one direction to advance and push the particulate material forward along the conveyor, and in the other direction to slide beneath the particulate material so that the particulate material moves along the support only in one direction. The reciprocation of the two arrays of transport members is synchronized such that when one array moves in one direction, the other array moves in the opposite direction. Retaining members are also provided along the conveyor, to hold the particulate material against movement with the transport members while they are slipping beneath the material during their return reciprocation.

3,525,447
POWER OPERATED HAY HANDLING ATTACHMENT WITH FLOATING ACTION
William U. Witikko, 815½ 14th St., Bismarck, N. Dak. 58501
Filed Oct. 18, 1968, Ser. No. 768,656
Int. Cl. E02f *3/04*
U.S. Cl. 214—767 **20 Claims**

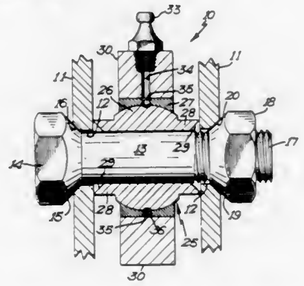
Vehicle mounted attachments for handling material are disclosed which employ a power means for operating the material engaging implements with one end of the power means being mounted for floating action over a selected range of movement for use in control of the implement and to accommodate outside forces. The floating action is permitted by use of a runway along which a roller assembly attached to the base of the power means is adapted to travel. One embodiment includes the use of an angled runway extension for additional control capability with second and third roller assemblies serving to provide selective transfer to the second range of movement along the extension and to bias the assemblies toward the first range, respectively. Another embodiment includes the use of a second power cylinder for controlled

movement of the roller assembly along the runway. A hay sweep implement and grapple fork implement are



specifically disclosed as being capable of use as an integrated part of the attachments.

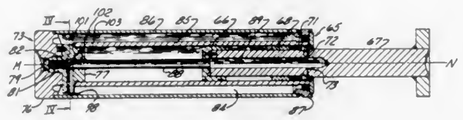
3,525,448
PIVOTAL JOINT WITH BALL-BUSHING AND COUNTERSUNK PIN
James J. Bauer, Lisbon, N. Dak., assignor, by mesne assignments, to Clark Equipment Company, Buchanan, Mich., a corporation of Delaware
Filed May 17, 1968, Ser. No. 730,044
Int. Cl. B66f *9/00*
U.S. Cl. 214—778 **2 Claims**



A pivotal, heavy-duty joint characterized by a countersunk pin having a ball-bushing axially mounted thereto. The beveled head and nut of the pin respectively engage the exterior surface of a pair of parallel spaced side plates and provide a means for compensating for wear between the pin and the side plates. The ball-bushing is spaced inwardly from the side plates by collar means. A force transmitting member is mounted to the ball-bushing to transmit force in a direction transverse to the axis of the pin and parallel to the side plates. The countersink provides a means for compensating for wear between the pin and the side plates. The ball-bushing compensates for any misalignment between the force transmitting member and the pin.

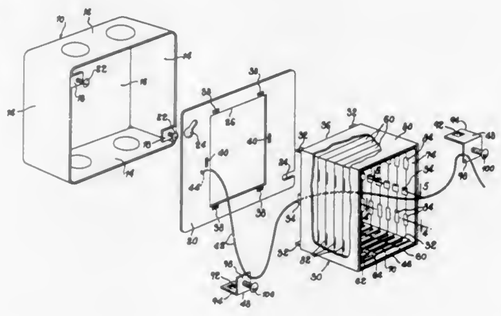
3,525,449
HORIZONTALLY ACTING HYDROPNEUMATIC BUFFER
Andrey L. Zanow, Cleveland, Ohio, assignor to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 15, 1968, Ser. No. 705,796
Int. Cl. B61g *9/02, 9/12*
U.S. Cl. 213—43 **4 Claims**

A single-action hydraulically-cushioned snubbed-return buffer utilizing but not restricted to a compressed gas to cause the buffer to execute a return stroke. The buffer is especially constructed with respect to a reservoir for storing the compressed gas and a reserve quantity of



oil to avoid passage of gas from the reservoir to the working cylinder during a return stroke, to purge any gas from the cylinder during a working stroke, and to render the buffer self-priming.

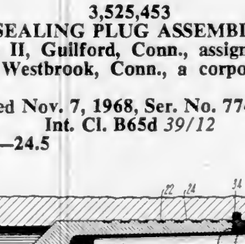
3,525,450
ELECTRICAL BOX COVER CONSTRUCTION
Benjamin Payson, East Brunswick, N.J. (304 S. 2nd Ave., Highland Park, N.J. 08904)
Filed Dec. 23, 1968, Ser. No. 786,160
Int. Cl. H02g *3/08*
U.S. Cl. 220—3.7 **10 Claims**



An electrical box cover construction including a sleeve in which a plurality of sleeve-like sections are arranged end-to-end within a sheath of plastic material which cooperates with the sections such that the sheath may be severed flush with the surface of a surrounding structure within which the electrical box is installed to remove that portion of the sheath extending outwardly beyond the surface of the surrounding structure and any sections corresponding to that portion of the sheath and render the open end of the sleeve flush with the surface of the surrounding structure.

3,525,451
CONTAINER
Johann Rudolf Asser, Bellaggio, Italy, assignor to Algenthia A.G., Gesellschaft fur Entwicklungen von Hafen- und Industrieanlagen, Glarus, Switzerland
Filed Apr. 8, 1968, Ser. No. 719,378
Claims priority, application Switzerland, Apr. 10, 1967, 5,048/67
Int. Cl. B65d *7/26, 9/14*
U.S. Cl. 220—6 **2 Claims**

A box-shaped container is arranged to be collapsed for transportation in empty condition. The container comprises two side panels, two end panels, a cover panel and a bottom panel. The end panels and cover and bottom panels are hingedly connected to the side panels whereby the container may be collapsed by tilting the end panels and cover and bottom panels inwardly towards the side panels and then the side panels may be pushed towards



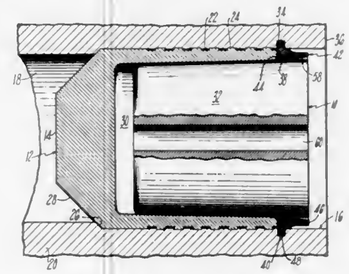
each other so that all panels are situated in substantially parallel planes and rest against each other.

3,525,452
METHOD AND DEVICE FOR THERMALLY INSULATING A VESSEL
Albert Hofmann, Grunwald, Germany, assignor to Linde Aktiengesellschaft, a corporation of Germany
Filed Mar. 19, 1968, Ser. No. 714,305
Claims priority, application Germany, Mar. 31, 1967, L 56,146
Int. Cl. B65d *7/22*
U.S. Cl. 220—10 **8 Claims**



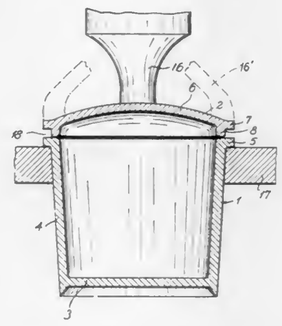
Method of preparing an insulated vessel, especially for a low-temperature fluid such as a liquefied gas, wherein the insulation in the hermetically sealed space between the inner and outer walls of the vessel consists in part of a resistance-heating metallic film and a pair of conductors pass through the outer wall of the vessel and are connected across the metallic layer for resistance heating of the interior of the insulating space to drive out gases and moisture prior to evacuation and final sealing.

3,525,453
SEALING PLUG ASSEMBLY
Leighton Lee II, Guilford, Conn., assignor to The Lee Company, Westbrook, Conn., a corporation of Connecticut
Filed Nov. 7, 1968, Ser. No. 774,134
Int. Cl. B65d *39/12*
U.S. Cl. 220—24.5 **5 Claims**



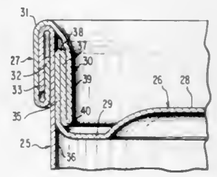
An expandable plug slip-fitted in an access hole of a base member and disposed axially inwardly of an annular groove surrounding the hole, an expander pin force-fitted into a socket of the plug causing peripheral ring sealing means thereon to bite into the base member, and an auxiliary locking ring compressively filling the groove and in contact with an outer axial end of the plug providing a secondary retainer of increased shear strength.

3,525,454
HERMETICALLY SEALED CONTAINER AND THE METHOD OF MANUFACTURE
Alfred Anton Vilhelm Frederiksen, Gefionsvej 5, Espergaerde, Denmark
Filed Oct. 4, 1968, Ser. No. 765,230
Claims priority, application Denmark, Oct. 6, 1967, 4,998/67; Sweden, Mar. 27, 1968, 4,106/68
Int. Cl. B65d *17/24*
U.S. Cl. 220—53 **5 Claims**



Method of manufacturing a hermetically sealed plastic container with a readily openable plastic cover in which the cover is attached to the container by means of thermal sealing carried out by means of ultrasonic vibrations so as to form an annular welded seam which is easy to tear up, a weakening line formed by the separate manufacture of the cover and the container being provided along the welded seam on the outer and/or the inner side of same.

3,525,455
SHEET METAL CONTAINER
William T. Saunders, Weirton, W. Va., assignor to National Steel Corporation, a corporation of Delaware
Filed Aug. 5, 1964, Ser. No. 387,609
Int. Cl. B65d *7/42*
U.S. Cl. 220—67 **12 Claims**

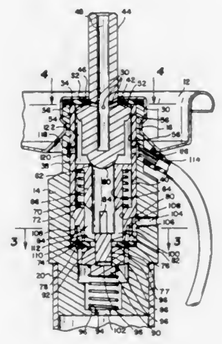


1. A sheet metal container comprising a body member and an end cover joined to an end of the body member for closing and sealing the container,

the end cover including a central portion disposed inwardly from the end of the container at its closed end,

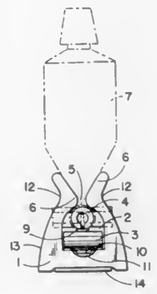
the body member having an inside surface extending about an axis of the container with the inside surface including a portion between the plane of the central portion of the end cover and the plane of the closed end of the container parallel to said axis,
the end cover having its central portion surrounded by a wall portion and an outer portion secured to the end of the body member by a double seam which projects radially from the outside surface of the body member,
the wall portion of the end cover being received within the body member in contact with the parallel portion of the inside surface of the body member,
the end cover being formed of sheet metal material of uniform thickness,
the wall portion of the end cover comprising at least three overlapping folds of said sheet metal material with adjacent surfaces of the folds in mutual contact, and
the overlapping folds of the wall portion extending throughout a major part of the parallel portion of the inside surface of the body member with one of the folds in overlying contact therewith.

3,525,456
SNAP ACTION NONTHROTTLING FLUIDS DISPENSING VALVE
Samuel Prussin, Los Angeles, and Jimmie L. Mason, Hacienda Heights, Calif., assignors to Dart Industries Inc., Los Angeles, Calif., a corporation of Delaware
Filed Oct. 8, 1968, Ser. No. 765,867
The portion of the term of the patent subsequent to June 3, 1986, has been disclaimed
Int. Cl. B67b *7/24*
U.S. Cl. 222—4 **8 Claims**



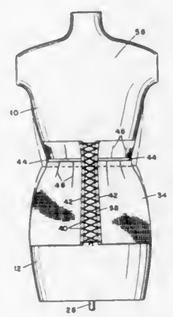
A snap action nonthrottling fluids dispensing valve, wherein a stationary seat and a movable valve member are disposed engagingly at opposite sides of a flexible valve element; fixed area control orifices communicating with said opposite sides of said flexible valve element; snap action actuating means disposed to move said movable valve member away from said flexible valve element, such that rapid snap action, deflection of the flexible valve element and movement of the movable valve element allows fluids to pass concurrently in proportioned amounts at said opposite sides of said flexible valve element so that said fluids which pass through said fixed area control orifices are permitted greater flow area at opposite sides of said flexible valve element than at said control orifices, thereby preventing inadvertent throttling operation of the fluids dispensing valve of the invention.

3,525,457
DEVICE FOR HOLDING AND EMPTYING TUBES
Else Hausmann and Heinrich Hausmann, both of 3 Hegauweg, 7893 Jestetten, Baden, Germany
Filed Mar. 4, 1969, Ser. No. 804,109
Claims priority, application Germany, Mar. 7, 1968, 1,611,934
Int. Cl. B65g *65/70*
U.S. Cl. 222—100 **7 Claims**



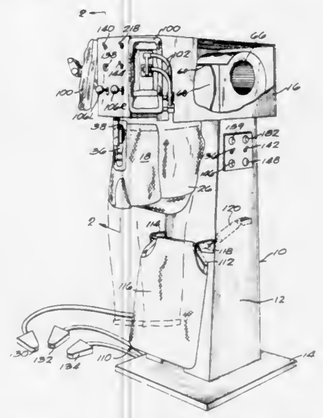
This invention relates to a holder for grasping tubes, such as toothpaste tubes, at their lower ends. A simple construction utilizes a housing, a plate spring which snap-fits into the housing, and a wind up key.

3,525,458
DRESS FORM
Robert S. Mason, El Segundo, and Lela Ruth Stewart, San Diego, Calif.; said Stewart assignor to James S. Bush, Oakland, Calif.
Filed Oct. 2, 1968, Ser. No. 764,452
Int. Cl. A41h *5/00*
U.S. Cl. 223—68 **8 Claims**



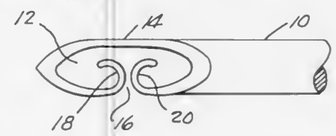
The dress form has separate top and bottom sections, each of which can be sized to an individual figure, the sections being of resilient foam material and interfitting securely with an overlap to eliminate a gap at the waist line. A waist encircling cincher is fitted to the individual user, then applied to the form to shape the waist portion accurately. The basic bust is substantially flat chested but complemented by separate pads configurated and held in place by the user's own size-fitted brassiere, thus ensuring accurate positioning and shaping. Provision is made for inserting internal padding within the form to match specific peculiarities of figure.

3,525,459
PANTS TOPPER
Norman A. Buckley, Wauwatosa, and Peter D. Rasmussen, Milwaukee, Wis., assignors to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Sept. 10, 1968, Ser. No. 758,751
Int. Cl. D06c *5/00, 15/00*
U.S. Cl. 223—73 **31 Claims**



A pants topper for finishing the upper portion of a pair of pants, and particularly: mechanism for expanding the waist and holding the lapped fly area of the pants secure relative to an underlying buck support; a device for elevating the pants legs to a height convenient for grasping by the operator for easy removal of the pants after the finishing operation; controls for operating the mechanism and device for easy pants dressing on or removal from the buck support, and for selective manual or automatically timed presteam and/or steam-air cycles of the topper; and structure to minimize steam condensation within the topper.

3,525,460
SEWING NEEDLE
Frederick G. Hendy, 160 College Parkway, Winooski Park, Vt. 05404
Filed Mar. 29, 1968, Ser. No. 717,316
Int. Cl. A41h *31/00*
U.S. Cl. 223—102 **1 Claim**



A needle having an eye apertured to permit reception of a thread moving transverse the axial extent of the needle, said aperture having its bounding edges shaped to retain the thread despite the passage of a thread-bearing needle through one or more layers of cloth in either direction.

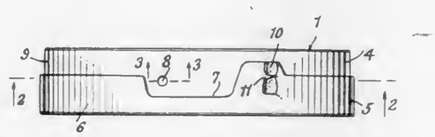
3,525,461
CAR TOP CARRIER STRUCTURE WITH LOCKING MEANS
Joseph Bronson, 15397 Cruse Ave., Detroit, Mich. 48227
Continuation-in-part of application Ser. No. 631,569, Mar. 31, 1967. This application May 27, 1968, Ser. No. 732,378
Int. Cl. B60r *9/04*
U.S. Cl. 224—42.1 **14 Claims**

A carrier structure is disclosed for supporting advertising material above the roof of an automobile. The structure includes a frame for the material which mounts transversely of the roof by a pair of clamping devices that are attachable with the rain gutters along the sides



of the roof. A key-operated lock on each clamping assembly prevents unauthorized removal of the carrier structure from the vehicle.

3,525,462
DENTAL FLOSS HOLDER AND DISPENSER
Hyman Freedman, 200 W. 58th St., New York, N.Y. 10019
Filed May 10, 1967, Ser. No. 637,381
Int. Cl. B26f *3/02*
U.S. Cl. 225—21 **8 Claims**



A holder and dispenser for dental floss comprising a cylindrical closed container, preferably composed of transparent material, holding a rotative roll or spool of dental floss and from which roll or spool the floss is drawn out to required length and severed as needed. The container has a hole in its wall through which the end of the floss is drawn to bring it to a cutter located on the outside of the wall of the container and against which the floss is pulled to sever it.

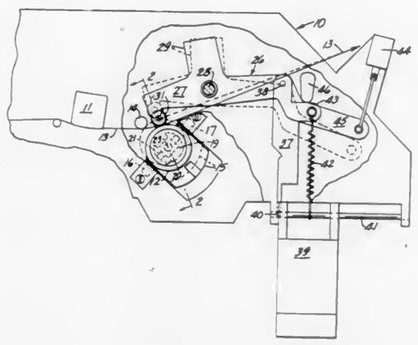
After the severance of the floss takes place, the part of the floss that is located on the outside of the container and remains attached to the roll, is caused to move away from the surface of the container so that as that end of the floss is extended it becomes readily engageable by the fingers preparatory to drawing it out to the required length for the next severance.

The invention also contemplates the provision of means by which the container can be mounted and resistance may be imparted to the roll to facilitate the one-handed operation of the dispenser and to also aid in forcing the end of the floss in a direction away from the body of the container.

3,525,463
INSTANT STOP DEVICE
Sten R. Gerfast, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed June 21, 1968, Ser. No. 739,076
Int. Cl. B65h *25/32*
U.S. Cl. 226—48 **3 Claims**

This invention is directed to a device for instantly stopping the travel or motion of a web such as a recording

tape. It comprises a stop member adapted to simultaneously disengage the tape from a capstan and press the tape firmly against a pressure roller to stop tape motion



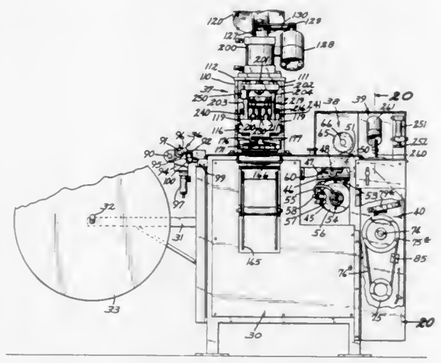
and hold it in stationary position. Upon release of the stop member, the pressure roller re-engages the tape with the rotating capstan so that the tape instantly resumes the desired rate of travel.

3,525,464

APPARATUS FOR AUTOMATICALLY AFFIXING VENT GROMMETS OR THE LIKE IN MATTRESS WALLS

Sven Olof Olsson, Minneapolis, Minn., assignor to Bechik Products, Inc., St. Paul, Minn., a corporation of Minnesota

Filed Dec. 11, 1968, Ser. No. 782,866
Int. Cl. B27f *7/08*
U.S. Cl. 227—18 **10 Claims**



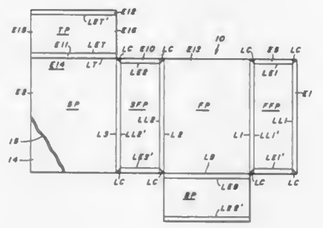
Apparatus adapted to receive thereon a roll of preformed mattress wall material, a roll of mattress handles temporarily affixed together, a plurality of metal washers and a plurality of metal grommets formed of sufficiently rigid material so they can be forced through the mattress wall material, said apparatus including gear-like roller means for moving the mattress wall material through the apparatus with a minimum amount of lengthening of the material due to compression thereof, means for positioning handles on the outer surface of the material at desired intervals with washers correctly positioned on the opposite side of the material and means for forcing grommets down through the handles, the material and the washers and crimping the grommets to retain the assembly fixedly in position, and further including marking means for marking corners of the mattress wall so that the handles will be correctly positioned when the mattress wall is affixed to a mattress, and further including a knife for severing the mattress wall material at a desired length to enclose a mattress, all of said apparatus being sequentially and periodically operated by means of an endless belt having a plurality of switches associated therewith.

3,525,465

HERMETIC CONTAINER

Peter Hotz, Pittsburgh, Pa, assignor to United States Steel Corporation, a corporation of Delaware

Filed Sept. 9, 1968, Ser. No. 758,289
Int. Cl. B65d *5/02, 13/00*
U.S. Cl. 229—37 **13 Claims**



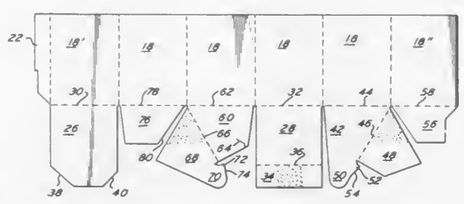
This invention relates to an hermetic container or carton and, more particularly, to a laminate-type foldable container which will provide an air and moisture barrier for its contents and the method of making such container.

3,525,466

SIX-SIDED BOX CONSTRUCTION

Herman E. Robinson, Wynnewood, Pa., assignor to Boas Box Company, Ardmore, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 723,709, Apr. 24, 1968. This application Oct. 30, 1968, Ser. No. 773,370

Int. Cl. B65d *5/10*
U.S. Cl. 229—39 **12 Claims**



A six-sided box construction wherein a six-sided body portion and an end closure are fabricated from a flat blank, and wherein the end closure is an assembly of mutually supporting fingers and stub flaps. Fingers are provided with interengaging lock tabs, and are also coupled to the stub flaps by locks when the blank is in its box-forming position so that inward or outward collapse of the end closure is prevented. The fingers are also provided with interengageable camming surfaces to guide the lock tabs to a locking position as the blank is manipulated to its box-forming position.

3,525,467

NON-SLIP PLASTIC ARTICLES

Richard J. Bennett, Duane W. Gagle, Homer L. Draper, and Dale F. Levy, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Oct. 18, 1967, Ser. No. 676,072
Int. Cl. B65d *31/00;* **B44d** *1/094;* **B32b** *27/32*
U.S. Cl. 229—53 **7 Claims**

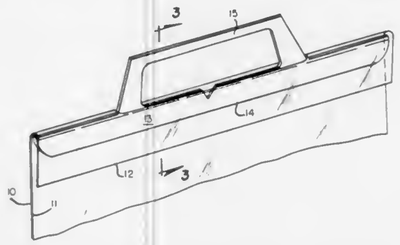
A slick surface plastic sheet or film useful for fabricating into bags or other articles is treated on at least a portion of the surface with an anti-slip agent such as asphalt or other tacky material in which, optionally, grit or other granular friction materials are embedded to prevent filled, stacked bags, for example, from slipping.

3,525,468

CARRIER BAG AND HANDLE AND CLOSURE MEANS THEREFOR

Seymour Kamins, Oceanside, and Norman Rosenberg, Bayside, N.Y., assignors to CTP Industries Inc., Brooklyn, N.Y., a corporation of New York

Filed Sept. 23, 1968, Ser. No. 761,481
Int. Cl. B65d *31/00, 33/06;* **A45c** *13/26*
U.S. Cl. 229—54 **8 Claims**



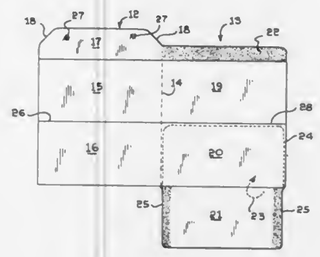
A carrier bag having bag walls of a thin-film plastic material, with one of the bag walls having a fold-over flap at the mouth of the bag. A supporting means comprising a longitudinal sealing strip is secured to the inside of the bag wall along the edge which does not bear the overhanging flap. The flap has a slit through which a handle or hook portion of the supporting means may be inserted when the flap is folded over onto the other bag wall.

3,525,469

MULTIFORM ENVELOPES

Victor J. Sawdon, New York, N.Y., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Oct. 17, 1968, Ser. No. 768,276
Int. Cl. B65d *27/06*
U.S. Cl. 229—73 **9 Claims**



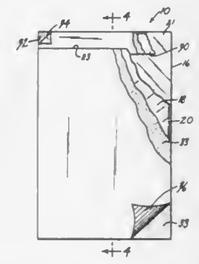
An improved multiform envelope of the type which includes an outer mailing section or cover and an integral inner section adapted to be detached to form a return envelope. The improved structure comprises a wrap-around sealing flap for the return envelope which permits the envelope to be opened by manual or machine slitting without deleteriously affecting the copy, remittance, or order form which the envelope may contain. Provision is also made for jumbo-sized flaps on the envelope to provide additional space for messages.

3,525,470

SEALABLE ENVELOPE FOR PACKING SLIP OR THE LIKE

Robert J. Carrigan, Thompsonville, Conn., assignor to United States Envelope Company, Springfield, Mass., a corporation of Maine
Continuation-in-part of application Ser. No. 689,370, Dec. 11, 1967. This application Apr. 28, 1969, Ser. No. 825,107

Int. Cl. B65d *27/00*
U.S. Cl. 229—74 **1 Claim**



A sealable envelope for receiving a packing slip or the like and adapted for attachment to a packing box or other receiving surface has rectangular rear and front panels made from a flexible plastic material bonded together to form a pocket therebetween. The front panel is longer than the rear panel and includes a seal flap which extends beyond the edge of the rear panel defining the pocket mouth. The outer surface of the rear panel is coated with a pressure sensitive adhesive covered by a piece of release material which is removable therefrom to expose the adhesive for adhering the rear panel to the receiving surface. The seal flap is also coated with a pressure sensitive adhesive covered by a piece of release material which is removable therefrom to expose the adhesive for adhering the flap to the receiving surface. The adhesive on the flap extends inwardly toward the envelope pocket beyond the adjacent mouth defining edge of the rear panel and serves when the envelope is attached to a receiving surface to directly seal the front panel to the rear panel to close the pocket mouth.

3,525,471

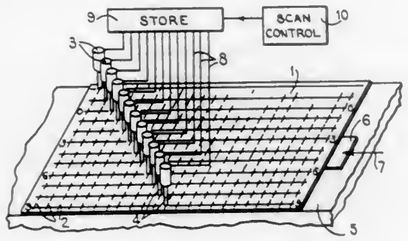
PUNCHING APPARATUS

Francis Harold Keen, Letchworth, England, assignor to International Computers and Tabulators Limited, London, England, a British company

Filed July 24, 1968, Ser. No. 747,152
Claims priority, application Great Britain, Aug. 12, 1967, 37,130/67
Int. Cl. G06k *1/05*
U.S. Cl. 234—56 **5 Claims**

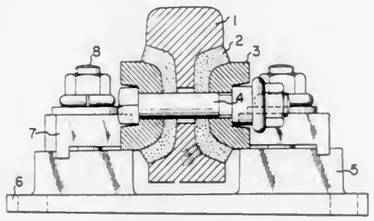
A record punching apparatus is disclosed which includes a line of punch mechanisms arranged at an oblique angle to the direction of movement of a record along a track. Data to be represented as perforations in the record is stored in a core storage device while a scan control means is employed to read out data from storage when an appropriate record position passes a punch mechanism. The

punches are operated in response to such output data signals and in synchronism with record movement to record information in columnar positions on the record.



In another embodiment, two data stores are operated to simultaneously read out data signals and thereby energise punch mechanisms in an overlapping manner.

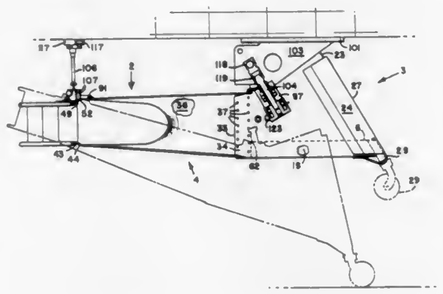
3,525,472
VIBRATION-SUPPRESSING COMPOSITE RAIL FOR RAILWAYS
Yutakam Sato, Tokyo-to, Japan, assignor to Nippon Kokuyu Tetsudo (known in English as Japanese National Railways), Tokyo-to, Japan
Filed Aug. 24, 1967, Ser. No. 663,152
Claims priority, application Japan, Aug. 30, 1966, 41/56,635; Nov. 25, 1966, 41/76,870, 41/76,871; 41/76,872
Int. Cl. E01b *11/16*
U.S. Cl. 238—151 **2 Claims**



An integral rail having a rail head and lower part is sandwiched between two cushion plates having rubber-like elasticity and clamped against respectively opposite sides and lower surfaces of the rail head of the integral rail by a supporting structure, which comprises long clamp plates or web plates tightened together on respectively opposite sides by bolts with nuts, or which comprises a concrete beam with a longitudinal groove along its upper part into which the integral rail is fitted over the cushion plates.

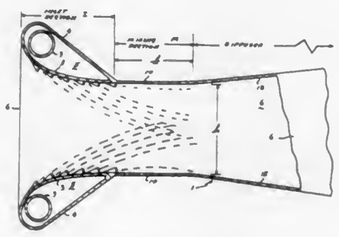
3,525,473
AIRCRAFT MOUNTED SPREADER APPARATUS
Phillip R. Pickell, Las Vegas, Nev., assignor to Agricultural Aviation Engineering Company, Las Vegas, Nev., a corporation of California
Filed June 11, 1968, Ser. No. 736,168
Int. Cl. B05b *17/02*
U.S. Cl. 239—171 **3 Claims**

The spreader apparatus of this invention is particularly adapted to disseminate dry materials in granular or powder form from a fast-moving aircraft. The apparatus is configured to take advantage of the velocity with which the apparatus passes through a body of air so as to channel air through the apparatus to provide Venturi action to draw dry granular or dust material into the apparatus to be disseminated by the expanding airstream exhausted therefrom. The apparatus is constructed from sheet metal,



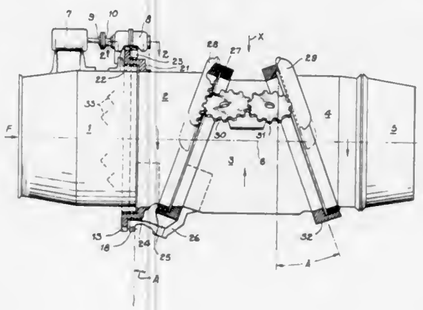
and is provided with fixed and adjustable vanes for controlling the flow of air therethrough. Additionally, the apparatus is provided with structure enabling the application of appropriate casters to increase mobility of the apparatus on the ground and facilitate transfer of the apparatus from a storage area to the aircraft.

3,525,474
JET PUMP OR THRUST AUGMENTOR
Hans J. P. von Ohain, Roscoe H. Mills, and Charles A. Scolatti, Dayton, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force
Filed Dec. 9, 1968, Ser. No. 782,184
Int. Cl. B64c *15/10*
U.S. Cl. 239—265.17 **10 Claims**



The present invention relates to improvements in devices generally known as eductors, jet pumps or thrust augmentors. The eductor in the form of a duct has a convergent inlet section, a mixing section and a divergent diffuser section with nozzles injecting high velocity primary jets of fluid into the inlet section and by aspirator action inducing a secondary flow into the inlet. The improvements primarily lie in the overall design wherein the mixing section is preferably of constant cross section with a length less than the hydraulic diameter thereof. A large number of small diameter primary injection nozzles are employed with the total cross-sectional area of the nozzles being of the order of ten percent of the mixing section cross-sectional area. The primary injection nozzles are of such a number and are arranged so that a nearly uniform injection pattern is produced across the inlet to the mixing section, with the injection axis of each nozzle divergent with respect to the longitudinal axis of the duct. Further, the jets have a criss-cross pattern to improve mixing, the nozzle jets adjacent the duct walls being arranged so that the jets wash off the boundary layer on the exist of the mixing section walls. The invention contemplates special nozzle configurations and arrangements to achieve a minimum blockage of the duct inlet, uniform velocity distribution across the mixing section exit and intimate mixing between the primary and secondary fluid flow.

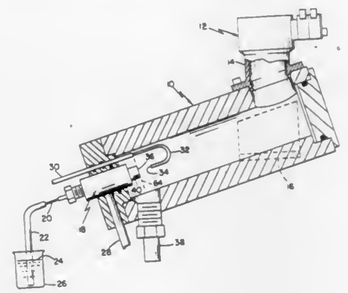
3,525,475
EXHAUST GAS DEFLECTING PIPE
Ludwig Schwelki, Moosburg, Germany, assignor to Motoren- und Turbinen-Union, Munich, Germany
Filed Nov. 6, 1968, Ser. No. 773,761
Claims priority, application Austria, Nov. 9, 1967, A 10,082/67
Int. Cl. B64c *15/04;* **F02k** *1/24;* **F16h** *1/20*
U.S. Cl. 239—265.35 **6 Claims**



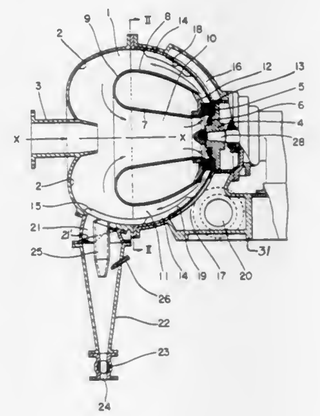
The exhaust gas deflecting device for a gas turbine is composed of a stationary pipe section to which are joined three rotatable pipe sections connected together by a train of segmental spur gears so that the first pipe section directly drives the third or end pipe section in the same direction of rotation of the first pipe section, while the second or middle pipe section is driven in opposite direction of rotation to said first and third pipe sections.

3,525,476
FLUID DIFFUSER WITH FLUID PRESSURE DISCHARGE MEANS AND ATOMIZING OF MATERIAL IN HOLDER
Eldon A. Boling, Brookline, Stanley B. Smith, Jr., Lexington, and Jerrold Zindler, Cambridge, Mass., assignors to Instrumentation Laboratory, Inc., Watertown, Mass., a corporation of Massachusetts
Filed Mar. 27, 1968, Ser. No. 716,458
Int. Cl. A61m *11/06*
U.S. Cl. 239—338 **8 Claims**

A pneumatic nebulizer includes a plenum chamber, a capillary tube that extends through the plenum chamber and a nozzle section that has a series of five coaxial steps. The end of the capillary tube is disposed in the smallest step section of the nozzle section and air at a pressure of 40 p.s.i.g. aspirates a sample through the capillary tube into the nozzle to produce a primary stream of nebulized sample. In one embodiment a secondary stream of fuel and air is supplied in a counter stream from an 0.050 inch orifice spaced 0.375 inch from the outlet plane of the nozzle. This secondary stream impinges on the primary sample stream and further reduces the size of the nebulized sample particles. In a second embodiment, a secondary stream is provided from an annular orifice 0.020 inch in width which impinges on the primary stream from a 45° angle within the nozzle section. A baffle in the form of a 0.375 inch diameter ball is placed in front of the nozzle and the mixed streams impinge on that surface.



3,525,477
DEVICE FOR FINE SCREENING OF PAPER STOCK
Tadashi Kobayashi, 277 Mitoshima, Shizuoko-ken, Fuji-shi, Japan
Filed Sept. 7, 1967, Ser. No. 666,031
Int. Cl. B02c *17/02*
U.S. Cl. 241—74 **4 Claims**

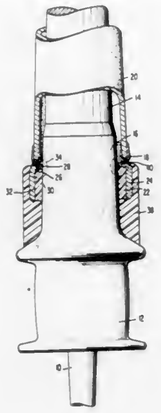


The present device includes a box wherein paper stock or used paper is beaten, pulped, cleansed and screened at the same time and from which box foreign matter and the screened stock are delivered through separate outlets of the box.

3,525,478
SPINDLE INCORPORATING MAGNETIC COUPLING FOR A BOBBIN
Richard K. Whitehead, Sr., Richard K. Whitehead, Jr., and Harry C. Whitehead, Atlanta, Ga., assignors to Springs Mills, Inc., Fort Mill, S.C., a corporation of South Carolina
Filed Oct. 23, 1968, Ser. No. 769,916
Int. Cl. B65h *75/30*
U.S. Cl. 242—46.21 **6 Claims**

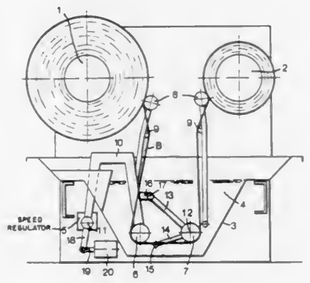
A spinning frame spindle provided with a magnetic coupling device to prevent creeping up of the bobbin, to aid in driving the bobbin, and to provide uniform release char-

acteristics when the bobbin is doffed. A band of magnetized material and an associated pole piece produce a



magnetic circuit which in part passes through the metallic ring at the lower end of the bobbin.

3,525,479
AUTOMATIC REWINDING MACHINE
Hans Stöbl, Uzwil, Switzerland, assignor to Maschinenfabrik Benninger AG, Uzwil, Switzerland, a corporation of Switzerland
Filed Sept. 23, 1968, Ser. No. 761,415
Claims priority, application Switzerland, Sept. 26, 1967, 13,475/67
Int. Cl. B65h *17/02*
U.S. Cl. 242—67.4 **5 Claims**

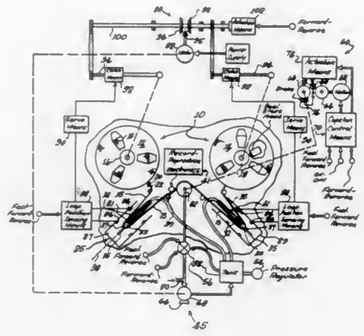


There is disclosed an apparatus for use in conjunction with a rewinding machine for controlling a regulator means for the automatic regulation of the drive means of the winding rollers to insure for substantial uniform speed and tension of the rewound web-like material as it is being wound from one of the winding rollers to the other, and vice versa, and while passing through a treatment liquid.

3,525,480
MAGNETIC TAPE TRANSPORT
Dennis Willard, 5937 W. 78th St., Los Angeles, Calif. 90045
Filed May 29, 1967, Ser. No. 645,848
Int. Cl. G11b *15/28, 15/56;* **B65h** *59/38*
U.S. Cl. 242—183 **5 Claims**

This invention relates to a web or tape transport system wherein a buffer means is provided that employs an expandable member which applies a controllable, substantially constant pressure under dynamic and static operating conditions to the tape to form a loop. The loop operates under substantially constant tension and provides a low inertia supply of tape.

3,525,481
TAPE HANDLING APPARATUS
David Arthur Longland, Ascot, England, assignor to International Computers and Tabulators Limited, London, England, a British company
Filed May 13, 1968, Ser. No. 728,673
Claims priority, application Great Britain, May 16, 1967, 22,617/67
Int. Cl. G11b *15/06, 23/12, 15/58*
U.S. Cl. 242—183 **6 Claims**



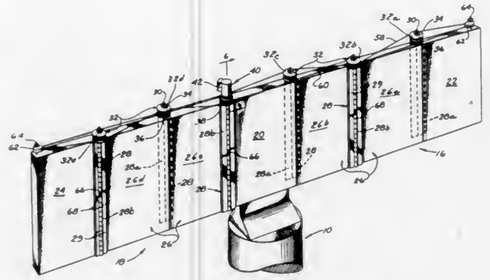
Tape handling apparatus is described, particularly suitable for handling magnetic tape, in which, in normal use during a first phase of operation, the tape is moved between two reels across a reading and/or recording head structure and in which loops of tape are held in reservoirs respectively on either side of the head structure. During this normal phase of operation tape reel drive motors are so controlled in relation to each other that predetermined loops of tape are held in the reservoirs. Provision is made for a high speed rewind operation during a second phase and in this phase one tape reel motor is first operated at slow speed to withdraw the tape from the nearest reservoir. After withdrawal, this first motor is accelerated to a high speed until the tape is rewound, the other, second, tape reel motor meanwhile being controlled to maintain the tape loop in the second reservoir during rewinding. The initiation of acceleration is controlled by movement of the tape between the second reservoir and the second tape reel as the result of the total withdrawal of tape from the first reservoir.

3,525,482
HINGED AIR TUBE ACCESS DOOR
Robert L. Kramer, 6818 Broening Road, Baltimore, Md. 21222
Filed July 8, 1968, Ser. No. 743,077
Int. Cl. B65g *51/04*
U.S. Cl. 243—38 **1 Claim**



A device for an automatic air tube system, the device being cylindrical in shape, the top portion being hinged to the bottom portion by an elongated hinge. This device also has snap catches to fasten with.

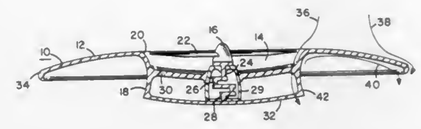
3,525,483
DEPLOYMENT MECHANISM
Earl M. Van Alstyne, Laguna Hills, Calif., assignor to North American Rockwell Corporation
Filed Jan. 17, 1968, Ser. No. 698,599
Int. Cl. B64g *1/10*
U.S. Cl. 244—1 **10 Claims**



A deployment to selectively deploy and retract a pair of oppositely disposed arrays of panels. A central panel is secured to a base structure such as a spacecraft, and an equal number of accordian hinged panels are symmetrically arranged on opposite sides of the central panel. Positive spring aided deployment and retraction of the panels are controlled by a dual cable system which engages a series of pulleys carried by the panels. Movement and location of the panels are symmetrical and rate of motion of each panel is the same at the same point in time.

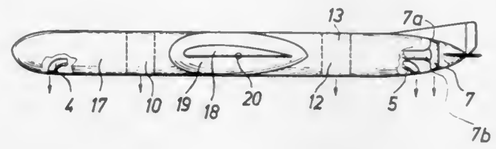
3,525,484
AERODYNAMIC SAUCER
Leonard E. Mueller, 4557 Mount Hubbard Ave., San Diego, Calif. 92117
Continuation-in-part of application Ser. No. 523,838, Jan. 18, 1966. This application June 17, 1968, Ser. No. 737,456
Int. Cl. B24c *29/00*
U.S. Cl. 244—12 **3 Claims**

A low density circular aerodynamic saucer having a duct opening in the center with a propeller means therein for rotating in a single plane, thereby inducing air flow through the duct and causing the saucer shaped wing to



rotate in one direction and the propeller to rotate in another direction relative to ground, the combination of which provides stable flight.

3,525,485
FLIGHT CONTROL FOR VERTICALLY STARTING AND LANDING MULTIENGINE AIRPLANES
Fritz Pfaff, Sindelfingen, Rolf Staufenbiel, Bremen-Lilienthal, and Heinrich Völker, Bremen-Huchting, Germany, assignors to Vereinigte Flugtechnische Werke Gesellschaft mit beschrankter Haftung fruher "Weser" Flugzeugbau, Focke-Wulf/Heinkel-Flugzeugbau, Bremen, Germany
Filed Aug. 21, 1968, Ser. No. 754,307
Int. Cl. B64c *15/00, 29/04*
U.S. Cl. 244—12 **5 Claims**

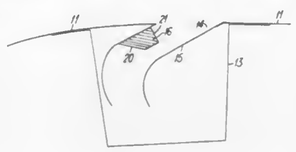


A vertical take off and landing airplane (VTOL) having downwardly directed fore and aft thrust motors with throttles and also having fore and aft downwardly directed nozzles supplied with compressed air and having valves for differentially controlling the discharge therefrom, and also having upwardly and downwardly directed control nozzles at the stern having a valve adjustable for permitting discharge from one or the other thereof, and a control mechanism for adjusting said valves and for differentially adjusting said throttles.

3,525,486
VORTEX GENERATORS
John Cecil Wimpenny, Hertfordshire, England, assignor to Hawker Siddeley Aviation Limited, Kingston-upon-Thames, Surrey, England
Continuation of application Ser. No. 617,190, Feb. 20, 1967. This application Apr. 8, 1969, Ser. No. 814,468
Claims priority, application Great Britain, Feb. 22, 1966, 7,788/66
Int. Cl. B64c *21/04, 23/06*
U.S. Cl. 244—42 **6 Claims**

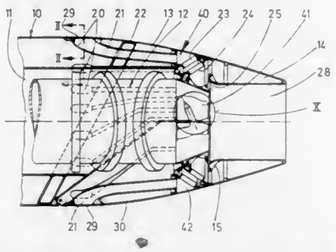
A boundary layer control system for an aircraft body having an aerodynamic surface, comprising: a tube of circular cross section having a mouth opening to the exterior of the body at said surface which tube has a portion adjacent said mouth so orientated in relation to said surface that an air stream issuing from the tube through said mouth emerges into the boundary layer over said surface at an acute angle to the surface and travelling in the general direction of the external flow, a vortex

generating member situated within said tube near the mouth thereof, and an air trunk within said body com-



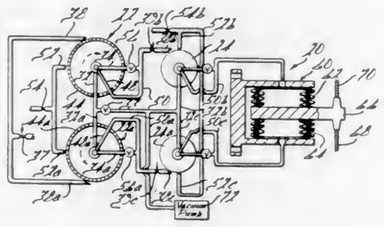
municating with said tube and supplying high pressure air thereto for delivery through said mouth.

3,525,487
SECONDARY AIR FLOW DUCT FOR AN AIRCRAFT TAIL SECTION
Gerhard Kopp, Munich, Germany, assignor to Entwicklungsring Sud G.m.b.H., Munich, Germany
Filed Oct. 9, 1968, Ser. No. 766,117
Claims priority, application Germany, Oct. 18, 1967, 1,531,402
Int. Cl. B64d *29/04, 33/04*
U.S. Cl. 244—53 **6 Claims**



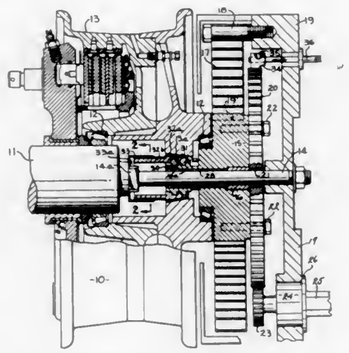
A secondary air flow duct arrangement for the tail section of a VTO/STO aircraft. A plurality of ducts are arranged about the aircraft engine. One end of each duct is positioned in alignment with a fresh air inlet opening defined by the engine cowling. The exhaust end of each of the air flow ducts terminates at a discharged orifice defined by a split thrust ring. The two halves of the thrust ring are maintained in alignment by means of pins which are retained within cooperating alignment holes.

3,525,488
APPARATUS FOR TRANSFORMING ROTATIONAL RATES INTO FLUID SIGNALS
Lael B. Taplin, Livonia, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed May 4, 1966, Ser. No. 547,595
Int. Cl. F15c *1/16;* **B64c** *13/36, 13/40*
U.S. Cl. 244—78 **16 Claims**



Apparatus for transforming rotational rates into fluid signals which actuate a fluid control device to maintain the wings of an aircraft level in flight. A pair of vortex rate sensors having parallel axes and a common supply are connected to the fluid control device so that the outputs from the sensors actuate the control device. Each rate sensor has a biasing vortical flow in a direction opposite to the other sensor such that a rotation imparted to the pair by wing movement will reinforce the vortical flow in one and subtract from the vortical flow in the other to provide a constant combined demand upon the supply and a difference in outputs which is used to actuate the control device.

3,525,489
SPRING-LOADED WHEEL SPINNING APPARATUS
William R. Hoover, 5942 Horning Road, Kent, Ohio 44240
Filed June 23, 1969, Ser. No. 835,818
Int. Cl. B64c *25/40*
U.S. Cl. 244—103 **2 Claims**

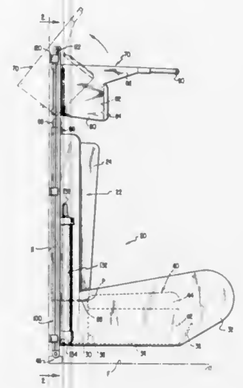


To spin the wheel of an airplane before it sets down on a runway, a spiral spring is provided concentric of a wheel supporting spindle has its outer end fixed relative to the frame of the vehicle while its inner end is attached to a drum adapted to rotate a sleeve extension thereof in wheel spinning direction, which sleeve extension has a male thread engaging the female thread of a clutch adapted to engage or disengage the surrounding wheel. The arrangement is such that the clutch is engaged by rotation of the sleeve extension in spring-unwinding direction and the clutch is disengaged by rotation of the wheel in vehicle-advancing direction.

3,525,490
AIRCRAFT EJECTION SEAT SYSTEM
James W. Duncan, Arden, and Fred B. Stencel, Asheville, N.C., assignors to Stencel Aero Engineering Corporation, Arden, N.C., a corporation of North Carolina
Filed Apr. 11, 1968, Ser. No. 720,650
Int. Cl. B64d *25/10*
U.S. Cl. 244—122 **16 Claims**

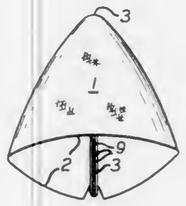
An aircraft ejection seat system of minimum weight and size wherein various ancillary components and features can be incorporated or eliminated, as desired. The system includes a separate headrest means which is normally locked in an upright position but which is released during ejection to swing rearwardly thereby preventing interference with man-seat separation. The seat itself is of a unique, compact design which includes a seat back having a generally V-shaped cross-sectional configuration. A torque tube means attached to the seat back fires the ejection propulsion means and unlocks the headrest means at that time in the sequence of events when man-seat separation occurs. The system also includes ejection rail

means which can be installed with the seat and attached to the aircraft solely by two screws. The construction of the catapults in the ejection propulsion means eliminates



"tip-off" problems. The system is safe, easily and quickly operable, compact, efficient and relatively inexpensive for the functions which it performs.

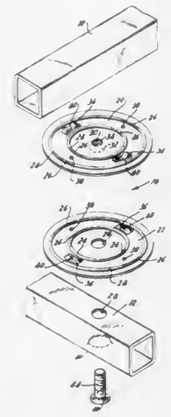
3,525,491
PARACHUTE
David T. Barish, New York, N.Y., assignor to Barish Associates, Inc., New York, N.Y.
Filed May 10, 1968, Ser. No. 728,212
Int. Cl. B64d *17/02*
U.S. Cl. 244—142 **14 Claims**



Improved parachute construction, particularly for flexible wing-type parachutes, wherein the canopy is joined together along at least a portion of at least one of the leading or trailing edges thereof and the suspension lines depending from the leading and/or trailing edges are shortened in such manner that they can be let out at selected intervals either in predetermined sequence and interval or in a manner randomly determined at the time in response to the then prevalent conditions. Improved parachute having shortened trailing and/or leading edges which can be let out as desired.

3,525,492
ADJUSTABLE AND COLLAPSIBLE SUPPORT FOR AN ADJUSTABLE TABLE
Walter Friedman, New York, and Aaron Kaufman, Rosedale, N.Y., assignors to Re-ly-on Metal Products Inc., Brooklyn, N.Y., a corporation of New York
Filed May 16, 1969, Ser. No. 825,245
Int. Cl. F16m *11/38*
U.S. Cl. 248—188.6 **5 Claims**

An adjustable and collapsible table having supporting legs adjustable between open table supporting and closed collapsed positions, the supporting legs being connected to a table base by swivel mounts structured so that when the legs are manually moved to an open position, they will be automatically locked in that position, yet by a



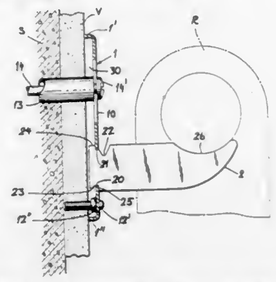
forced manual movement of the legs to their closed collapsed position they will be self-disengaged from their locked position and will resistingly hold to such closed position until again manually moved therefrom.

3,525,493
SIGN WALL BRACKET
Bill G. Chrietzberg, Raytown, and Frank V. Newell, Kansas City, Mo., assignors to Best Stamp & Manufacturing Company, Kansas City, Mo., a corporation of Missouri
Filed June 28, 1968, Ser. No. 741,042
Int. Cl. G09f *7/18*
U.S. Cl. 248—224 **3 Claims**



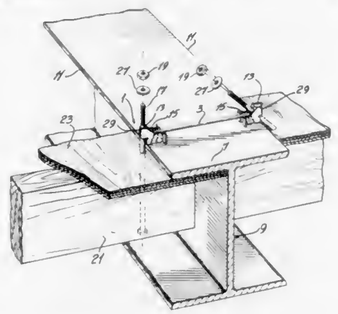
A sign wall bracket having a base for attachment to a supporting surface, the base having a mounting face, there being a pair of spaced apart feet projecting outwardly from the mounting face to define a recessed area therebetween, there being a channel formed substantially centrally of the recessed area to present a pair of side edges, the side edges being movable apart by applying a force against the base to move the feet into engagement with the supporting surface and to move the recessed area toward the supporting surface, the mounting means being initially movable along the channel between the side edges and, upon release of the force, clampingly engaged by the side edges whereby to retain the bracket. Carried by the base, oppositely outwardly from the mounting face, is a neck which neck carries a pair of jaws, the jaws defining a slot presenting a pair of opposed inside walls, the inside walls being provided with recessed seats, there being a sleeve of flexible material inserted within the slot, the sleeve having a plurality of beads thereon whereby to retain the sleeve in frictional engagement with a marginal edge of a sign, certain areas of the outer surface of the sleeve being received within the recessed seats of the slot by virtue of compressive force exerted by the jaws when the sleeve and sign are inserted into the slot.

3,525,494
WALL SUPPORT FOR RADIATORS AND THE LIKE
Victor Principe, Romanshorn, Switzerland, assignor to Arthur Schmid, Romanshorn, Switzerland, a corporation of Switzerland
Filed Apr. 9, 1968, Ser. No. 719,902
Claims priority, application Switzerland, Apr. 10, 1967, 5,047/67
Int. Cl. F24h *9/06*
U.S. Cl. 248—233 **3 Claims**



For the support of radiators, heating panels and the like on a wall, a vertical carrier plate with rearwardly curved edges is mounted on the wall and is formed with a vertical slot accommodating a cantilevered arm which is removably held therein by upper and lower lugs located in the narrow clearance between the wall surface and the body of the plate.

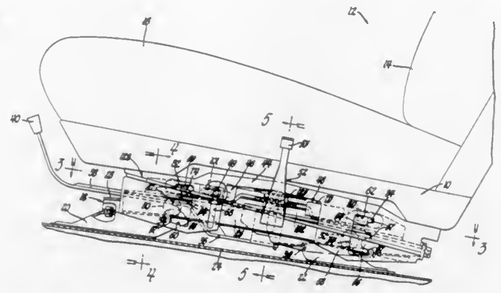
3,525,495
HANGER ASSEMBLY FOR SUSPENDED CONCRETE FORMS
Louis Philippe Brosseau, 7600 Place d'Aubigny, Ville d'Anjou, 5 Montreal, Quebec, Canada
Filed June 4, 1968, Ser. No. 734,472
Int. Cl. E04g *17/00*
U.S. Cl. 248—327 **7 Claims**



A hanger assembly for supporting concrete forms from I-beams, comprising two form-suspension members resting on the top flange of said I-beam and connected together by a connecting rod, the said suspension members being provided with openings permitting the insertion of a form-supporting bolt selectively vertically or at substantially 45° from the vertical.

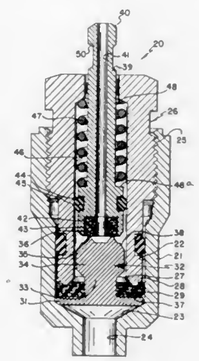
3,525,496
MANUALLY OPERABLE SEAT ADJUSTER MECHANISM
Albert J. Colautti, Windsor, Ontario, Canada, and Howard L. Wink, Jr., Troy, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 25, 1968, Ser. No. 778,396
Int. Cl. B60n *3/06*
U.S. Cl. 248—394 **6 Claims**

A manually operable vehicle seat adjuster mechanism for raising and lowering the forward end and the rearward end of a seat about first and second longitudinally spaced axes extending transversely of the vehicle. The mechanism is characterized by having a pair of locking pins, one of which is located adjacent the front end of the seat along the first transverse axis, while the other is located adjacent



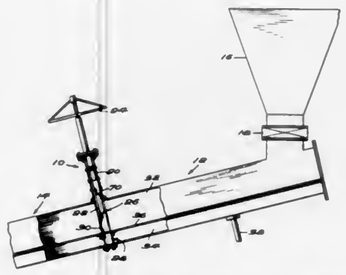
the rear of the seat along the second transverse axis. Both locking pins are selectively and independently movable along the longitudinal axis of the vehicle out of engagement with one of a plurality of vertically spaced notches so as to permit height adjustment of either the front or rear end of the seat.

3,525,497
LIGHTER VALVE
Frank E. Zalar, Cleveland, Ohio, assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 6, 1967, Ser. No. 688,550
Int. Cl. F16k *47/04, 55/02*
U.S. Cl. 251—121 **5 Claims**



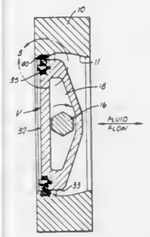
A lighter comprises a housing containing a chamber for the storage of fuel. A valve mechanism controls the flow of fuel from the chamber. The valve mechanism includes a support member having a base portion and a projecting portion extending from the base portion. The base portion of the support member supports a member made of resilient porous material, and the projecting portion of the support member comprises a valve seat which cooperates with a movable valve member to provide for flow of fuel from the porous material to provide the flame. A flame adjusting member encircles the movable valve member and is movable axially relative to the base portion of the support member to compress the porous material and thereby control the flow of fuel through the porous material. By controlling the degree of compression of the porous material, the porosity thereof is controlled and the flow of fuel through the porous material is controlled to provide a metering of the fuel and thereby control of the height of the flame provided by the lighter when actuated.

3,525,498
FLUIDIZING CONVEYOR APPARATUS
Norman L. Freeman, Jr., and Bruce J. Frazier, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
Application Apr. 3, 1968, Ser. No. 718,634, now Patent No. 3,480,331, dated Nov. 25, 1969, which is a continuation of application Ser. No. 594,831, Nov. 16, 1966. Divided and this application Apr. 8, 1968, Ser. No. 821,542
Int. Cl. B65g *53/18, 53/46;* **F16k** *25/00*
U.S. Cl. 251—176 **4 Claims**



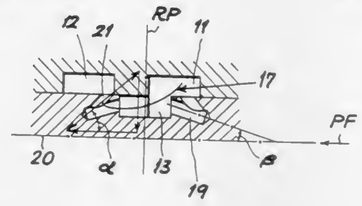
A gate valve is provided between adjacent ends of two conveyor sections for metering the flow of fluidized material along the conveyor. The valve includes a continuous passage that is to be aligned with the plenum chamber of each conveyor section, and a material conveying passage which is to be aligned with the material conveying chamber of each conveyor section. The gate valve is very thin and has a blade which moves vertically to adjust the size of the passage through which the fluidized material flows. Resilient springs on the blade urge the plate against the valve seat to minimize leakage of material between the edges of the valve plate and the seat. A rigid nonpermeable plate separates the gas passage from the fluidized material passage in the gate valve assembly and forms a rigid stop for the gate valve blade when it is closed.

3,525,499
VALVE SEAT CONSTRUCTION
Donald L. Geiselman and Frederick T. Newell, Bradford, Pa., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Continuation-in-part of application Ser. No. 604,090, Oct. 31, 1966. This application Apr. 17, 1967, Ser. No. 631,225
Int. Cl. F16k *1/226*
U.S. Cl. 251—306 **10 Claims**



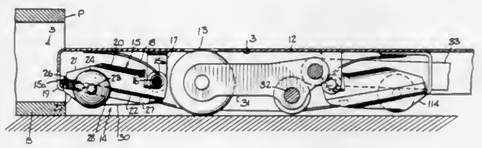
A butterfly valve in which the seat is formed of a stainless steel ring fused to the valve body by casting the body about the prepositioned ring prior to the finished machining thereof.

3,525,500
SLIDE-VALVE STRUCTURE
Alfred Bender, Hofheim, Taunus, Germany, assignor to Alfred Teves G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed Feb. 12, 1968, Ser. No. 704,638
Claims priority, application Germany, Feb. 14, 1969, T 33,196
Int. Cl. F16k *1/00, 11/07*
U.S. Cl. 251—324 **6 Claims**



A flow-distributing slide valve in which the force (e.g. of a spring) resisting displacement of the valve member from its neutral position or returning the piston to the neutral or normal position from an off-normal position is augmented by a force component in the same direction which is attributable to the momentum of the fluid flow in its passage from the inlet to the outlet ports of the valve. The contours of the passageway connecting the inlet and outlet compartments determine the force component in the preferred direction.

3,525,501
PALLET TRUCK ASSISTING MEANS
George W. Goetz, Detroit, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed May 17, 1968, Ser. No. 730,127
Int. Cl. B60p *1/00*
U.S. Cl. 254—2 **14 Claims**

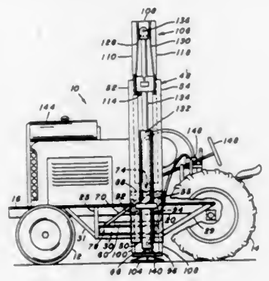


The load platform of a pallet truck is equipped with a ball-shaped roller mounted on a lever that can pivot upwardly so that the roller can easily ride onto the lower floor boards of a pallet, without pushing the pallet ahead. The lever has an inclined surface on which the upper periphery of the roller rolls rearwardly while the lower periphery rolls forwardly on the pallet boards, first causing the lever to pivot farther upward to a limit position, and thereafter pressing the pallet against the ground while lifting the load platform and its lifting wheels to a position enabling the wheels to move easily onto the pallet boards.

3,525,502
POST PULLER
Arthur L. Fisher, 112 MarVel Drive, Butler, Pa. 16001
Filed Sept. 3, 1968, Ser. No. 756,979
Int. Cl. E21b *19/00*
U.S. Cl. 254—30 **14 Claims**

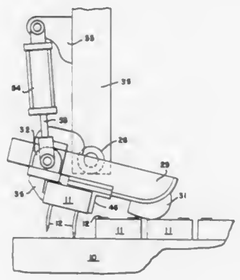
An attachment for a self-propelled vehicle for use in pulling posts from the ground is disclosed. The attachment comprises a frame structure detachably securable to

chassis of the vehicle. A slide structure is reciprocally supported by the frame structure for movement laterally with respect to the longitudinal axis of the chassis and a vertical mast is supported on one end of the slide structure for movement therewith and with its lower end being at a level above the ground surface on which the vehicle is supported. An extensible frame assembly is provided adjacent the lower end of the mast which is normally raised above the ground surface in a transporting position and extensible from its normal position to an extended ground engaging position to bear the force of pulling a post from the ground. There is also provided on



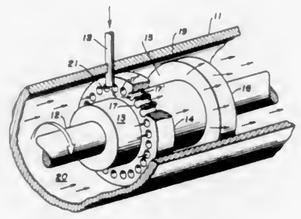
the mast a puller frame assembly which is movable up and down with respect to the mast and which has engagement means thereon for effecting detachable engagement thereof with a post to be pulled. A common power means is operatively connected to the puller and extensible frame assemblies which is constructed and arranged to first move the extensible frame assembly into its ground engaging position when it is desired to pull a post from the ground and then move the puller frame assembly upwardly with respect to the mast and thus pull a post from the ground when the puller frame is engaged with a post.

3,525,503
NAILED BOARD REMOVING DEVICE
Francis A. Hebert, P.O. Box 81, Schriever, La. 70395
Continuation-in-part of application Ser. No. 590,907, Oct. 31, 1966. This application May 12, 1969, Ser. No. 830,184
Int. Cl. B66f *3/24*
U.S. Cl. 254—124 **9 Claims**



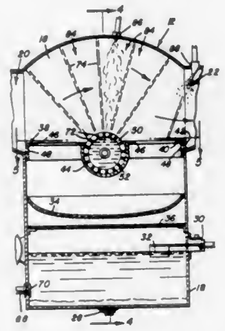
An apparatus for salvaging nailed boards used in the building of temporary roads over marsh land etc. The apparatus includes a frame having a fixed and a movable jaw adapted to grip a board therebetween and a rocker heel member about which said jaws are pivoted to raise the board from its support. Means are provided to close the jaws and pivot the frame about the rocker heel. The apparatus also includes a shaker conveyor for advancing thus removed boards to a nail bending device and thence to a board stacking device.

3,525,504
ADDITIVE MIXER
Robert E. Colwell, Chapel Hill, N.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Sept. 26, 1968, Ser. No. 762,900
Int. Cl. B01f *7/02*
U.S. Cl. 259—25 **2 Claims**



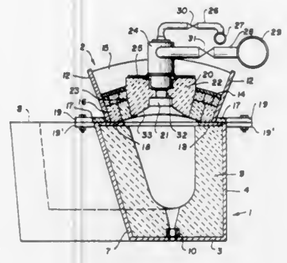
A novel apparatus for efficiently mixing any number of additives into a continuous stream; the apparatus itself being avantageously employed with conventional extruders for polymeric materials where there is generally a short mixing time and a low rotational speed.

3,525,505
AIR FILTERING AND PUMPING WATER FAN CONSTRUCTION
Theodore W. Roberg, R.F.D. 1, Litchfield, Conn. 06759
Filed Sept. 13, 1968, Ser. No. 759,622
Int. Cl. B01f *5/20*; B05b *3/12*
U.S. Cl. 261—25 **6 Claims**



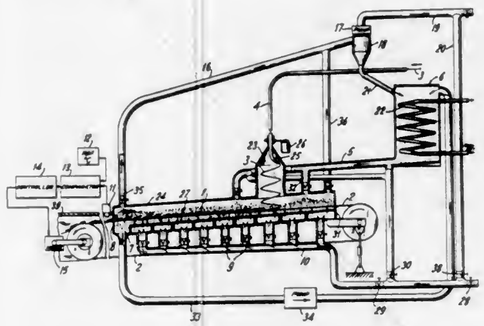
A device for filtering and pumping air wherein the combined function of pumping and filtering is carried out by walls of water which form the blades of the pump and perform part of the washing or filtering function. Additional washing of the air is carried out by passing the air through successive sprays of water. The water used for the pumping and cleaning also cools the cleaned air and permits recovery of chemicals carried by the air to be filtered.

3,525,506
TUNDISH-TUNDISH ROOF ASSEMBLY
George Harry, Jr., Beaver, and Robert A. Carbaugh, Pittsburgh, Pa., assignors to Jones & Laughlin Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 5, 1968, Ser. No. 757,563
Int. Cl. F27b *14/14*
U.S. Cl. 263—40 **4 Claims**



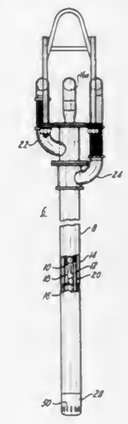
Apparatus comprising a tundish-tundish roof assembly and including gas burner means mounted in said roof for delivering hot combustion gases to the inside of the assembly both during preheating of the assembly and during casting, creating within the assembly a high temperature protective atmosphere at a positive pressure.

3,525,507
FLUIDIZED-BED SYSTEM FOR PATENTING STEEL WIRE
Hans Geipel, Oberhausen-Sterkrade, Eckehardt Förster, Oberhausen, and Wilfried Heinemann, Duisburg, Germany, assignors to Huttenwerk Oberhausen AG, Oberhausen, Germany, a corporation of Germany
Filed Oct. 16, 1967, Ser. No. 675,522
Claims priority, application Germany, Oct. 25, 1966, H 60,847, H 60,848
Int. Cl. C21d *9/56*
U.S. Cl. 266—3 **6 Claims**



Austenitic steel wire, having a starting temperature above the transformation point Ac_3, is passed through a fluidized bed of solid ceramic particles entrained by a stream of carrier gas, the gas temperature and/or the residence time in the bed being so chosen that the wire emerging from the bed has a temperature (around 550° C.) in the range in which transformation to sorbite occurs but above the level (around 500° C.) below which the formation of bainite would take place.

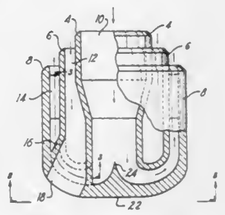
3,525,508
INJECTION LANCE WITH AN IMMERSIBLE NOZZLE
William W. Berry and Louis M. Herff, Pittsburgh, Pa., assignors to Berry Metal Company, Harmony, Pa., a corporation of Nevada
Filed Mar. 20, 1967, Ser. No. 624,287
Int. Cl. C21c *7/00, 5/32*
U.S. Cl. 266—34 **14 Claims**



This disclosure relates to fluid injection apparatus, and more particularly, pertains first, to an improved injection lance for supplying oxygen to a bath of molten metal in a steel-making furnace, and secondly, to an improved method of utilization that is generally applicable to the type of oxygen injection lance having a tip for sub-surface use.

The nozzle tip has a generally cylindrically-shaped outer side wall provided thereon with a plurality of oxygen outlet ports that are regularly positioned circumferentially about the body of the nozzle tip, each of which oxygen outlet ports of the nozzle tip is slot-shaped, with long dimensions thereof extending generally in the direction of the lance axis. An improved method of cooling is employed wherein the coolant is accelerated.

3,525,509
INJECTION LANCE WITH A NOZZLE ADAPTED FOR ABOVE THE BATH OPERATION
William W. Berry, Pittsburgh, Pa., assignor to Berry Metal Company, Harmony, Pa., a corporation of Nevada
Filed Apr. 7, 1967, Ser. No. 629,186
Int. Cl. C21c *7/04*
U.S. Cl. 266—34 **10 Claims**

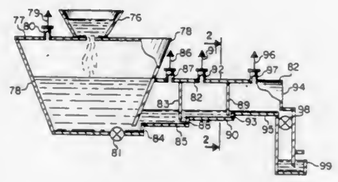


This invention relates to fluid injection apparatus, and more particularly, pertains first, to an improved injection lance for blowing oxygen down on the surface of a bath of molten material in a high temperature furnace, and

secondly, to an improved method of utilization that is generally applicable to the type of oxygen or other fluid injection lance having a nozzle tip for use above the bath.

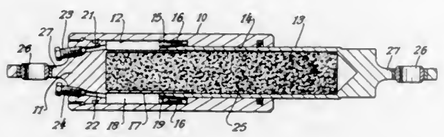
The nozzle tip has a generally cylindrically-shaped outer side wall provided thereon with a plurality of oxygen outlet ports that are regularly positioned on the nose of the nozzle tip circumferentially about the axis of the nozzle tip, each of which oxygen outlet port of the nozzle tip is slot-shaped, with long dimensions thereof extending generally in a direction normal to the lance axis. An improved method of cooling is employed wherein the coolant is accelerated.

3,525,510
CONTINUOUS VACUUM DEGASSING APPARATUS WITH REVERSE DRAINAGE MEANS
Harry L. Richardson, New York, N.Y., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware
Original application May 24, 1966, Ser. No. 552,551, now Patent No. 3,457,064, dated July 22, 1969. Divided and this application Mar. 3, 1969, Ser. No. 803,716
Int. Cl. C21c *7/10*
U.S. Cl. 266—34 **2 Claims**



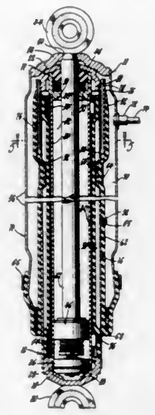
Molten metals are subjected to vacuum for degassing purposes by flowing the molten metal stream through a plurality of chambers in the form of thin horizontal films, with successively higher vacuum or lower absolute pressure being provided in succeeding chambers.

3,525,511
SHOCK ABSORBERS
Wilfred N. Bainbridge, Leamington Spa, England, assignor to Automotive Products Company Limited, Leamington Spa, England
Filed Feb. 8, 1968, Ser. No. 703,992
Claims priority, application Great Britain, Feb. 10, 1967, 6,423/67
Int. Cl. F16f *7/12*
U.S. Cl. 267—64 **7 Claims**



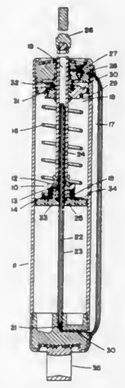
A shock absorber of the telescopic kind comprising a plunger slidable in a cylinder, the inward movement of the plunger in the cylinder resulting in the flow of hydraulic liquid from one chamber to another in the shock absorber, the outward or return movement of the plunger being effected by a load which is created as the plunger moves inwardly the load being produced by compression of a cellular elastomeric material in a space in the shock absorber.

3,525,512
SUPERLIFT UNIT WITH CAR TRIM HEIGHT CONTROL
Kenneth C. Hagwood, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 24, 1968, Ser. No. 731,911
Int. Cl. B60g *11/26;* **F16f** *5/00*
U.S. Cl. 267—64 **2 Claims**



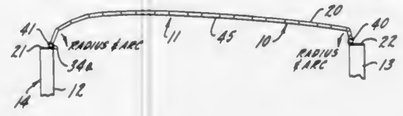
In preferred form, a shock absorber and air booster spring assembly having a fluid filled hydraulic reservoir formed in part by an elastic bladder which yields to compensate for thermal expansion of the hydraulic fluid in the reservoir. A reservoir tube around the bladder defines an expansion chamber therebetween to receive the expanded fluid. A bleed port in the reservoir tube serves as an outlet port for air booster spring pressurized fluid following an exhaust path formed in part by the expansion chamber. A flexible sleeve that forms part of the air booster spring chamber constitutes a valve that controls exhaust flow through the port to maintain a predetermined distance between the sprung and unsprung vehicle masses.

3,525,513
VALVING MEANS FOR HYDRAULIC SUSPENSION UNIT
David E. Jewell, Littleton, and Arthur W. Miller, Golden, Colo., assignors to The Gates Rubber Company, Denver, Colo., a corporation of Colorado
Filed Oct. 9, 1968, Ser. No. 766,275
Int. Cl. B60g *11/56*
U.S. Cl. 267—64 **7 Claims**



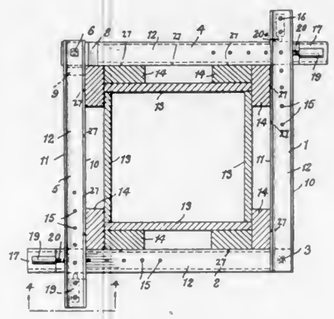
A combination check valve and length control means to improve hydraulic circuitry of self-leveling hydraulic suspension units.

3,525,514
SPRING CONSTRUCTION
Lawton H. Crosby, 403 Center Ave., Lake Buff, Ill. 60044, and Eugene B. Feingold, 3500 N. Lake Shore Drive, Chicago, Ill. 60613
Application Nov. 28, 1966, Ser. No. 602,448, now Patent No. 3,388,904, dated June 18, 1968, which is a continuation-in-part of applications Ser. No. 301,552, Aug. 12,1963, and Ser. No. 434,563, Feb. 23, 1965. Divided and this application Jan. 10, 1968, Ser. No. 719,808
Int. Cl. A47l *23/16*
U.S. Cl. 267—110 **3 Claims**



This invention relates to furniture and other seating arrangements, and more particularly to a seating arrangement employing springs of the sinuous band type wherein portions of the band adjacent the front and back rails of the furniture frame are bent downwardly to provide deep drop support of the seated subject without attendant bucketing and jack-knifing of the spring band.

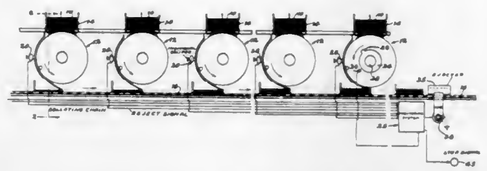
3,525,515
CLAMP FOR CONCRETE COLUMN FORMS
Samuel T. Melfi, 1601 NW. 1st Court, Boca Raton, Fla. 33432
Filed June 24, 1968, Ser. No. 739,545
Int. Cl. B25b *5/14*
U.S. Cl. 269—116 **9 Claims**



A clamp for concrete column forms comprising four bars arranged in the form of a frame defining a square or rectangular opening, the bars being clampingly fitted around the form and being provided with adjusting screws by which the bars can be urged into clamping relationship with the form.

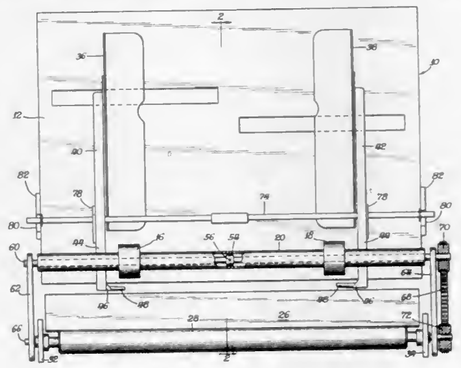
3,525,516
SIGNATURE OR SHEET COLLATING SYSTEM
Thomas W. Bushnell, East Aurora, Joseph R. Carson, Jr., Lancaster, and John J. Nill, Williamsville, N.Y., assignors to J. W. Clement Company, Depew, N.Y.
Filed Mar. 6, 1968, Ser. No. 711,041
Int. Cl. B42c *1/00;* **B65h** *39/02*
U.S. Cl. 270—58 **9 Claims**

The feeders of a signature collating or "gathering" system, each have a calipering device which operates to detect any malfunction in delivery to the collating conveyor. The caliper causes an electric monitor device to receive a storage pulse corresponding to the position of a malfunctioning feeder in the collating system. The storage pulse is then transferred through the shift register of the monitor device in synchronism with the transfer of books through the system and the monitor output is effective to reject the imperfect book at a station beyond the last



feeder without interrupting the continuous high speed operation of the system unless more than a predeterminated number of sequential malfunction signals are generated by the same caliper, at which time the operation of the system is stopped.

3,525,517
SHEET FEEDING APPARATUS
Dennis E. Toby, Lake Zurich, Ill., assignor to Addressograph-Multigraph Corporation, Mount Prospect, Ill., a corporation of Delaware
Filed Nov. 13, 1967, Ser. No. 682,252
Int. Cl. B65h *3/06*
U.S. Cl. 271—36 **11 Claims**

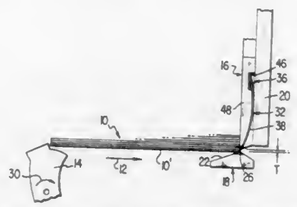


A horizontal tray supports a stack of sheets to be fed one at a time from the stack by a spaced pair of rotatable friction rollers. The rollers are supported on a shaft mounted for free pivotal movement in a vertical direction so that the rollers engage the top sheet with equal forces and skewed feeding is prevented. A member engages the shaft between the rollers and serves to both pivotally support the shaft, and also to rotate the shaft in order to advance a sheet.

3,525,518
SELF-ADJUSTING AND REPOSITIONING CARD GATE
Albert W. Oaten, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 9, 1968, Ser. No. 758,268
Int. Cl. B65h *3/50*
U.S. Cl. 271—41 **7 Claims**

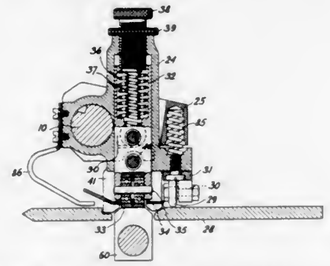
A card feeding mechanism for a vertical stack of cards consists of fixed upper and lower throat knives defining a throat gap of fixed dimensions allowing a single bottom card to be fed by an oscillating picker. The gap face of

the upper throat knife is tapered in the direction of card feed and a bowed creep spring is carried by the upper throat knife with a transverse spring portion of larger



diameter than the throat gap self-biased against the direction of card feed and in contact with the tapered face for automatically controlling single card feed.

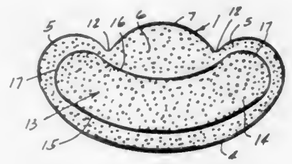
3,525,519
STRUCTURE TO BE USED IN PRINTING MACHINES AND THE LIKE FOR LATERALLY ADJUSTING SHEETS
Jaroslav Jiruše, Blansko, Czechoslovakia, assignor to Adamovske strojirny, narodni podnik, Adamov, Czechoslovakia
Filed Sept. 27, 1968, Ser. No. 763,065
Int. Cl. B65h *9/10*
U.S. Cl. 271—59 **10 Claims**



In a device for laterally adjusting sheets in a machine, such as a printing press, an elongated support shaft of the machine is supported for swinging movement about its axis. This shaft carries a lifting fork which coacts with a swingable body which is freely swingable on a support shaft and which is urged downwardly by a spring between the lifting fork and the swingable body. This latter body carries a roller which is resiliently pressed by this spring against the upper surface of a sheet-conveying table, and flush with this table is a shifting bar to engage a sheet and shift the latter into engagement with a stop member which is carried by the swingable body. A pressure roller which is carried by the swingable body coacts with the upper surface of the shifting bar to press against a sheet which is displaced into engagement with the stop member upon longitudinal shifting of the shifting bar. A single drive shaft of the machine coacts on the one hand with the shifting bar, through a suitable shifting means, for axially shifting the shifting bar and on the other hand with the swingable support shaft for angularly turning the latter.

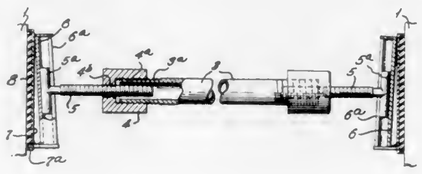
3,525,520
FACIAL EXERCISER AND MUSCLE BUILDING AID
Patricia Dwyer, 3307 W. 65th St., Chicago, Ill. 60637
Filed Dec. 29, 1967, Ser. No. 694,697
Int. Cl. A63b *23/00*
U.S. Cl. 272—57 **17 Claims**

A facial exerciser comprising a body portion adapted to be disposed in the mouth of the user between the teeth and external walls of the mouth, which may be provided with a tooth rest adapted to be disposed between the



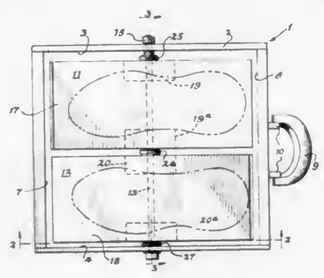
teeth, with the body portion being constructed to permit compression thereof by relative movement between the lower and upper jaw of the user.

3,525,521
EXERCISE BARS
Pat Sylvester, 9635 Ave. L, Chicago, Ill. 60617
Filed Aug. 4, 1967, Ser. No. 658,518
Int. Cl. A63b *1/02*
U.S. Cl. 272—62 **5 Claims**



This invention relates to a horizontal bar for gymnastic purposes and its mounting for use in a building doorway. The novel structure pertains to the details whereby the horizontal bar may be quickly adjusted to different width of doorways and so that the mounting is solid and safe and tends to tighten as the structure is used. One feature of the novelty pertains to the use of a T-member in which the cross member of the T is not precisely at right angles to the shank of the T.

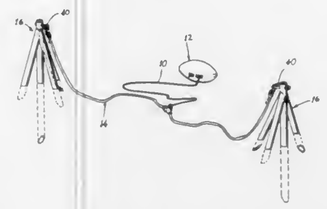
3,525,522
FRICTION TYPE FOOT EXERCISING DEVICE
Kenneth R. Piller, 7552 Ridge Road, Gasport, N.Y. 14067
Filed Sept. 4, 1968, Ser. No. 757,262
Int. Cl. A63b *21/00*
U.S. Cl. 272—79 **10 Claims**



A foot exercising device including a housing having a shaft extending transversely thereof, a pair of foot pedals pivotally supported intermediate the ends thereof in a side

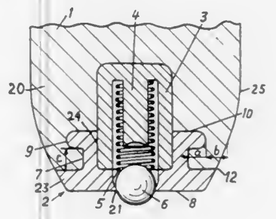
by side relationship on the shaft, shaft mounted means to space the foot pedals from each other and the walls of the housing and including resilient washerlike spacers, and means to adjustably compress the spacers in a direction axially of the shaft in order to vary the force necessary to effect pivotal movement of the foot pedals.

3,525,523
KICKING PRACTICE TETHER
Miro D. Bellagamba, 1337 Voll Road 45230, and Edward R. Ulmer, 5940 Beechtop Lane 45238, both of Cincinnati, Ohio
Filed Mar. 25, 1968, Ser. No. 715,705
Int. Cl. A63b *67/00*
U.S. Cl. 273—55 **5 Claims**



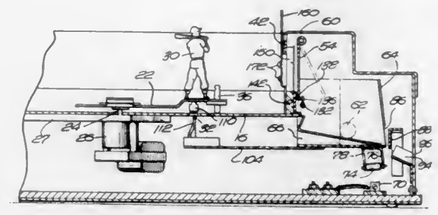
Elastic tether of substantial length having spring clip means at one end for attaching to the laces of a ball and being pivotally connected to a bridle at the other end, the bridle being an elastic member substantially shorter than the elastic tether and being provided with hooks at the ends thereof for removably attaching same to a pair of spaced apart anchor means.

3,525,524
PLASTIC BOWLING PIN FOR BOWLING ALLEYS
August Schmid, Schwerzenbach, Switzerland, assignor to Serania AG. Patentverwertungs- und Finanzierungsgesellschaft, Glarus, Glarus, Switzerland, a corporation of Switzerland
Filed Jan. 6, 1967, Ser. No. 607,739
Claims priority, application Switzerland, Jan. 12, 1966, 362/66
Int. Cl. A63b *9/00*
U.S. Cl. 273—82 **8 Claims**



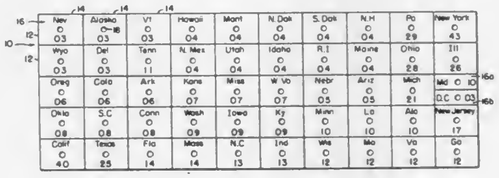
A bowling pin formed of plastic and incorporating a specially configured base portion to which is molded by use of an undercut portion the body portion of the bowling pin in a manner preventing detachment of the body portion and base portion from one another. Since the base portion is formed of a plastic material which is extremely wear resistant, the longevity of the bowling pin is insured, and the manner of attachment of said base portion with the body portion is so secure that there is little or no likelihood of separation of such members from one another. The base portion contains a housing which mounts a spring-biassed ball. The base portion is preferably of nylon and the body portion is preferably of polyethylene.

3,525,525
TOY BASEBALL GAME
Richard G. Rideout, Cambridge, Mass., assignor to Richard W. Schmader, Winchester, Mass.
Filed June 28, 1968, Ser. No. 740,907
Int. Cl. A63f *7/06, 7/10*
U.S. Cl. 273—89 **10 Claims**



A toy baseball game apparatus including a field on which a baseball diamond is shown, a motor-driven rotor on which a member representing a batter is removably mounted, stop elements under the four bases selectively movable up through the field into the path of the batter to stop the rotation of the rotor, a ball, means operable by one player to project the ball to any one of four swinging targets a selected one of which can be locked by the opposing player, and means operable by the ball when it passes one of the targets to start the motor and simultaneously to raise a corresponding stop element to stop the rotation when the batter reaches it. The rotor advances base-runner elements placed thereon.

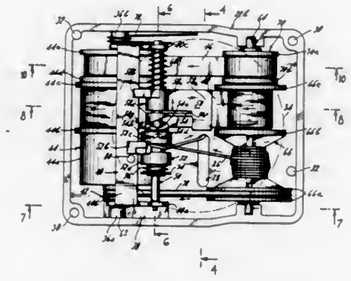
3,525,526
BOARD GAME APPARATUS FOR SIMULATING A PRESIDENTIAL ELECTION
Marie A. Kenrick, Salt Boxes, South Yarmouth, Mass. 02664
Filed Nov. 2, 1966, Ser. No. 591,629
Int. Cl. A63f *3/00*
U.S. Cl. 273—135 **9 Claims**



A game for simulating a presidential election contest utilizes a game board divided into segments representing States, each having a given number of electoral votes. Party markers and voting pieces are used to effect "capture" of a segment by a political party, the markers and pieces being placed on selected segments by the players in accordance with a strategy which is dependent in part on the outcome of throws of dice each having six faces numbered 0–1–3–5–6–9 and 0–1–2–4–7–8, respectively. Money pieces in limited amounts are given

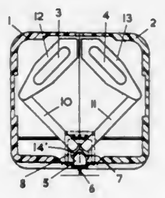
each player for spending to promote his strategy. Special dice may be used to determine the moves to be made. A modified game board in which States are grouped together in "blocs" for the purposes of a shorter game is also described.

3,525,527
SELECTION MECHANISM FOR MULTIMESSAGE TAPE PHONOGRAPH
Norman E. Sindlinger, Medford Lake, N.J., assignor to Ideal Toy Corporation, Hollis, N.Y., a corporation of New York
Filed June 20, 1968, Ser. No. 738,622
Int. Cl. G11b *3/00, 25/06*
U.S. Cl. 274—11 **28 Claims**



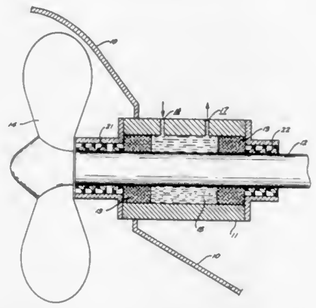
A selection mechanism for a multimessage tape phonograph. As the string is pulled during wind-up, the stylus is moved across the width of the tape to control the random selection of a groove on the tape. Depending on the direction in which the string is pulled out of the unit, the range of stylus movement is restricted to an associated section of the tape. Thus, for example, the selection may be limited to either "happy" or "sad" messages.

3,525,528
STEREOPHONIC PICK-UP
Machiel de Vries, Amsterdam, Netherlands, assignor to Ronette Piezo Electrische Industrie, N.V., Amsterdam, Netherlands, a corporation of the Netherlands
Filed July 17, 1962, Ser. No. 210,395
Claims priority, application Germany, Jan. 10, 1962, V 21,859
Int. Cl. H04r *1/16;* **G11b** *3/04*
U.S. Cl. 274—37 **7 Claims**



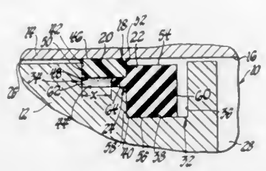
A stereophonic pick-up having a housing provided with two transducer elements and a common stylus holder. One end of the holder carries a stylus and the other end is mounted in a bearing accommodated in the housing. Each of the transducer elements are connected with a portion of the stylus holder by a resilient coupling member.

3,525,529
REPLACEMENT OF UNDERWATER SEALS
Paul E. Pfeifer and Joseph B. Stucker, Fullerton, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed May 20, 1968, Ser. No. 730,303
Int. Cl. F16j *9/00;* **E21b** *33/00*
U.S. Cl. 277—1 **7 Claims**



Lubricating seals for underwater use such as vessels are replaced underwater by gelling the oil in the stern tube. This permits replacement of the seals without entry of sea water into the tube. The gel is then broken and removed followed by an oil change.

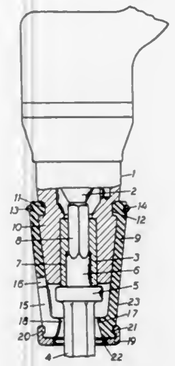
3,525,530
HIGH PRESSURE-LOW FRICTION SEAL
Charles J. Bauer, Dayton, and George E. Kellogg, Miamisburg, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 10, 1968, Ser. No. 735,678
Int. Cl. F16j *9/06, 15/00*
U.S. Cl. 277—165 **5 Claims**



A fluid sealing arrangement for sealing between a relatively reciprocating piston and cylinder wherein a primary sealing element retained within a groove formed in the piston has a radially outwardly facing surface sealingly engaging the cylinder bore and a radially inwardly facing surface radially spaced from the base of the groove so as to form a cavity. A secondary sealing element also retained within the groove sealingly engages the primary sealing element and, upon fluid pressurization, a portion thereof extrudes axially into and seals the cavity to thereby prevent fluid forces from acting beneath the primary sealing element and increasing the latter's sliding friction.

3,525,531
TOOL RETAINER
Gösta Ivar Ekström and Jarl Joel Blomberg, Nacka, Sweden, assignors to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed Dec. 19, 1968, Ser. No. 785,258
Claims priority, application Sweden, Dec. 27, 1967, 17,794/67
Int. Cl. B23b *31/08, 45/00*
U.S. Cl. 279—19.6 **9 Claims**

A working tool or implement retainer for a percussion tool comprising a sleeve or cap of resilient material such as rubber fixed to the front end of the tool and provided with a resilient end portion in which the working tool or implement such as a chisel, a drill steel, a concrete breaker steel or the like may be inserted and kept in position in the tool by the subsequent attachment to the



end portion of the sleeve of a substantially non-yielding locking ring which prevents radial flexing of the end portion. Removal of the working tool or implement may be carried out after removal of the locking ring.

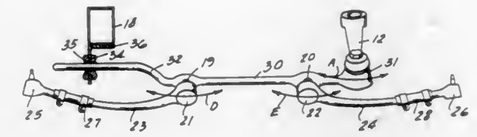
3,525,532
COMBINATION SKI POLE AND AVALANCHE PROBE
Warren Baldsiefen, Box 88, Bellvale, N.Y. 10912
Filed Oct. 21, 1968, Ser. No. 769,235
Int. Cl. A63c *11/22*
U.S. Cl. 280—11.37 **2 Claims**



A combination ski pole and avalanche probe wherein the ski pole hand grip is removed to expose means to receive the tip of another ski pole to thereby provide an avalanche probe. Several poles may be so joined if longer probes are required.

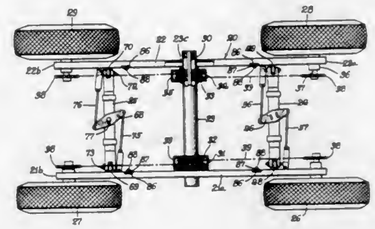
3,525,533
STEERING LINKAGE
Sylvester S. Mazur, Detroit, Mich., assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Mar. 22, 1968, Ser. No. 715,356
Int. Cl. B62d *7/16*
U.S. Cl. 280—95 **5 Claims**

A steering assembly for directing the angular movement of the dirigible wheels of a vehicle from the rotary movement of the steering gear box which has a centerlink bar supported on one end by a pitman arm activated by the steering gear and on the other end by an extension of the centerlink which is received in a bushing carried by the frame of the vehicle. Tie rods are attached to the



centerlink and connect the centerlink to the dirigible wheels in such a manner that shifting of the centerlink causes angular movement of the dirigible wheels.

3,525,534
VEHICLE FRAME
Herman J. Madler, 2938 S. Cicero Ave., and Kenneth I. Doane, Sr., 2812 S. Cicero Ave., both of Cicero, Ill. 60650
Continuation-in-part of application Ser. No. 766,511, Oct. 10, 1968. This application Nov. 12, 1968, Ser. No. 775,009
The portion of the term of the patent subsequent to Apr. 14, 1987, has been disclaimed
Int. Cl. B60g *19/02*
U.S. Cl. 280—104 **7 Claims**

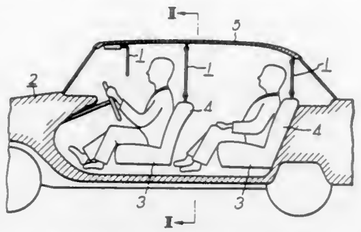


A vehicle frame and means for connecting the frame to a vehicle body. The frame includes a pair of spaced-apart frame arms which are joined by a central axle for independant rotation thereabout. The frame arms are joined adjacent their forward and rearward ends, respectively, by forward and rearward extendible connecting arms which permit the distance between the frame arms to increase as one frame arm rotates with respect to the other. Universal joint means are carried by each of the connecting arms and are adapted to connect the frame to a vehicle body, and centering means maintain each of the universal joints centered between the frame arms. At least one wheel is carried by each of the forward and rearward ends of each of the frame arms, and the central axle may also carry one or more wheels.

3,525,535
SAFETY DEVICE FOR VEHICLE PASSENGERS
Yasusaburo Kobori, Tokyo, Japan, assignor to Kabushiki-kaisha G.I.C., Tokyo, Japan, a corporation of Japan
Filed Feb. 14, 1968, Ser. No. 705,469
Claims priority, application Japan, Feb. 18, 1967, 42/10,294; June 30, 1967, 42/42,103
Int. Cl. B60r *21/02*
U.S. Cl. 280—150 **7 Claims**

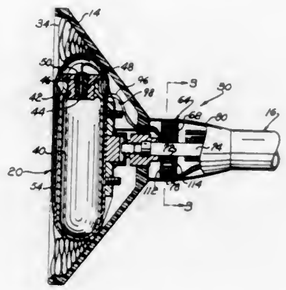
A safety device for vehicle passengers having a net capable of being extended by an external force applied thereto and restored to some extent from its extended

condition upon removal of the external force, a frame for supporting the net in a taut condition at its inherent initial tension, and means for securing the net in the



vehicle compartment at such a location that the passengers' heads are thrown against the net supported by the frame in the event of a vehicle crash.

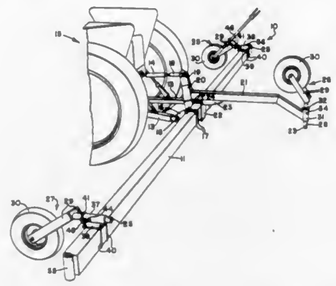
3,525,536
VEHICLE SAFETY APPARATUS POSITIONED ON STEERING WHEEL
James C. Pruneski, Madison Heights, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Oct. 11, 1968, Ser. No. 766,867
Int. Cl. B60r *21/00*
U.S. Cl. 280—150 **11 Claims**



An improved vehicle safety apparatus includes a safety device mounted on the steering wheel of the vehicle for protecting the driver of the vehicle during an accident, a sensor assembly for detecting the occurrence of an accident, and electrical circuitry interconnecting the safety device and the sensor assembly. This electrical circuitry includes flexible printed circuitry having slack which is taken up or decreased by rotation of the steering wheel in one direction and re-established or increased by rotation of the steering wheel in the opposite direction. One end of the flexible printed circuitry is connected to wires or conductors leading to the safety device. The opposite end of the flexible printed circuitry is connected to wires or conductors leading to the sensor assembly. The flexible printed circuitry is also used to electrically connect turn signals or other devices with actuators mounted on the steering wheel.

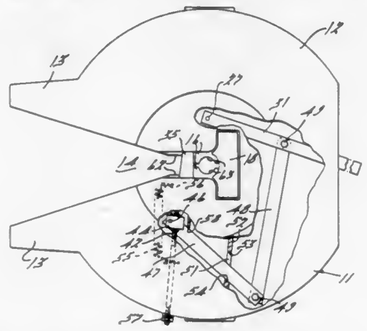
3,525,537
IMPLEMENT FRAME
Darrel Lee Honnold, Winterset, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Nov. 26, 1968, Ser. No. 779,084
Int. Cl. B62d *53/00*
U.S. Cl. 280—411 **5 Claims**

An elongated tool bar for carrying earth-working implements is adapted to be integrally connected to a tractor three-point hitch during field use, but is adapted to be pulled endwise for highway transport. The transport wheels for the tool bar are alternately mountable in working and transport positions. A pair of the transport wheels are mounted on the end portions of the tool bar and, when in the working position, extend below



the tool bar a short distance to stabilize the tool bar and prevent earth-working implements mounted near the ends of the tool bar from penetrating the earth an excessive amount.

3,525,538
FIFTH WHEEL
Richard T. Fujioka, Oxford, and James G. Carr, Bloomfield Hills, Mich., assignors to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 28, 1968, Ser. No. 716,769
Int. Cl. B62d *53/12*
U.S. Cl. 280—434 **11 Claims**

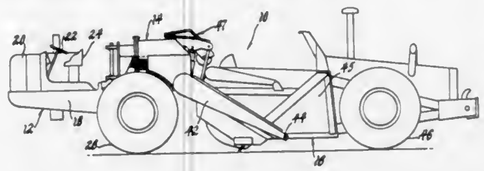


A platform having a throat for receiving a kingpin having a reduced central portion which is engaged by a pair of pivoted jaws which close when the kingpin is properly positioned. A wedge locks the jaws in closed position under the pressure of a spring and is positively retained when withdrawn. The wedge is released from its positively retained position and is releasably retained by a trigger when the kingpin moves from the jaw. The wedge is released by the trigger to lock the jaws upon the movement of the kingpin thereinto.

3,525,539
PULL YOKE ASSEMBLY FOR ARTICULATED VEHICLE
William A. Illar, Cleveland, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 8, 1968, Ser. No. 774,315
Int. Cl. B60d *1/00*
U.S. Cl. 280—483 **5 Claims**

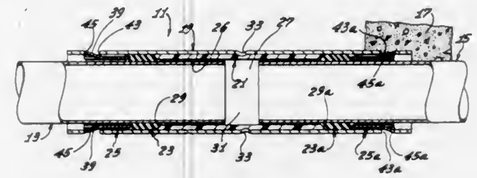
An articulated vehicle having the two frame sections interconnected by a pull yoke assembly for steering about a substantially vertical axis and providing relative oscillation of the frame sections about a pair of vertically spaced

longitudinally extending substantially horizontal axes. Yieldable means are provided in the pull yoke assembly for resisting relative oscillation of the frame sections about



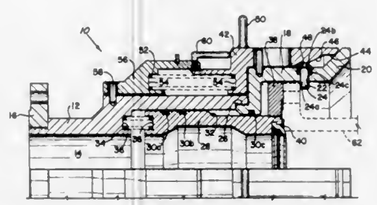
one of the horizontal axes except when one of the frame sections cannot oscillate freely about the other of the horizontal axes.

3,525,540
COUPLING
Bernie M. Baxter, 2027 W. Berridge Lane, Phoenix, Ariz. 85015, and Donald L. Cheney, 1319 E. Howell St., Seattle, Wash. 98122
Filed May 13, 1968, Ser. No. 728,468
Int. Cl. F16l *3/00*
U.S. Cl. 285—64 **16 Claims**



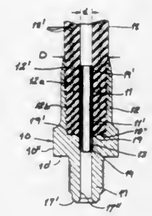
This disclosure describes a coupling for use in joining first and second tubing sections. In the embodiment illustrated, the coupling includes an outer tubular member adapted to receive end portions of the first and second tubing sections, an insert within said outer tubular member defining first and second shoulders, and deformable ring members within the outer tubular member. The ring members are radially expanded by urging them against the shoulders of the inner tubular member to cause the deformable rings to frictionally grip the tubing sections to thereby frictionally retain the tubing sections within the outer tubular member.

3,525,541
QUICK DISCONNECT COUPLING FOR FLANGED CONDUITS
Clifford H. Snyder, Jr., 173 Rosemont Drive, Coraopolis, Pa. 15108
Filed Mar. 24, 1969, Ser. No. 809,588
Int. Cl. F16l *35/00*
U.S. Cl. 285—82 **8 Claims**



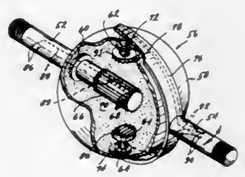
A coupling for automatically and releasably connecting a fluid conduit into sealed fluid communication with a flanged pipe is provided wherein a plurality of radially positioned lock pins or lock balls are reciprocal to a position behind the flange of the pipe to prevent the pipe from being pulled out of the coupling. The lock pins are held in place by a lock collar which reciprocates over the pins. A sealing sleeve is resiliently urged against the face of the flange and seals the flange to the body of the coupling. When the lock collar is retracted, the lock pins move radially outwardly thereby releasing the flange. The lock pins are maintained in the radially outward position by a stop ring on the sealing sleeve so that the coupling remains conditioned to receive another flanged conduit.

3,525,542
TUBE CONNECTOR
Juan Belart, Walldorf, and Horst Mogwitz, Konigstein, Germany, assignors to Alfred Teves Maschinen- und Armaturenfabrik KG., Frankfurt am Main, Germany, a corporation of Germany
Continuation of application Ser. No. 632,249, Apr. 20, 1967. This application Dec. 30, 1968, Ser. No. 789,655
Claims priority, application Germany, Dec. 1, 1966, T 32,648
Int. Cl. F16l *33/20;* **B21d** *39/04*
U.S. Cl. 285—256 **1 Claim**



Conduit connector for automotive hydraulic brake systems in which a tubular body of brass is formed unitarily with an outer sleeve and is provided with a press-fitted tubular mandrel received in the body coaxial with the sleeve and composed of steel and having a higher compressive strength than that of the outer sleeve while being spaced inwardly therefrom with annular clearance, whereby the conduit inserted into said clearance is radially clamped by the sleeve against the mandrel without deformation thereof.

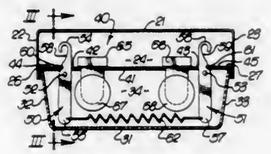
3,525,543
ADJUSTABLE LOCK SUPPORT
Jess Oppenheimer, 549 Moreno Ave., Los Angeles, Calif. 90049
Filed Oct. 25, 1967, Ser. No. 677,917
Int. Cl. B25g *3/38*
U.S. Cl. 287—99 **4 Claims**



Supports are disclosed incorporating a mechanical coupling, e.g. a universal joint, which will accommodate substantial relative motion between a pair of shafts, for cooperative action with means for locking the coupling in any of an infinite variety of position relationships.

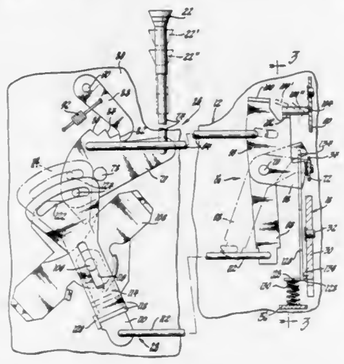
Specifically, ball-socket and dual-pivot couplings are disclosed in combination with mechanical locking, and liquid-solid locking means controlled by both temperature and magnetic flux. The support is disclosed both as a platform and as a shaft junction.

3,525,544
COMBINATION LATCH AND HINGE APPARATUS
Arthur F. Jacobs, Hollywood, Calif., assignor to Prudential Lighting Corporation, Los Angeles, Calif., a corporation of California
Filed Sept. 27, 1968, Ser. No. 763,272
Int. Cl. E05c *19/06, 19/10*
U.S. Cl. 292—18 **5 Claims**



A combination latch and hinge apparatus for attaching a diffuser to a fluorescent lighting fixture housing including a bracket means supported at each end of the fixture housing and having a pair of laterally spaced apart openings, a pair of elongated latch members pivotally mounted at each end of the diffuser and in operative engagement with the bracket means, each of the elongated members having a hook-shaped upper end, a notch intermediate the pivot axis and the upper end, and a lower portion extending below the pivotal axis, the lower portions of the members being interconnected through spring means so that the upper ends of the members are constantly urged outwardly so that the diffuser may be removed entirely from the housing or hinged along one longitudinal edge to provide convenient access to the enclosed components.

3,525,545
CLOSURE LATCH
James D. Leslie, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 6, 1967, Ser. No. 680,701
Int. Cl. E05c *3/16*
U.S. Cl. 292—216 **9 Claims**



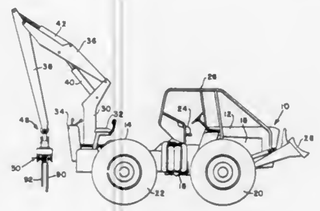
A closure latch includes a detented bolt and a shiftable intermittent member connected to an outside push button handle. The intermittent member is movable between connected and disconnected positions with respect to the detent by a locking lever. The locking lever is movable between locked and unlocked positions either by an outside key cylinder or by a transfer lever. The garnish button is pivoted to a ratchet lever which is movable to first, second and third positions and releasably held in each position by a pawl. The ratchet lever is connected to the transfer lever to move the transfer lever to three positions upon movement of the garnish button. The inside remote lever directly releases the detent and is connected to the inside remote handle by a member connected to the ratchet lever so as to be shiftable to three positions. When the garnish button is in the first position, the transfer lever is in its first position and the locking lever is in unlocked position so that the intermittent member is in connected position to connect the outside handle with the detent. The shiftable member is in its first position to connect the inside remote handle and the remote lever. When the garnish button is in the second position, the transfer lever is in its second position and the locking lever remains in unlocked position. The shiftable member is shifted to its second position wherein it disconnects the inside remote handle and the remote lever. When the garnish button is in the third position, the transfer lever is in its third position to move the locking lever to locked position and move the intermittent member to disconnected position to disconnect the outside handle and the detent. The shiftable member is moved to its third position to maintain the inside remote handle and the remote lever disconnected from each other. A shiftable lever is provided with an abutment which is engageable by an abutment on the bolt each time that the bolt is moved from unlatched to latched positions. When the transfer lever is in its first position, the bolt shiftable lever shifts the transfer lever to its second position to move the garnish button to its second position and move the shiftable member to its second position to disconnect the inside remote handle and the inside remote lever.

3,525,546
WEED PULLING TOOL
Smith E. Lowell, 3164 Mary Drive, Macon, Ga. 31204
Filed Dec. 27, 1968, Ser. No. 787,489
Int. Cl. A01b *1/16*
U.S. Cl. 294—50.7 **1 Claim**



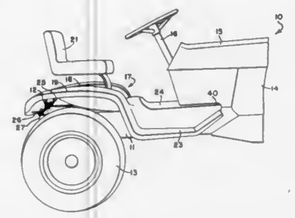
A weed pulling tool consists of a straight metal tube having teeth at its open lower end, a top hand grip in which the tube is rotatable, and a hand-operable collar slidable along a mid portion of the tube to rotate the tube through camming action exerted upon a helical slot. A pin secured to the slidable collar extends through the slot to perform the camming function and is secured to an ejecting rod slidable in the tube.

3,525,547
GRAPPLE
Stanley Robert Hiseler, Davenport, Iowa, and Welker W. Funk, Moline, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed July 16, 1968, Ser. No. 745,223
Int. Cl. B66c *1/00*
U.S. Cl. 294—106 **7 Claims**



A grapple device that includes a horizontally elongated housing supporting a pair of depending grapple tines and encasing a pair of horizontal cylinders that extend in side-by-side disposition with one of the cylinders operating to move one tine and the other cylinder operating to move the other tine. The housing structure is supported on an end of a boom by a universal joint that has rubber bushings contained therein that frictionally engage cylindrical walls or surfaces of the universal joint so as to dampen and to resist swinging of the grapple structure on the boom.

3,525,548
MOUNTING FOR THE FENDER DECK OF A TRACTOR
Vilho A. Mutka, Horicon, Wis., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed June 24, 1968, Ser. No. 739,483
Int. Cl. B62d *25/22*
U.S. Cl. 296—35 **5 Claims**



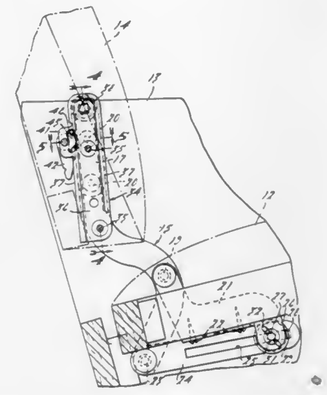
The fender deck of a lawn and garden tractor is mounted on the tractor frame through resilient mounts which prevent a major portion of the vibrations set up by the tractor engine from being passed on to the fender deck and the operator.

ERRATUM

For Class 296—76 see:
Patent No. 3,525,687

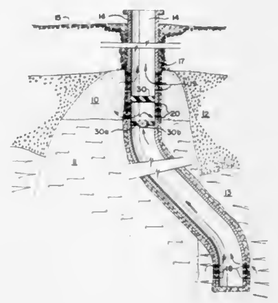
3,525,549
DETACHABLE CHAIR BACK
Edward M. Knabusch and Edwin J. Shoemaker, Monroe, Mich., assignors to La-Z-Boy Chair Company, Monroe, Mich., a corporation of Michigan
Filed July 19, 1968, Ser. No. 746,058
Int. Cl. A47c *4/02, 27/14*
U.S. Cl. 297—460 **8 Claims**

A chair back has a slide bracket at each side which is insertable over an upstanding end of links at opposite sides of the chair when moved downwardly thereover to secure the back in predetermined relation to the chair



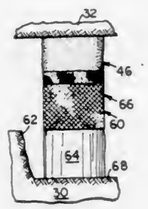
seat. A locking element is provided on each bracket which secures the brackets to the link ends in firm locked relation thereto.

3,525,550
APPARATUS AND METHOD FOR PRODUCING SULFUR LOCATED ABOVE A HOT AQUIFER
Clarence E. Hottman, La Habra, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Feb. 3, 1969, Ser. No. 795,811
Int. Cl. E21b *43/28*
U.S. Cl. 299—6 **15 Claims**



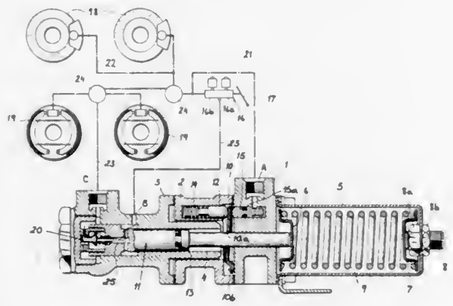
A method for producing sulfur by locating a subterranean region having a sulfur deposit disposed above and adjacent to a salt dome with a geopressured aquifer disposed below the sulfur deposit and adjacent to the salt dome. Fluid communication is established between a surface location and both the sulfur deposit and the aquifer through at least a portion of the salt dome. A portion of the subterranean pressurized heat existing at the depth of the aquifer is transferred to the sulfur deposit through the salt dome, thereby melting sulfur in contact with the fluid from the aquifer and forcing the melted sulfur to the surface of the ground. Also disclosed is apparatus comprising a tubing extending from the surface and having face location and both the sulfur deposit and the aquifer through at least a portion of the salt dome. A portion of perforated areas located between the upper and lower end and in the sulfur deposit, the areas being separated by packer means to form a system for circulating the hot fluid from the aquifer through the sulfur deposit and to the surface of the earth.

3,525,551
METHOD OF MINING THICK COAL SEAMS
Richard G. Mallander, Wheatridge, Colo., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Feb. 12, 1969, Ser. No. 798,652
Int. Cl. E21c *41/00*
U.S. Cl. 299—11 5 Claims



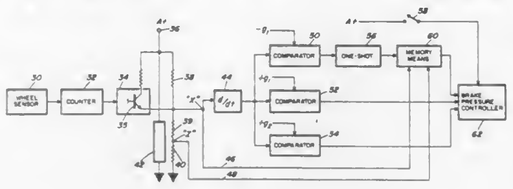
The top layer of an underground thick coal steam is mined, leaving coal pillars running from the top surface of the remaining coal seam to the roof to support the roof. These coal pillars are reinforced with wrapping and coating, and a next layer of the coal seam is mined, leaving the reinforced coal pillars and coal pillar extensions thereof, these resulting pillars extending from the upper surface of the remaining coal seam to the roof to support the roof. Such procedure is repeated until the full depth of the coal seam is mined.

3,525,552
BRAKING-FORCE REGULATOR SYSTEM WITH CUTOUT
Heinrich Oberthur, Offenbach-Rumpenheim, Germany, assignor to Alfred Teves G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed Sept. 6, 1968, Ser. No. 758,023
Claims priority, application Germany, Sept. 21, 1967, T 34,841
Int. Cl. B60t *8/26, 17/18*
U.S. Cl. 303—6 9 Claims



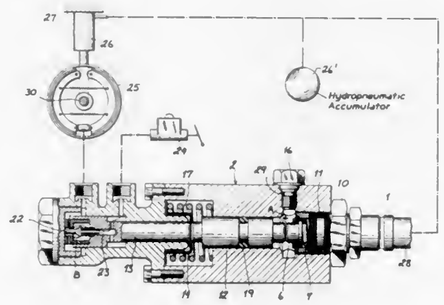
A braking-force regulator for a dual network system has a cutout device which responds to pressure in the front-wheel brake network to render ineffective the braking-force regulator connected in the rear-wheel brake network, thereby ensuring full braking in the rear wheels in case of failure in the front brakes. This cutout is a lever biased into locking engagement with the regulator piston rod and movable out of locking engagement therewith by a piston actuated by the fluid pressure in the front brake network.

3,525,553
ADAPTIVE BRAKING SYSTEM RESPONSIVE TO TIRE-ROAD SURFACE CONDITIONS
Ralph W. Carp, Baltimore, Md., and Donald W. Howard, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Filed Sept. 30, 1968, Ser. No. 763,702
Int. Cl. B60t *8/12*
U.S. Cl. 303—21 14 Claims



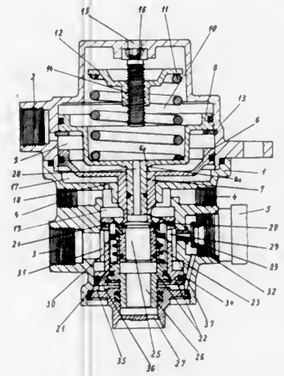
An adaptive braking system for automotive vehicles and the like having hydraulic brakes wherein the rotational speed of a wheel to be controlled during braking is electrically sensed and a D.C. voltage level proportioned to wheel acceleration is derived therefrom. Wheel acceleration is compared to various reference levels corresponding to values of wheel acceleration so as to generate error signals which are applied to a hydraulic fluid pressure modulator which controls hydraulic fluid pressure in the brake wheel cylinders. Inertia sensors located in the vehicle sense vehicle deceleration and vary the adaptive braking system control cycle in accordance therewith.

3,525,554
COUPLING FOR A LOAD-RESPONSIVE BRAKING-FORCE REGULATOR
Heinrich Oberthür, Offenbach-Rumpenheim, Germany, assignor to Alfred Teves G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed Nov. 25, 1968, Ser. No. 778,559
Claims priority, application Germany, Dec. 23, 1967, T 35,587
Int. Cl. B60t *8/18*
U.S. Cl. 303—22 11 Claims



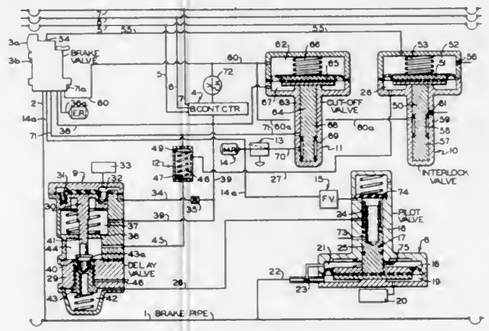
A check valve is interposed between a braking-force regulator and the pressurized circuit which controls it. This check valve is effective to prevent the pressure in the circuit from affecting the regulator at all times except when the piston of the regulator is actuated. In this case the piston abuts and opens the check valve thereby connecting the regulator to the control circuit.

3,525,555
FLUID PRESSURE BRAKE CONTROL APPARATUS
Werner Meyer, Harenberg, and Gunter Braun, Ronnenberg, Germany, assignors to Westinghouse Bremsen- und Apparatebau, G.m.b.H., Hannover, Germany
Filed Dec. 11, 1968, Ser. No. 783,008
Claims priority, application Germany, Dec. 22, 1967, W 41,311
Int. Cl. B60t *13/68*
U.S. Cl. 303—40 3 Claims



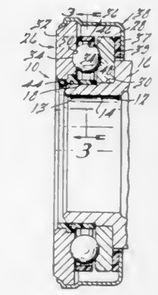
Fluid pressure brake control apparatus having a relay valve device in which a piston operated exhaust valve unseats a supply valve relative to a supply valve seat to supply brake pressure to a brake cylinder, and an independently operable solenoid valve supplies pressure to a piston carrying the supply valve seat to unseat the valve seat relative to the supply valve. An adjustable spring loads an auxiliary piston disposed concentrically with the exhaust valve cylinder piston to cooperate with the first piston to control the pressure provided by the solenoid operated valve.

3,525,556
FLUID PRESSURE BRAKE APPARATUS FOR REMOTE MULTIPLE UNIT LOCOMOTIVE TRAINS
James F. Ferguson, Irwin, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Sept. 23, 1968, Ser. No. 761,707
Int. Cl. B60t *11/32*
U.S. Cl. 303—67 11 Claims



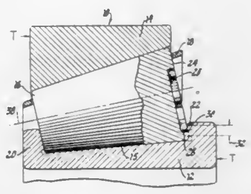
An apparatus utilized in multiple unit train brake controls for preventing an undesired recharging of the brake pipe by a brake valve on a railway locomotive at a location in the train remote from the lead locomotive which would otherwise result when a brake pipe reduction calling for a brake application is effected by the operation of the brake valve on the lead locomotive at a time when normal control communication from the lead locomotive to said remote locomotive is interrupted thereby preventing initiation of such application at said remote locomotive in normal manner.

3,525,557
CLUTCH RELEASE BEARING
Richard G. Willing, Ann Arbor, Mich., assignor to Federal-Mogul Corporation, Southfield, Mich., a corporation of Michigan
Filed Apr. 8, 1968, Ser. No. 719,516
Int. Cl. F16c *19/10*
U.S. Cl. 308—233 6 Claims



A clutch release bearing including a plastic washer to reduce wear and noise and a cage for co-operating with the washer to stop rotation when the bearing is unloaded.

3,525,558
INDENTS FOR ROLLERS
Albert D. Johnston, St. Charles, Ill., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 30, 1968, Ser. No. 763,651
Int. Cl. F16c *1/24*
U.S. Cl. 308—187 2 Claims

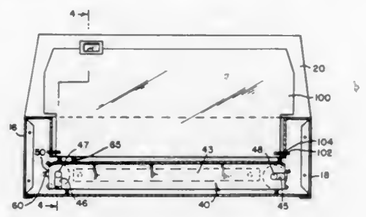


A roller bearing having a radial thrust shoulder is provided with a complement of rollers with end faces designed to improve the flow of lubricant to the interface between the end faces and the thrust shoulder. Each end face includes a central indentation and continuous radial channels to take advantage of the centrifugal force generated by the roller rotating about its own axis to flow the lubricant into the interface.

3,525,559
MOVABLE FILE TRAY
Raymond C. Robinson, 810 4th St. NW., Austin, Minn. 55912
Filed Sept. 25, 1968, Ser. No. 762,489
Int. Cl. A47b *63/00*
U.S. Cl. 312—183 9 Claims

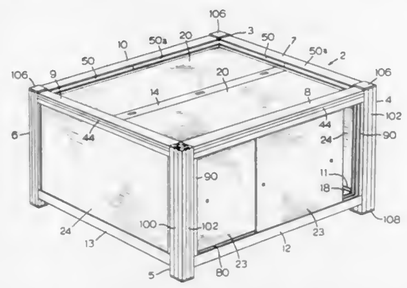
A movable file tray for holding a plurality of rows of chronologically filed cards with means thereon for advancing the rows of cards so that certain of the cards

may be removed periodically and others added to the tray to keep a current log of information. The movable file tray includes a bottom frame with a continuous card



carrier and an intermittent drive mechanism which advances the continuous carrier with the cards thereon selectively.

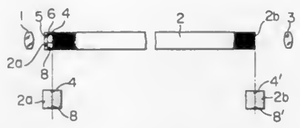
3,525,560
FRAME STRUCTURE
Leon Gasner, Downsview, Ontario, and Peter MacFarlane, Agincourt, Ontario, Canada, assignors, by mesne assignments, to Leon Gasner, Downview, Ontario, Canada
Filed Apr. 18, 1968, Ser. No. 722,373
Claims priority, application Canada, Mar. 19, 1968, 015,265
Int. Cl. A47b *47/00, 17/00, 17/08*
U.S. Cl. 312—257 **14 Claims**



A frame structure for display tables and the like, having grooves extending the length of each corner post, and top and bottom rails joining the posts. During assembly, bottom spacers interlocking with the grooves are slid down to the bottoms of the grooves. The ends of the bottom rails are then inserted in and slid down the grooves to rest on the bottom spacers. Intermediate spacers are slid down the grooves to rest on the bottom rails, and the ends of the top rails are then slid down the grooves to rest on the intermediate spacers. Shelves rest on the top and bottom rails.

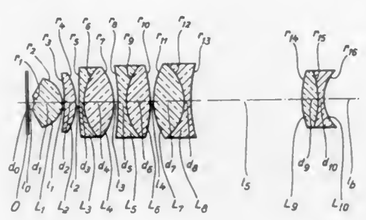
3,525,561
DEVICE FOR INDICATING THE ORIENTATION OF THE IMAGE OF AN OBJECT IN A FIBER OPTICAL SYSTEM
Nagashige Takahashi, Tokyo, Japan, assignor to Olympus Optical Company, Ltd., Tokyo, Japan
Filed Oct. 10, 1968, Ser. No. 766,468
Int. Cl. G02b *5/16*
U.S. Cl. 350—96 **6 Claims**

Device for indicating the orientation of the image of an object in a fiber optical system comprising an objective lens, an elongated flexible optical fiber bundle located behind the objective lens for transmitting the image of the object formed by the objective lens system therethrough, and an ocular located behind the objective lens for viewing the thus transmitted image therethrough. The device comprises a reference index mark at a predetermined position on the forward end surface of the optical fiber bundle and a small particle-like member located in front of the forward end surface of the optical fiber bundle freely movably by the action of gravity over the entire area thereof with the particle-like member being held close to the forward end surface of the optical fiber



bundle thereby permitting the orientation of the image of the object as viewed by the fiber optical system to be sensed by observing the position of the image of the particle-like member formed on the rearward end surface of the optical fiber bundle relative to the position of the image of the reference index mark irrespective of the twisting of the optical fiber bundle.

3,525,562
MICROSCOPE OBJECTIVE
Walter Klein, Wissmar, Germany, assignor to Ernst Leitz G.m.b.H., Optische Werke, Wetzlar, Germany, a German company
Continuation-in-part of application Ser. No. 306,758, Sept. 5, 1963. This application Aug. 16, 1967, Ser. No. 661,055
Int. Cl. G02b *21/02, 11/32*
U.S. Cl. 350—215 **2 Claims**

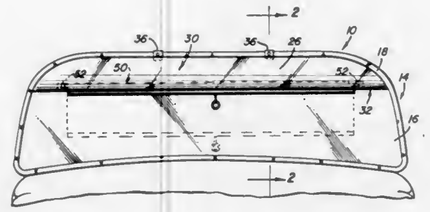


A microscope objective of the dry type wherein the curvature of the field is corrected and the image field is flattened by a front lens consisting of a thick meniscus lens corrected of aberrations, particularly coma, curvature of the field and astigmatism, as well as extra-axial distortions, by providing two collecting cemented surfaces in the system of lenses of such an objective, each cemented surface having a concave side facing the object.

3,525,563
REARVIEW MIRROR
Clifford W. Loftin, 300 W. 8th St., Claremont, Calif. 91711
Filed Aug. 1, 1968, Ser. No. 749,542
Int. Cl. B60j *3/00;* **B60r** *1/12*
U.S. Cl. 350—277 **5 Claims**

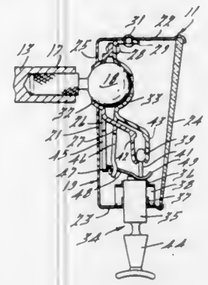
A rearview mirror-sun visor assembly comprising a generally rectangular elongated self-sustained rigid mirror including a straight longitudinal lower edge and an upper curved longitudinal edge conforming to the curvature of the inner upper molding of the windshield assembly with which the rearview mirror-sun visor is associated. The mirror extends across substantially the entire width of the upper portion of the windshield assembly of the vehicle and the non-reflecting surface of the

mirror carries a spring controlled shade roller having a downwardly extensible flexible sun visor wound thereon. The rearview mirror-sun visor assembly is secured to the



windshield assembly of the vehicle by a fastener means including fastener members passing through apertures provided in the mirror.

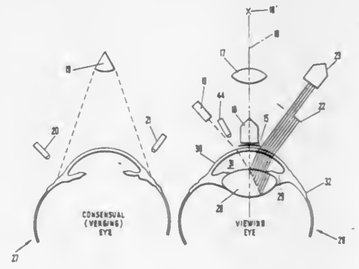
3,525,564
REARVIEW MIRROR POSITIONING MECHANISM
David W. Barton, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Aug. 28, 1968, Ser. No. 755,852
Int. Cl. G02b *17/00*
U.S. Cl. 350—281 **4 Claims**



A vehicle multi-position day-night rearview mirror assembly mounted on a ball-type supporting member. The assembly includes a dual purpose adjusting means rotatably actuatable to shift the casing and thereby the rearview mirror relative to the ball-type supporting member to change the angle of reflection to and from day and night positions. The adjusting means is also selectively slidably actuatable to release the pressure of gripping plates on the ball of the ball-type supporting member to permit universal adjustment of the rearview mirror assembly.

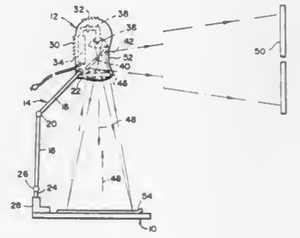
3,525,565
OPTICAL STATUS TESTING MEANS AND METHOD FOR DYNAMICALLY DETERMINING LENS ACCOMMODATION
William D. O'Neill, Thinsdale, and Lawrence Stark and Anne Troelstra, Chicago, Ill., assignors to Whittaker Corporation, Los Angeles, Calif., a corporation of California
Filed Jan. 29, 1968, Ser. No. 701,155
Int. Cl. A61b *3/10, 3/00, 3/14*
U.S. Cl. 351—6 **21 Claims**

An optical status testing means and method for dynamically and statically determining lens displacement and deformation, i.e., lens accommodation, eye position, pupil diameter and accommodative vergence in human or animal subjects in response to optical axis accommodative stimulation. The method includes positioning a target on the optical axis of one eye of an individual, directing a slit beam of light onto the front surface of the leans of the eye while the eye is focused on the target which may be moving, and determining the amount of light reflected from the front surface and interior of the leans which is indicative of lens accommodation in response to the target stimulus. Preferably reflection of light from the cornea of the eye is monitored through a variable density filter to obtain a correction in reflected light from the lens due to movement of the eye in a horizontal plane. Preferably the method further includes determining light reflection from the iris to determine pupil diameter simultaneously with the determination of eye accommodation.



Light reflection in the consensual eye from a second light source is measured to determine the degree of rotation of the consensual eye simultaneously with the preceding monitoring steps to obtain accommodative vergence. All responses are preferably measured in real time as by a chart recorder to permit comparison. The optical status testing means preferably comprises a slit beam of infrared light directed to the eye in conjunction with a target positioned along the optical axis in front of the lens with the target being movable along the optical xais. The means for determining the reflection of light in the methods of this invention are preferably photosensitive devices such as photomultipliers and photodiodes.

3,525,566
PROJECTION DEVICES AND GRAPHIC MATERIALS THEREFOR
Gerald Altman, 41 Westminster Road, Newton Center, Mass. 02159
Continuation-in-part of application Ser. No. 655,714, July 6, 1967. This application July 24, 1968, Ser. No. 747,339
Int. Cl. G03b *21/06, 21/14*
U.S. Cl. 353—66 **31 Claims**



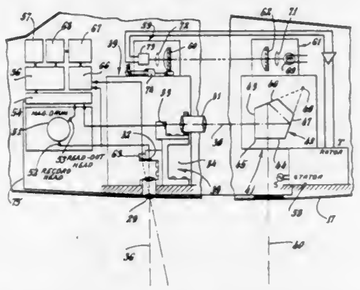
An optical projector for imaging a subject in terms of reflected light is provided with an array of optical elements at the subject, each with its own discrete optical axis, and a catadioptric illuminating and focusing system

for controlling illuminating light directed to the subject and imaging light returned by the array. In one form, the transmission occurs through at least an aperture and the reflection occurs at a mirror interface surrounding the aperture. In another form, the light is reflected by a restricted mirror to the subject and is reflected by an extended mirror to the viewing screen.

3,525,567
CLEARING COMPOSITIONS FOR RAPID PROCESSING OF PHOTOGRAPHIC FILM
Harold A. Levine, Poughkeepsie, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 19, 1966, Ser. No. 587,685
Int. Cl. G03b *27/02*
U.S. Cl. 355—132 **3 Claims**

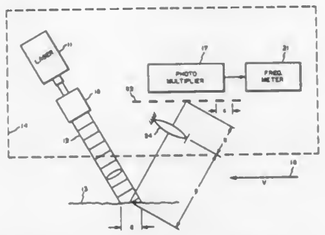
A process for the preparation of positive photographic prints, free of blotchiness and mottle, from moist negatives using as a clearing composition, a thiocyanate agent and a salt of a polyvalent cation such as zinc, cadmium or tin and saturated aliphatic monocarboxylic or dicarboxylic anion.

3,525,568
AIRBORNE ELECTRO-OPTICAL SYSTEMS AND APPARATUS FOR INDICATING TRUE AIRCRAFT VELOCITY AND ALTITUDE
Marc G. Dreyfus, 40 Walter Lane, Stamford, Conn. 06902
Filed Dec. 11, 1967, Ser. No. 689,665
Int. Cl. G01p *3/68*
U.S. Cl. 356—28 **6 Claims**



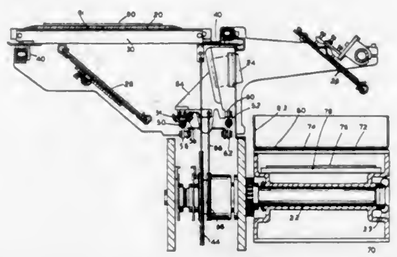
Airborne electro-optical systems and apparatus for indicating the true velocity and altitude of an aircraft relative to the ground, incorporating two intensity-responsive radiation detectors firmly anchored to a common frame in the aircraft and independently aligned to receive radiation from orthogonal directions, one detector being aimed downward and the second being aimed along the line of the aircraft's heading, with pentaprism means interposed in the line of sight of the second detector and spaced at a substantial distance therefrom to redirect the second detector's line of sight downward in a direction parallel to the downward line of sight of the first detector, with output signal amplification, recording, memory storage, reading, variable time-delay signal correlation and indicating means for comparing the instantaneous overall or scanned radiaton intensity incident upon the separate detectors at variable time intervals to select the time interval producing maximum signal correlation, corresponding to the true instantaneous ground-speed of the aircraft; and airborne systems and apparatus combining the foregoing with conventional angular velocity responsive systems indicating the instantaneous ratio of aircraft velocity to aircraft altitude, or V/H, thereby indicating true instantaneous aircraft altitude.

3,525,569
VELOCITY MEASURING DEVICE
George R. Gamertsfelder, Pleasantville, Robert A. Flower, White Plains, and Gus Stavis, Briarcliff Manor, N.Y., assignors to Singer-General Precision, Inc., a corporation of Delaware
Filed Apr. 11, 1968, Ser. No. 720,555
Int. Cl. G01p *3/36;* **G01s** *9/44*
U.S. Cl. 356—28 **10 Claims**



A source of radiation, preferably a laser, directs a substantially monochromatic, very well collimated beam toward a reflecting surface. A portion of the backscattered energy is passed through an optical diffraction grating and received by a photomultiplier tube which has its anode connected to a frequency meter, the output of which is a function of the relative velocity between the radiation source and the backscattering surface. A lens element interposed between the optical grating and the surface, images "speckles" or lobes of backscattered energy directly onto the grating. Since the size of each "speckle" is now determined by the resolution limit of the lens they are small enough to satisfactorily limit decorrelation even under extreme conditions of surface flutter.

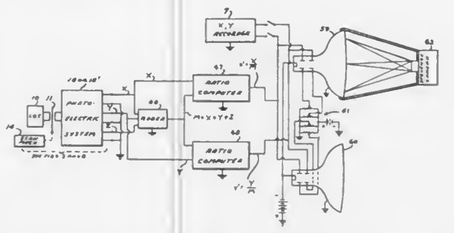
3,525,570
PHOTOCOPIER OPTICAL SYSTEM TESTING
Ralph C. Wicker, Fairport, N.Y., assignor to Chesley F. Carlson Co., Minneapolis, Minn., a corporation of Minnesota
Filed Mar. 22, 1967, Ser. No. 625,099
Int. Cl. G03b *27/32;* **G01n** *21/04*
U.S. Cl. 356—72 **2 Claims**



Method of producing an image in the approximate plane of the copy board from a pattern disposed at the surface of the light sensitive material and transmitted through the optical system, said pattern comprising a plurality of uniformly spaced extremely small dots of uniform size and spacing and arranged in straight lines, the dots being of a size to approximately cover about a half of the pattern area, and applying a dark screen having apertures many times more minute than said dots and all of like size and spacing and disposed on straight lines, the periodicity of the minute apertures being a few percent different from the periodicity of the dots in the image to produce an interference pattern readily discern-

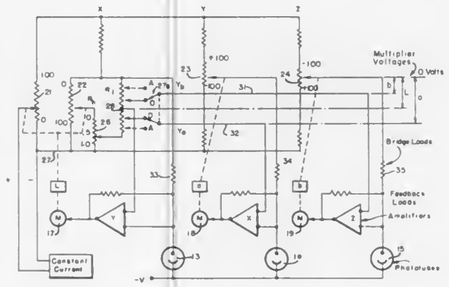
ible to the naked eye comprising apparent dots and spaces, the size of which in comparison to the image dots is in the order of the reciprocal of the difference between the spacing of the image dots and the spacing of the dark screen apertures divided by the spacing of the image dots, and determining by irregularity of the interference pattern thus produced, a maladjustment in the optical system.

3,525,571
ANALYZER FOR DETERMINING SPATIAL DEVIATIONS IN THE SPECTRAL RESPONSE OF PHOTOSENSORS
Radames K. H. Gebel, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Oct. 16, 1964, Ser. No. 404,540
Int. Cl. G01j *3/46, 3/48;* **G01n** *21/22*
U.S. Cl. 356—176 **4 Claims**



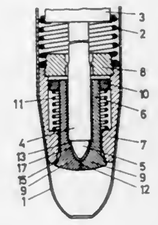
Method and apparatus for testing photosensors for spatial uniformity of spectral response. The method comprises the steps of scanning the area of the photosensor with a small spot of light of constant spectral distribution containing the wavelength of maximum absorption, and analyzing either the light reflected from or transmitted by the sample for changes in spectral distribution during scanning. The apparatus comprises means for mechanically scanning the area of the photosensor with a spot of light as defined in the method, and means for determining the x and y chromaticity coordinates of either the light reflected from or transmitted by the sample.

3,525,572
ADJUSTABLE SCALE COLORIMETER
Richard S. Hunter and John S. Christie, McLean, and Roland D. Robinson, Alexandria, Va., assignors to Hunter Associates Laboratory, Inc., Fairfax, Va., a corporation of Virginia
Filed June 15, 1966, Ser. No. 557,684
Int. Cl. G01j *3/48, 3/50;* **G01n** *21/00*
U.S. Cl. 356—176 **5 Claims**



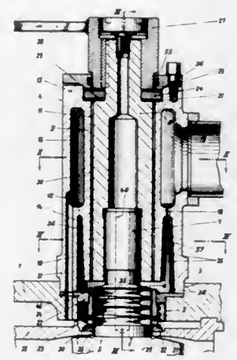
This invention relates to a psychophysical instrument for measuring color and color differences of surfaces by photoelectric measurement of light reflected from such surfaces without reliance on the color judgment of human observers. It has for its primary objects the provision of non-directional illumination means for rendering the instrument substantially insensitive to the direction of fabric weave of the specimen being examined, means for expanding the chromatic scale intervals for dark colors to correspond more closely to visual observation, and improved means permitting the use of different standard illuminants.

3,525,573
WRITING, PAINTING OR DRAWING UTENSIL WITH A MOIST NIB
Kurt Fend, 70 Gymnasiumstrasse, 753 Pforzheim, Germany
Filed Apr. 10, 1968, Ser. No. 720,084
Claims priority, application Germany, Apr. 25, 1967, F 52,243
Int. Cl. B43k *8/00, 24/02*
U.S. Cl. 401—108 **9 Claims**



A closure device for preventing the moist nib on a retractable nib carrier of a writing, painting or drawing utensil from drying out by sealing the nib when retracted into the casing of the utensil from the access of air. When the nib carrier is being moved in the axial direction within the casing, its operative association with the closure device prevents the nib itself from coming in contact with the closure device or any other part of the utensil.

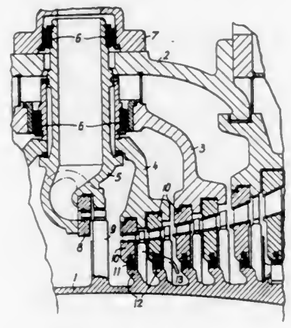
3,525,574
VANE RING FOR TURBO-ENGINES
Ferdinand Zerlauth, Winterthur, Switzerland, assignor to Sulzer Brothers Ltd., Winterthur, Switzerland, a corporation of Switzerland
Filed Nov. 27, 1968, Ser. No. 779,357
Claims priority, application Switzerland, July 26, 1968, 11,278/68
Int. Cl. F01d *5/08, 17/00, 25/12*
U.S. Cl. 415—115 **7 Claims**



Groups of bearing housings for the turbo-engine blades are interconnected by expansion pipes so that coolant can flow through the individual housings of the groups.

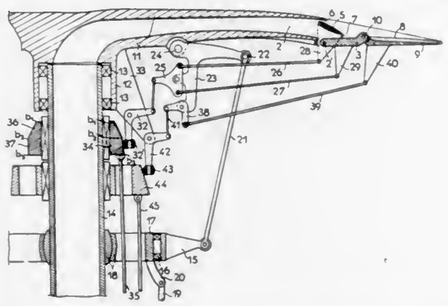
At least one housing in each group is supplied with coolant through a supply pipe. The expansion pipes can be made of bellows-type hoses and are preloaded in place.

3,525,575
TURBINE
Karl Steinack, Robert Ehrich, Walter Zörner, and Jürgen Freyer, Berlin, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed May 16, 1968, Ser. No. 729,789
Claims priority, application Germany, May 16, 1967, L 56,509
Int. Cl. F01d *5/06*
U.S. Cl. 415—170 **2 Claims**



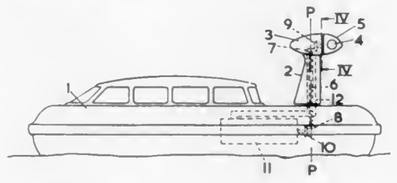
A quick-starting, axial-flow multiple-stage turbine in which the seal between the rotating and stationary parts is spaced outwardly from the surface of the turbine shaft, this being done by means of an annular shoulder carried by a rotor disc, which shoulder coacts with an inwardly directed seal carried by the stator. In this way, the rotor shaft itself is less sensitive to the thermal stresses which would take place if the seal were located at the surface of the shaft. According to a further feature, the rotor shaft is hollow and has a thinner wall in the hotter region of the turbine than in the cooler region thereof.

3,525,576
JET FLAP CONTROL
Pierre Rene Leon Bernard Dorand, 3 Rue de General Lambert, Paris 7 eme, France
Continuation-in-part of application Ser. No. 647,509, June 20, 1967. This application Mar. 10, 1969, Ser. No. 805,755
Int. Cl. B64c *15/08, 27/18*
U.S. Cl. 416—20 **4 Claims**



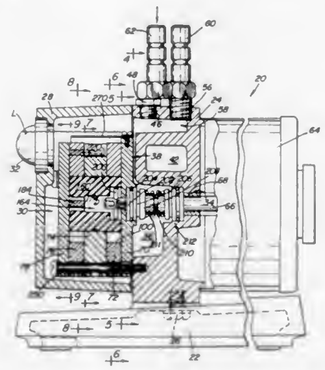
The invention relates to a helicopter rotor with fixed pitch blades each blade being fitted on its trailing edge with a "variable flap" jet slit comprising a jet reflector hingedly mounted on its lower lip and a profiled flap disposed in the neck of the jet slit and hinged upon the same axis as the deflector flap, with means of pivoting the deflector flap and profiled flap so as to vary the direction and outlet section of the jet slit and means of controlling the movement of these flaps for piloting the helicopter and means of cyclic control of these flaps in relation to the angular position of the blades and the flight conditions.

3,525,577
PROPELLERS
Ian Clifford Cheeseman, Camberley, Surrey, England, assignor to Minister of Technology in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England
Filed Apr. 19, 1968, Ser. No. 722,633
Claims priority, application Great Britain, Apr. 20, 1967, 18,141/67
Int. Cl. B64c *27/18;* **B63h** *7/02*
U.S. Cl. 416—90 **13 Claims**



A propeller has circular cross-section blades on which thrust may be induced by discharging thin streams of air tangentially over their outer surfaces. Air passes to the blades through an annular channel concentric with the propeller axis, and in two sections each having valve controlled ports to vary the airflow and thus the amount of thrust. The valves may be operated differentially to cut off air to the blades cyclically over one rotational phase to give an unbalanced thrust force about the propeller axis. The propeller is carried on a pivot about which it may be turned by such a force.

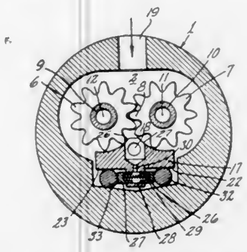
3,525,578
VACUUM PUMP
Joseph A. Le Blanc, Jr., Chicago, Ill., assignor to Precision Scientific Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 29, 1968, Ser. No. 779,779
Int. Cl. F04c *23/00;* **F04b** *41/06;* **F04d** *25/16*
U.S. Cl. 418—13 **20 Claims**



An improved multistage rotary mechanical vacuum pump of the oil sealed, internal vane type includes a single rotor passing through each stage of the pump provided with respective sets of vanes for each stage of the

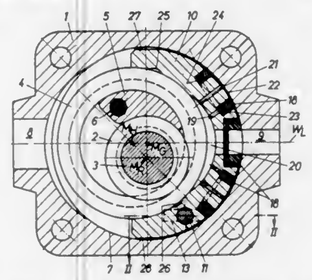
pump. The single rotor has an axial opening extending therethrough for providing stage-to-stage gas conductance.

3,525,579
GEAR PUMP HAVING A MECHANICALLY SUPPORTED MOVABLE ELEMENT
John E. Cygnor, Middletown, Conn., assignor to Chandler Evans Inc., West Hartford, Conn., a corporation of Delaware
Filed Mar. 3, 1969, Ser. No. 803,554
Int. Cl. F04c *1/08, 5/00*
U.S. Cl. 418—107 **16 Claims**



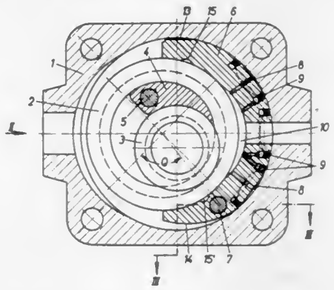
A gear pump having intermeshing gears capable of pumping fluids containing highly abrasive contaminants characterized by a unitary movable element having separate arcuate surfaces, each arcuate surface engaging the periphery of a single gear, symmetrically disposed inclined planes positioned outboard said unitary element, a plurality of wedges positioned intermediate said inclined planes and said unitary movable member with a small angle on the inclined planes such that the wedges produce a nonreversible characteristic and the movable element is maintained in engagement with the periphery of the gears with substantially no load imposed on the gear teeth. A second embodiment in which the angle on the inclined planes is increased to the point where the balance of the forces restraining inboard movement of the wedges is only slightly positive such that a slight increase in the rejection force due to thermal expansion will cause the wedges to move inboard thus preventing a build-up of inwordly directed forces on the movable element.

3,525,580
WEAR AND TEAR-COMPENSATING HIGH-PRESSURE GEAR PUMP
Otto Eckerle, Malsch am Bergwald 3, Germany
Filed Aug. 29, 1968, Ser. No. 756,160
Claims priority, application Germany, Sept. 1, 1967, 1,653,826
Int. Cl. F04c *1/06*
U.S. Cl. 418—126 **17 Claims**



Wear and tear-compensating high-pressure gear pump comprising a driven externally-geared pinion, a concomitantly rotating internally-geared wheel, a movable sickle-shaped filler member between the pinion and the internal gear and either one or two axial disks covering the gears laterally, as well as an insert member, called "control piston," being disposed on the pressure side of the gears and being radially displaceably arranged with respect thereto, enclosing the outer circumferential surface of the internal gear in a specific angular range and touching the latter as the sole stator part, said control piston containing the first portion of the pressure outlet duct, being relieved for the major part with regard to radial forces and hence pressing against the circumference of the internal gear with only a limited amount of excess force so that as a result the internal gear is essentially supported only on the pinion, on the one hand, and on the filler member, on the other hand, characterized in that the pump housing (**1**) is eccentrically bored with respect to the pinion shaft (**3**) in such a manner that the center (M_G) of the housing bore (**7**) is positioned on the hydraulic line of application or effective curve (W_L) which extends of necessity also through the internal gear center (M_H), and in that the control piston (**10**) is accommodated in the sickle-shaped space being formed due to the eccentricity between the internal gear (**4**) and the housing bore (**7**), being essentially adapted to the configuration thereof.

3,525,581
WEAR AND TEAR-COMPENSATING HIGH-PRESSURE GEAR PUMP
Otto Eckerle, Malsch, Am Bergwald 3, Germany
Filed Aug. 29, 1968, Ser. No. 756,169
Claims priority, application Germany, Sept. 1, 1967, 1,653,827
Int. Cl. F04c *1/06*
U.S. Cl. 418—126 **12 Claims**



Wear and tear-compensating heavy-duty gear pump comprising a driven externally-geared pinion, a concomitantly rotating internally-geared wheel, a movable sickle-shaped filler member between the pinion and the internal gear, and either one or two axial disks laterally covering the gears, as well as an insert member called "control piston" being disposed on the pressure side of the gears and radially displaceably arranged with respect thereto, enclosing the outer circumferential surface of the internal gear within a specific angular range and touching the latter as the sole stator part, said control piston containing the first portion of the pressure outlet duct, being relieved for the major part with respect to radial forces and hence pressing against the circumference of the internal gear with only a limited excess force,

characterized in that the control piston (**6**) is rotatably but not displaceably positioned in proximity to the tooth engagement of the two gears (**2, 3**), that the center of rotation is disposed outside of the relieving field (**12**) being under pressure between the internal gear (**2**) and the control piston, and in that the relieving field is so provided that the surface center of gravity (S) thereof is positioned above the line of application or effective curve (W_L) of the radial compensating forces.

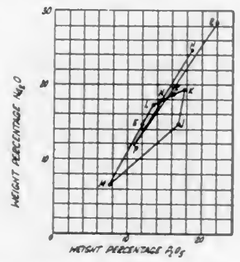
3,525,582
SMOKING TOBACCO CHARGE INCORPORATING ENCAPSULATED VITAMIN A AND MODE OF INTRODUCTION
Nelson J. Waterbury, Palm Beach, Fla., assignor, by direct and mesne assignments, of seventy percent to F. Barry Haskett, Ocean City, N.J., fifteen percent to Joan Hixon Martin, Washington, D.C., and fifteen percent to Nicholas R. Du Pont, Wilmington, Del.
Continuation-in-part of application Ser. No. 617,219, Feb. 20, 1967, which is a continuation-in-part of application Ser. No. 590,392, Oct. 28, 1966. This application Sept. 11, 1967, Ser. No. 666,810
The portion of the term of the patent subsequent to Sept. 5, 1984, has been dedicated to the Public
Int. Cl. A24b *3/12, 15/04, 1/00*
U.S. Cl. 131—9 **4 Claims**



A method of introducing Vitamin A in droplet or aerosol form into the mouth and respiratory tract of the smoker and a cigarette therefor wherein at least one rupturable capsule containing Vitamin A in aqueous solution is disposed in the tobacco charge. The capsules are rupturable under the influence of either hot tobacco smoke or the heat of the burning tobacco charge.

CHEMICAL

3,525,583
PROCESS FOR PRODUCING THE COMPLEX, $(Na_3PO_411H_2O)_4 \cdot NaClO$
Ronald Henry Vickers, Wheathampstead, England, assignor to The Diversey Corporation, Chicago, Ill., a corporation of Illinois
Filed July 25, 1966, Ser. No. 567,765
Claims priority, application Great Britain, Sept. 1, 1965, 37,412/65
Int. Cl. C01d
U.S. Cl. 23—50 **5 Claims**



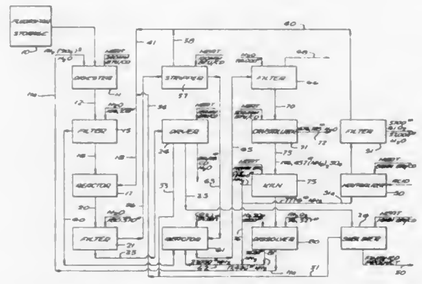
A chlorinated sodium phosphate composition comprising a sodium phosphate/sodium hypochlorite complex having the composition

$$(Na_3PO_411H_2O)_4NaClO$$

and essentially lacking in complexes of sodium phosphate combined with sodium hydroxide or sodium chloride. A hot mixture containing sodium phosphates and sodium hypochlorite is cooled while mixing and, when crystals have appeared but the temperature is still above 30° C., addition is made of a mixture containing less water than the original mixture and which contains sodium phosphates and/or sodium hypochlorite, and after cooling to 30° C., the temperature is maintained at 25° C.–30° C. before packaging the product.

3,525,584
PROCESS FOR THE PRODUCTION OF ALUMINUM FLUORIDE
Gustave E. Kidde, 294 California Terrace, Pasadena, Calif. 91105
Continuation-in-part of application Ser. No. 575,205, July 18, 1966, which is a continuation-in-part of applications Ser. No. 328,126, Dec. 4, 1963, and Ser. No. 483,241, Aug. 27, 1965. This application July 3, 1969, Ser. No. 839,096
Int. Cl. C01f *7/50*
U.S. Cl. 23—88 **17 Claims**

Aluminum fluoride is produced by the process comprising reacting an ammonium fluoride compound and an aluminum salt to produce an insoluble mixture comprising ammonium fluoroaluminates having the general formula $(NH_4)_xAlF_y$ where x is an integer from 1 to about 3 and y is an integer from 4 to about 6. By maintaining the ratio of fluorine to aluminum at or below 4.6 to 1, NH_4AlF_4



is obtained. The ammonium fluoroaluminates are converted to aluminum chloride by dehydrating at a temperature of less than about 300° F. until the moisture content is reduced to a maximum of about 3% by weight and heating the mixture to a temperature of at least about 700° F.

3,525,585
PROCESS OF PREPARING WATER-SOLUBLE PHOSPHATES
Abraham H. de Rooij, Geleen, and Jan Elmendorp, Brunssum, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands
Original application Mar. 18, 1965, Ser. No. 440,789, now Patent No. 3,446,583. Divided and this application Jan. 19, 1968, Ser. No. 724,647
Claims priority, application Netherlands, Mar. 21, 1964, 6403053
Int. Cl. C01b *25/28, 25/30*
U.S. Cl. 23—106 **7 Claims**

A process for preparing a water-soluble ammonium or alkali phosphate which includes decomposing phosphate rock with excess nitric acid, extracting the resulting decomposition liquor containing calcium nitrate, phosphoric acid and nitric acid with a polar organic solvent which is poorly miscible with water to form an aqueous solution phase containing mainly calcium nitrate and an organic solvent phase of phosphoric acid, nitric acid and some calcium nitrate, extracting the organic phase with water to remove substantially the dissolved components therefrom, and to form an aqueous solution containing phosphoric acid, nitric acid and calcium nitrate, adding ammonium or alkali sulphate to this aqueous solution and separating the resulting gypsum therefrom and subsequently extracting the aqueous solution with a polar organic solvent which is poorly miscible with water to form an organic solution containing nitric acid and a solution containing mainly primary alkali or ammonium phosphate.

3,525,586
PRODUCTION OF SULFUR TRIOXIDE AND SULFURIC ACID
Herbert Drechsel, Karl-Heinz Dörr, and Hugo Grim, Frankfurt am Main, Germany, assignors to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany
Continuation of application Ser. No. 372,836, June 5, 1964. This application Oct. 12, 1966, Ser. No. 586,302
Claims priority, application Germany, June 22, 1963, M 57,271
Int. Cl. C01b *17/76*
U.S. Cl. 23—168 **5 Claims**

Gases having an SO_2 content of at least 9% are catalytically oxidized to SO_3 and H_2SO_4 in a process using a plurality of heat exchange steps and oxidation steps and a hot single stage intermediate SO_3 absorption step, which process is not only self-sufficient as to sensible heat requirements but provides recoverable excess heat, said process including a two step heat exchange to cool the oxidized gases supplied to the hot intermediate absorption, the first being in indirect heat exchange with the gases leaving the intermediate absorption and the second being either in indirect heat exchange with a cooling medium outside the total system to recover the excess heat or in indirect heat exchange with the cool starting SO_2 containing gases, in the latter instance, the excess heat recovered from the product gases from the final oxidation stage.

3,525,587
METHOD OF SULFURIC ACID MANUFACTURE
Timothy J. Browder, Jr., Los Alamitos, Calif., assignor to The Ralph M. Parsons Company, Los Angeles, Calif., a corporation of Nevada
Filed July 19, 1968, Ser. No. 746,103
Int. Cl. C01b *17/76*
U.S. Cl. 23—168 **12 Claims**

Multiple stage process for the production of sulfuric acid by the catalytic oxidation of sulfur dioxide-containing gas and the multiple stage absorption of sulfur trioxide produced by such catalytic oxidation. A portion of the exit gas from the first of three successive oxidation stages is utilized to pre-heat gas fed into the third oxidation stage, an intermediate absorption stage being provided between the second and third oxidation stages. The temperature of the exit gas from the second oxidation stage can thereby be lower than the temperature of gas fed into the third oxidation stage so as to allow maximum conversion efficiency.

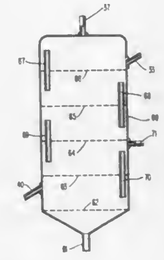
3,525,588
PREPARATION OF MAGNESIUM HYDROXIDE OF LOW SULFATE CONTENT
Paul Y. P. Hwang, Palo Alto, Calif., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 534,438, Mar. 15, 1966. This application July 19, 1968, Ser. No. 746,009
Int. Cl. C01f *5/14;* **A61k** *27/00*
U.S. Cl. 23—201 **6 Claims**

A process for producing magnesium hydroxide of reduced sulfate content comprising the treatment of a magnesium hydroxide slurry with ammonium hydroxide or an alkali metal hydroxide or hydride.

3,525,589
PRODUCTION OF BORON CARBIDE WHISKERS
Robert A. Clifton, Jr., Greenbelt, Md., assignor to the United States of America as represented by the Secretary of the Interior
No Drawing. Filed May 17, 1968, Ser. No. 729,903
Int. Cl. C01b *31/36*
U.S. Cl. 23—208 **3 Claims**

Boron carbide (B_4C) whiskers having a cross-sectional area of no more than 0.2 square micron are produced by reacting vaporous boric oxide (B_2O_3) with a hydrocarbon gas.

3,525,590
PROCESS AND APPARATUS FOR THE PREPARATION OF AMMONIA AND CHLORINE FROM AMMONIUM CHLORIDE
Roger Botton, Paris, and Adrien Delcoigne, Oise, France, assignors to Produits Chimiques Penchiney-Saint-Gobain, Paris, France
Continuation-in-part of application Ser. No. 436,563, Mar. 2, 1965. This application Dec. 1, 1967, Ser. No. 687,389
Claims priority, application France, Mar. 3, 1964, 965,896; June 22, 1964, 979,153; Dec. 8, 1966, 86,701
Int. Cl. C01b *7/02;* **C01c** *1/00;* **B01j** *11/22, 11/26*
U.S. Cl. 23—219 **6 Claims**

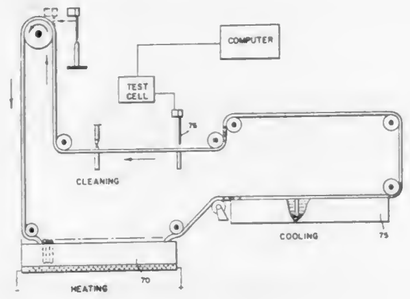


Chlorine is recovered from a chlorine-laden catalyst, including a partially reduced metallic oxide such as iron oxide and an alkali metal chloride in a recovery zone, which is divided into a series of separate fluidized beds, in which the catalyst is fed successively from the first to the last, and an oxidizing gas is fed through the series of beds countercurrent to the feed of the catalyst, to oxidize the catalyst to release chlorine, to heat and to fluidize the the catalyst in the series of beds. The concentration of chlorine in the oxidizing gas increases from the last bed towards the first and usually reaches a maximum concentration before passing through the first bed, the chlorine being recovered at the point of maximum concentration.

3,525,591
APPARATUS FOR ANALYZING LIQUID SAMPLES
Olof Gunnar Hugo Jungner, Hovas, and Bengt Gosta Ingmar Jungner, Stocksund, Sweden, assignors to AB Autokemi, Stockholm, Sweden, a corporation of Sweden
Filed June 14, 1966, Ser. No. 557,435
Claims priority, application Sweden, June 15, 1965, 7,838/65
Int. Cl. G01n *1/00*
U.S. Cl. 23—253 **7 Claims**

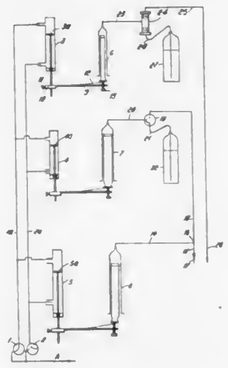
Apparatus for simultaneously conducting a plurality of tests upon a plurality of liquid samples in an analyzing device wherein liquid samples are delivered to the analyzing device and tubes by placing racks containing the tubes on a first conveyor. The racks are transferred to a second

conveyor which is moved step by step. Measured quantities of liquid sample from the tubes are transferred to reaction containers at a plurality of positions along the second conveyor. Measured quantities of reagent are simultaneously delivered to the reaction containers and these containers are then moved through temperature treat-



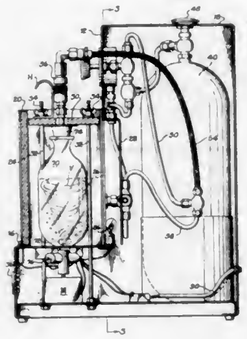
ment stations and portions of the reacted liquid samples are simultaneously removed. These portions are transferred to test cells and analyzed. The conveyors may be adapted to be folded during the temperature treating step to control the rate of movement of the conveyors through the temperature treatment stations.

3,525,592
SAMPLING AND DILUTING APPARATUS
Robert Buckley, Abingdon, England, assignor to Quickfit & Quartz Limited, Walton, Stone, England, a corporation of Great Britain
Filed Sept. 13, 1967, Ser. No. 667,388
Claims priority, application Great Britain, Sept. 13, 1966, 40,850/66
Int. Cl. G01n *1/14*
U.S. Cl. 23—253 **7 Claims**



A liquid sampling device for continuously taking measured samples of blood in succession and diluting them with measured quantities of deterent liquid comprises a liquid sampling device for continuously taking measured samples of liquid in succession and diluting them with measured quantities of diluent liquid, said apparatus comprising a probe, a first syringe, the cylinder of which is connected to the probe by a closed conduit, a second syringe the cylinder of which is connected by a second closed conduit to a liquid diluent container, a third closed conduit connecting said second conduit to said first conduit, a two-way valve between said second and third conduits, and means for actuating the syringes and the valve in timed relation whereby the first syringe actuates to draw a measured volume of a sample of liquid into the probe and to eject it therefrom and the second syringe ejects a measured volume of diluent from the container through the probe behind the ejected liquid sample. Two or more sampling devices may be used mounted on a frame with a liquid specimen container carrier movably mounted on the frame with two rotating turntables, a first sampling device (which may be duplicated) extracting samples and diluting them and returning them to containers on the first turntable, a separator for separating the samples into two fractions one of which is returned to containers on a turntable and a sampling device extracting a measured quantity of separated fraction from the last named turntable and delivering it to a use position.

3,525,593
FLUID REACTOR
Jerome B. Thompson, Box 231, Rte. 3, Cumberland, Md. 21502
Filed Nov. 8, 1967, Ser. No. 681,357
Int. Cl. B01l *1/00*
U.S. Cl. 23—259 **7 Claims**

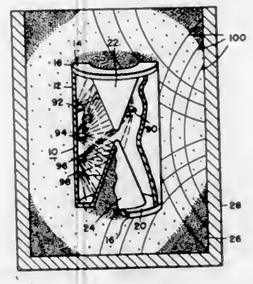


An apparatus for the mixture of fluids, as, for example, a hydrogenator, is composed of a transparent bottle having a magnetic stirring rod therein. The bottle is enclosed by a protective housing having a window through which the stirring of the fluids can be observed. Vents in the housing permit the relief of explosive pressure waves. Piping, valves, gauges, etc., can be mounted in the housing.

3,525,594
NUCLEATION CHAMBER FOR CRYSTAL GROWTH
Donovan L. Barrett, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 14, 1967, Ser. No. 616,039
Int. Cl. B01d *7/00;* **B01j** *17/28*
U.S. Cl. 23—273 **13 Claims**

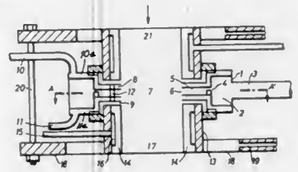
This invention provides a sublimation furnace for the growing of crystalline material from the vapor state. In particular it provides a cylindrical nucleation chamber having opposed conical heat sinks at either end to assist in growing larger crystals of device quality material over a greater area of the inner periphery of the chamber than prior art chambers. The walls of the chamber can be of carbon or silicon carbide coated guaze material but preferably is of porous graphite. The nutrient

material surrounds the outside of the chamber and vapor permeates the chamber walls. The nucleation chamber



may be rotated during crystal growth to minimize hot spots from occurring in the walls of the chamber.

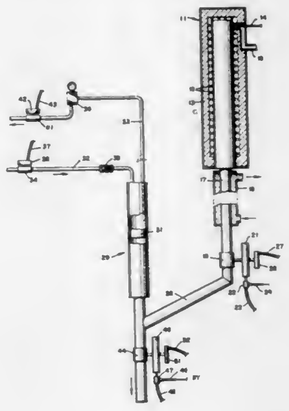
3,525,595
CONCENTRIC CROSS FLOW NOZZLE APPARATUS FOR CARRYING OUT REACTIONS BETWEEN GASES
Hans Zirngibl, Duisburg, Walter Gutsche, Krefeld, Klaus Wauschkuhn, Krefeld-Bockum, and Walter Weidmann, Duisburg-Mundelheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed May 14, 1968, Ser. No. 729,057
Claims priority, application Germany, May 19, 1967, F 52,455
Int. Cl. B01j *1/14;* **C01g** *23/04*
U.S. Cl. 23—284 **1 Claim**



Mixing and reaction apparatus for carrying out reactions between gases, in particular for the production of solids such as e.g. pigments and fillers from inorganic halides with oxygen or ammonia containing gases whereby the corresponding oxides or nitrides are obtained in finely divided form, the gaseous reactants being mixed by the cross-flow principle in an elongated reactor comprising a mixing- and reaction zone and a cooling zone wherein at least one of the gaseous reactants is introduced centrally at one end of said mixing- and reaction zone and the other other reactant is introduced via a distributor at an angle of about 90° to the other reactant fed in centrally. The distributor comprises an annular distribution chamber with a gas inlet and a gas outlet, e.g. nozzle, and a barrier interposed between said distribution chamber and the gas outlet, the gas outlet being surrounded by separate gas outlets for inert gases, e.g. nitrogen, chlorine, carbon monoxide, carbon tetrachloride or mixtures thereof.

3,525,596
CONTROLLED DISCHARGE MEANS FOR REACTION APPARATUS
Edward D. Grant, Jr., Baton Rouge, La., assignor, by mesne assignments, to Chemetron Corporation, Chicago, Ill., a corporation of Delaware
Filed Feb. 1, 1966, Ser. No. 524,001
Int. Cl. B65g *53/40;* **B01j** *3/02*
U.S. Cl. 23—290 **4 Claims**

Apparatus for removing continuously a discharge from a high pressure reaction chamber without substantial reduction in pressure wherein pressure control means act on an unloading chamber to regulate the volume thereof yet permit the high pressure to force discharge into the unloading chamber in spite of the positive pressure control means. An outlet channel interconnects the reaction chamber and the unloading chamber and valve means prevent flow or provide communication between the reaction

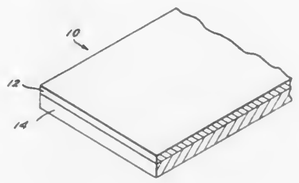


chamber and the unloading chamber, the valve means also providing free passage of discharge from the unloading chamber through a discharge channel when flow between the reaction chamber and the unloading chamber is stopped. In a preferred embodiment, sensing means are connected to the pressure control means to sequentially open and close the valve means in the described manner.

3,525,597
TRANSPARENT ZIRCONIA AND PROCESS FOR MAKING SAME
Khodabakhsh S. Mazdiyasni, Xenia, Charles T. Lynch, Fairborn, and Jonathan S. Smith II, Dayton, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force
No Drawing. Continuation-in-part of application Ser. No. 570,146, Feb. 8, 1966. This application Nov. 13, 1968, Ser. No. 775,507
The portion of the term of the patent subsequent to Mar. 11, 1986, has been disclaimed
Int. Cl. C22b *59/00;* **C01g** *25/02*
U.S. Cl. 23—293 **5 Claims**

A high density, polycrystalline fully stabilized cubic zirconia body characterized by having a fine, uniform grain size, negligible porosity and which is stable in oxidizing environments at temperatures above 2000° C. and is capable of transmitting visible and infrared radiation, consisting essentially of high purity zirconia and about 6 mole percent of a high purity metallic oxide selected from the group consisting of yttrium oxide, dysprosium oxide and ytterbium oxide as a stabilizing additive and the method for preparing the same comprising the steps of completely mixing dried, fine particulate, high purity (1) zirconia and (2) a metallic oxide selected from the group consisting of yttrium oxide, dysprosium oxide, and ytterbium oxide, said metallic oxide being present in the amount of 6 mole percent weight of said zirconia, calcining the powder in air at 800° C. for 1 to 4 hours, grinding the resulting calcined material to a powder, hot pressing the powder in graphite die at pressures from about 4000 p.s.i. to 15,000 p.s.i. and at temperatures of 1000–1400° C. for 30 min. to 240 min. into compacted shapes.

3,525,598
COMPOSITE METAL STRIP OF AN ALUMINUM BASE BONDED TO A ZINC ALLOY
Robert J. Russell, North Dighton, and Francis T. Corcoran, North Attleboro, Mass., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Continuation of application Ser. No. 420,895, Dec. 24, 1964. This application Feb. 6, 1968, Ser. No. 703,482
Int. Cl. B23p *3/00;* **B32b** *15/20*
U.S. Cl. 29—183.5 **2 Claims**



A strip material suitable for use in wrap around printing plates is formed of a backing layer of aluminum or aluminum alloy to which is metallurgically bonded a layer of one of the easily etched zinc alloys known as photoengravers zinc.

3,525,599
BARIUM-CONTAINING DISPERSION
Gerald L. Nield, Ponca City, Okla., assignor to Continental Oil Co., Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Oct. 25, 1967, Ser. No. 677,870
Int. Cl. C10l *1/22, 1/30, 1/32*
U.S. Cl. 44—51 **25 Claims**

Dispersion of barium carbonate in an amine salt of an oil-soluble organic acid, and process for the preparation of the same. Broadly stated, the process comprises:
(a) forming an admixture of an amine salt of an oil-soluble organic acid (e.g. sulfonic acid), basic barium compound, alcohol, and nonvolatile diluent oil,
(b) carbonating the admixture of step (a), and
(c) removing any volatile materials.

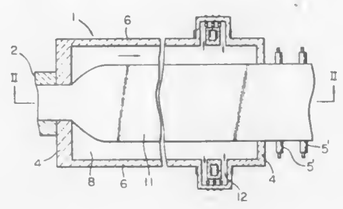
The product is particularly useful as a smoke suppressant additive in diesel fuels.

3,525,600
ABRASIVE GRAINS COATED WITH A CERAMIC AND A SILICONE RESIN
Takayuki Yoshikawa, Nagoya-shi, and Hideaki Suzuki, Chita-gun, Aichi-ken, Japan, assignors to Nippon Toki Kabushiki Kaisha, Nagoya-shi, Aichi-ken, Japan
Filed Feb. 14, 1967, Ser. No. 616,027
Claims priority, application Japan, Oct. 29, 1966, 41/71,082
Int. Cl. B24b *1/00;* **C08g** *51/12*
U.S. Cl. 51—295 **6 Claims**



In the production of abrasive compositions suitable to be used for the manufacture of abrasive tools, sandpapers and abrasive cloths, use of synthetic resin binder for binding an abrasive compound such, for example, as alumina compound is advantageous in increasing the rigidity of the resulting product and also in achieving aging at low temperatures during the production process. Conventional abrasive compositions of the type described above, however, had the drawback that they are insufficiently resistive against water, chemicals and heat. In this case, the bond between the abrasive compound and the binder may be improved surprisingly by coating the surface of the abrasive compound with a silicate and then treating the coated surface with a compound such as silicone resin.

3,525,601
APPARATUS FOR PRODUCTION OF FLAT GLASS WITH FLOAT BATH METAL PURIFYING MEANS
Mobuyoshi Ohsato, Maizuru-shi, Japan, assignor to Nippon Sheet Glass Co., Ltd., Higashi-ku, Osaka, Japan
Filed Nov. 28, 1967, Ser. No. 686,161
Claims priority, application Japan, Dec. 3, 1966, 41/79,516
Int. Cl. C03b *18/02*
U.S. Cl. 65—168 **5 Claims**



An apparatus for a continuous production of flat glass by pouring a molten metal from a glass melting furnace onto a molten metal bath and advancing the molten glass in a ribbon form over the molten metal bath includes a device for purifying the molten metal bath which comprises at least one canal with inlet and outlet ends in the vicinity of the outlet of the molten bath to withdraw the molten metal from the bath and return it to the bath, the said canal having at the inlet end means for heating the so withdrawn molten metal, means between the inlet and outlet ends for blowing a reducing gas into the heated molten metal, means at the outlet end for cooling the reduced molten metal, and means for circulating the molten metal all of which contribute to the more expeditious purification of the molten bath metal.

3,525,602
PROCESS FOR PRODUCING SALT SUSPENSION FERTILIZERS
James E. Barker, Freehold, N.J., assignor to Cities Service Company, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 583,074, Sept. 29, 1966. This application Aug. 11, 1969, Ser. No. 849,164
Int. Cl. C05b *1/00, 11/08*
U.S. Cl. 71—40 **11 Claims**

In a process for producing inverse ratio salt suspension fertilizers having potassium chloride in the amount of at least 5% expressed at K_2O, the improvement comprising incorporating a non-potassium sulfate salt in sufficient amount to prevent the formation of granules of potassium chloride on the order of about +20 mesh in size. Preferably the sulfate is incorporated in the amount as determined by the following formula:

$$\text{Percent wgt. as } S=\frac{8}{33}(1.6\times\%\text{ wgt. } K_2O + 0.18\times\%\text{ wt. } P_2O_5-6.45)$$

where K_2O represents the amount of potassium chloride and P_2O_5 the amount of phosphate in the salt suspension fertilizer.

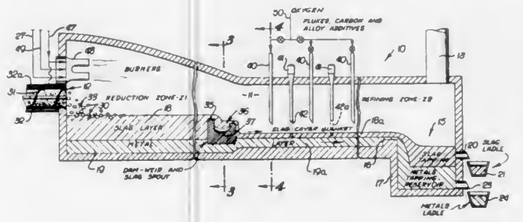
ERRATUM

For Class 71—93 see:
Patent No. 3,525,789

3,525,603
METHOD OF INCREASING THE SUGAR CONTENT OF SUGAR CANE
Philip C. Hamm, Glendale, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 582,223, Sept. 27, 1966. This application Oct. 21, 1968, Ser. No. 769,407
Int. Cl. A01n *9/14*
U.S. Cl. 71—103 **12 Claims**

Increasing the sugar content of sugar cane by contacting the sugar cane with substituted benzenesulfonyl ureas and its salts.

3,525,604
PROCESS FOR REFINING PELLETIZED METALLIFEROUS MATERIALS
Edward M. Van Dornick, 3716 E. Corta Calle, Pasadena, Calif. 91107
Filed Oct. 21, 1966, Ser. No. 588,535
Int. Cl. C21b *11/08, 13/08, 13/14*
U.S. Cl. 75—40 **14 Claims**

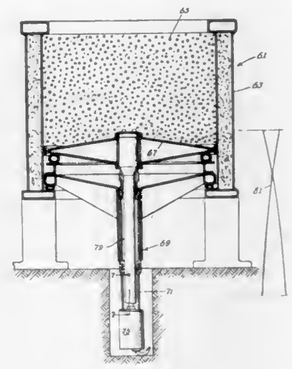


Metalliferous and carbonaceous material are pelletized and fed to the reduction section of an elongated furnace in which the pellets float within a slag layer while their metalliferous content undergoes reduction with metal separation below the slag, both the slag layer and metal being in continuous flow in the longitudinal direction of the furnace into a refining section in advance of which a portion of the slag is withdrawn to leave a relatively thin layer blanketing and flowing in the same direction as the underneath metal undergoing refining.

3,525,605
METHOD FOR DECREASING THE SOFTENING TEMPERATURE AND IMPROVING THE ELECTRICAL CONDUCTIVITY OF HIGH CONDUCTIVITY OXYGEN-FREE COPPER
Ahti P. Pynna, Ulvila, and Seppo A. Nieminen, Pori, Finland, assignors to Outokumpu Oy, Helsinki, Finland, a corporation of Finland
No Drawing. Filed May 1, 1967, Ser. No. 634,911
Claims priority, application Finland, May 4, 1966, 1,175/66
Int. Cl. C22b *15/14*
U.S. Cl. 75—76 **2 Claims**

A method for decreasing the softening temperature and improving the electrical conductivity of oxygen-free copper by adding lanthanides (elements No. 57–71) or their alloys to the copper in connection with the smelting thereof in amounts ranging from 10 grams to 1000 grams per ton copper or 0.001–0.1 percent depending on the quantity of impurities in the copper and on its intended use. An example of a lanthanide element which is effective is cerium or its alloy, the preferred cerium content is 0.002–0.05 percent of copper.

3,525,606
VIBRATIONAL METHOD FOR PENETRATING, LEACHING AND EXTRACTING MINERALS
Albert G. Bodine, 7877 Woodley Ave., Van Nuys, Calif. 91406
Filed Jan. 16, 1968, Ser. No. 698,166
Int. Cl. C22b *3/02*
U.S. Cl. 75—101 **3 Claims**



A method and apparatus for leaching and extracting materials comprised of utilizing a tank to which is fed the composition to be leached and the leaching solution. Acoustically coupled to the tank is an orbiting-mass oscillator with a suitable resonator element so as to effect high resonant sonic energy within the tank, to the degree that cavitation of the liquid is obtained.

3,525,607
ALLOY SYSTEMS AND PROCESS FOR THE MANUFACTURE THEREOF
Frederick C. Holtz, Jr., Evanston, Ill., assignor to IIT Research Institute, Chicago, Ill., a not-for-profit corporation of Illinois
Continuation-in-part of application Ser. No. 435,733, Feb. 26, 1965. This application Jan. 3, 1966, Ser. No. 518,162
Int. Cl. B22f *3/12;* **C22c** *19/00, 39/14*
U.S. Cl. 75—123 **4 Claims**



Compositionally and structurally novel composite alloys consisting of a continuous matrix of a relatively tough and relatively ductile, metal, tool alloy or structural alloy, and a principal dispersed discontinuous constituent consisting of a high carbide volume tool material, are produced by blending from about 10 to 40 volume percent of

the powdered continuous matrix constituent with from about 60 to 90 volume percent of the atomized, pre-alloyed powder which forms the principal high carbide, dispersed, discontinuous constituent, and subjecting the blended powders to the step of hot consolidation to produce a fully dense composite alloy system.

3,525,608

METHOD FOR INCREASING THE CHROMIUM CONTENT OF FERROCHROME WITH LOW CHROMIUM CONTENT

Petri B. Bryk, Helsinki, Jorma B. Honkasalo, Westend, Rolf Einar Malmstrom and Frans Heikki Tuovinen, Pori, and Simo Antero Makipirtti, Nakkila, Finland, assignors to Outokumpu Oy, Helsinki, Finland

No Drawing. Filed Apr. 11, 1967, Ser. No. 629,890
Claims priority, application Finland, Apr. 12, 1966, 930/66
Int. Cl. C22c *35/00, 39/14*
U.S. Cl. 75—130.5 **5 Claims**

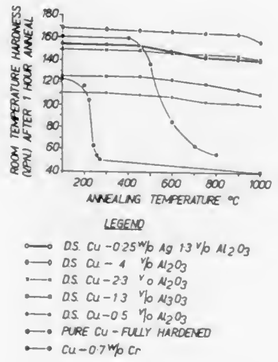
A method for increasing the chromium contact of low chromium content ferrochrome derived from ores with a low ratio of chrome to iron. Such material is smelted in a conventional manner into ferrochrome, controlling the carbon and silicon content of the charge such that the carbon content of the produced smelt is within the range of 4–8% and silicon content is within the range of 0.2–6.0% and that the molten product is cooled in controlled crystallization conditions, or normally cooled ferrochrome is then heat treated similarly in controlled crystallization conditions, in such a manner that the produced chromium enriched chromium-iron-carbide crystals on one hand and crystals containing mainly iron on the other hand exist separate in the solid material in suitable sizes, and that the crystals of the phase containing mainly chromium, after crushing and grinding, are separated by mechanical separation methods, by magnetic or electrostatic means or by means based on differences in specific gravity.

3,525,609

COPPER ALLOY MATERIAL

David Henry Roberts, Harlow, England, assignor to Associated Electrical Industries Limited, London, England, a British company

Filed Feb. 24, 1967, Ser. No. 618,404
Claims priority, application Great Britain, Mar. 7, 1966, 9,768/66
Int. Cl. C22c *9/00, 9/04*
U.S. Cl. 75—153 **5 Claims**



A dispersion strengthened copper alloy, and method of making same, comprising copper alloyed with silver, cadmium or zinc and strengthened by internally oxidized aluminium as dispersoid. The dispersion strengthened copper alloy consists of up to 1% by weight of a metal from the group consisting of silver, cadmium and zinc and copper constituting the balance of the free metal content together with 0.5% to 4.3% by volume of finely divided aluminium oxide dispersed throughout the alloy.

3,525,610

PREPARATION OF COBALT-BONDED TUNGSTEN CARBIDE BODIES

Geoffrey W. Meadows, Kennett Square, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 660,986, Aug. 16, 1967, which is a continuation-in-part of applications Ser. No. 582,924, Sept. 29, 1966, and Ser. No. 516,825, Nov. 24, 1965. Application Ser. No. 582,924 is a continuation-in-part of application Ser. No. 516,825, both being continuations-in-part of application Ser. No. 418,808, Dec. 16, 1964. This application June 4, 1969, Ser. No. 830,545
Int. Cl. C22c *29/00*
U.S. Cl. 75—204 **10 Claims**

Hard metal compositions of tungsten carbide bonded with from 1 to 30 percent by weight of cobalt-tungsten alloy are prepared by heating an intimate mixture of cobalt and tungsten carbide powder to a temperature above 1000° C. for a short time; then compressing the composition to a density in excess of 95% of its theoretical density; and then cooling rapidly the dense composition.

3,525,611

HETEROGENEITY BY SLIGHT OXIDATION PRIOR TO CONSOLIDATION

Dong M. Chay, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 23, 1969, Ser. No. 835,814
Int. Cl. C22c *29/00*
U.S. Cl. 75—204 **2 Claims**

Dense bodies of tungsten carbide bonded with from 3 to 25% by weight of heterogeneous cobalt-tungsten solid-solution alloy are prepared by intimately mixing a tungsten carbide powder with cobalt, pelletizing the mixture, slightly oxidizing the pellets, then the mixed powder pellets are heated to a temperature above 1000° C. and are consolidated to yield a compact with a density of at least 98% of its theoretical density. The resultant bodies are strong, hard and impact resistant and useful in cutting and shaping very hard materials.

3,525,612

ELECTROPHOTOGRAPHIC REPRODUCTION PROCESS EMPLOYING A LIGHT SENSITIVE MATERIAL AND A PHOTOCONDUCTIVE MATERIAL

Colin Holstead, Abbots Langley, Hertfordshire, England, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 9, 1966, Ser. No. 556,276
Claims priority, application Great Britain, June 16, 1965, 25,496/65
Int. Cl. G03g *13/22*
U.S. Cl. 96—1 **9 Claims**

A novel electrophotographic process is described wherein an element containing a light sensitive material and a photoconductive composition is imagewise exposed, charged, blanket exposed and developed. This process permits processing in room-light, provides for camera exposures of electrophotographic elements and is characterized by very rapid imagewise exposures.

3,525,613

THERMOPLASTIC DEFORMATION IMAGING PROCESS

Frederick Hermes Nicoll, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware

No Drawing. Filed Aug. 12, 1963, Ser. No. 301,635
Int. Cl. B41m *5/18, 5/20*
U.S. Cl. 96—1.1 **5 Claims**

A thermoplastic deformation imaging process using a recording member comprising a layer of thermoplastic photoconductive insulating material having a surface provided with an overall, substantially uniform, light-scattering pattern. This pattern may be produced by subjecting the surface of said layer, while soft, to electronic bombardment.

3,525,614

PHOTOGRAPHIC PROCESSES AND ELEMENTS COMPRISING INTEGRAL COLOR CORRECTION MASK-FORMING COMPOUNDS

Jan Jaeken, Hove, and Frans Philomena Serrien, Wilrijk, Belgium, Paul Marx, Leverkusen, Germany, and Marcel Karel Van Doorselaer, Gravenwezel, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company

No Drawing. Filed Sept. 19, 1967, Ser. No. 668,922
Claims priority, application Great Britain, Sept. 19, 1966, 41,637/66
Int. Cl. G03c *7/18*
U.S. Cl. 96—9 **12 Claims**

This invention relates to a process and a material for the manufacture of photographic colour images and more particularly to a process of colour correction utilizing an integral masking procedure.

3,525,615

PHOTOPOLYMERIZATION PROCESSES AND ELEMENTS THEREFOR

Vaughan C. Chambers, Jr., Fair Haven, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 7, 1966, Ser. No. 563,367
Int. Cl. G03c *11/12*
U.S. Cl. 96—28 **15 Claims**

Image-forming elements comprising a support and a photopolymerizable stratum comprising (a) an inorganic thixothropic gel binder, as the sole binder, (b) an ethylenically unsaturated compound, (c) a free-radical generating, addition polymerization initiator activatable by actinic light and thermally inactive at and below 85° C. and (d) a thermal polymerization inhibitor; and image-forming processes of (1) exposing the elements imagewise, (2) bringing the exposed stratum into contact with a receptive support, (3) applying high pressure to the assembled elements to liquefy and transfer unexposed areas to the support and (4) separating the elements. The elements and processes are useful for transferring images to paper, metal, silk screens, etc. from photographic positives, negatives and halftones.

3,525,616

LIGHT SENSITIVE COMBINATION OF A HALOGEN HYDROCARBON, A LEUCO TRIARYL METHANE DYE AND AN N-VINYLCARBAZOLE

Ernst-August Hackmann and Johannes Munder, Wiesbaden-Biebrich, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany

No Drawing. Filed Dec. 9, 1965, Ser. No. 512,774
Claims priority, application Germany, Dec. 10, 1964, K 54,765; Sept. 1, 1965, K 57,012
Int. Cl. G03c *1/72*
U.S. Cl. 96—36 **9 Claims**

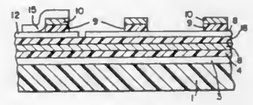
Negative-working reproduction material of particularly high light sensitivity and distinct image formation is provided with the combination of a light-sensitive halogen hydrocarbon source of free radicals, a leuco triarylmethane dye and an N-vinylcarbazole.

3,525,617

METHOD OF MAKING ELECTRICAL CIRCUIT STRUCTURE FOR ELECTRICAL CONNECTIONS BETWEEN COMPONENTS

Kenneth Charles Arthur Bingham, Chalfont Saint Peter, England, assignor to International Computers and Tabulators Limited, Putney, England, a British company

Filed July 8, 1966, Ser. No. 563,862
Claims priority, application Great Britain, July 13, 1965, 29,736/65
Int. Cl. H01f *7/06;* **H05k** *3/30*
U.S. Cl. 96—36.2 **3 Claims**



A structure for supporting and for providing interconnections between integrated circuit chips is formed by depositing power supply conductors on a substrate followed by a layer of insulating material, an earth plane and a further layer of insulating material. After this a set of parallel signal conductors is deposited followed by a layer of insulating photo resist material, a gold film and a second layer of photo resist material. Stripes of the second layer of photo resist are then dissolved to reveal stripes of the gold film. The stripes of gold film are etched away to leave a second set of parallel conductors and to reveal stripes of the layer of insulating photo resist material which are then dissolved away. The stripes cross signal conductors so that two mutually perpendicular sets of conductors are formed which are insulated from each other. Conductive links are formed between conductors of the two sets by depositing a layer of photo resist and then softening the resist at selected crossing points by an electron beam. The softened resist is removed by a solvent and a layer of aluminum is deposited. The remaining resist is then dissolved in an ultrasonically agitated bath taking the unwanted parts of the aluminum layer with it and leaving conductive links connecting conductors of the two sets.

3,525,618

DIAZOTYPE FILM MATERIALS

Max Keller, Riehen, and Theodor Haefeli, Fribourg, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Filed Nov. 29, 1965, Ser. No. 510,369
The portion of the term of the patent subsequent to Jan. 23, 1985, has been disclaimed
Int. Cl. G03c *1/60, 1/92*
U.S. Cl. 96—75 **12 Claims**

Diazotype film materials consisting of a transparent to opaque carrier coated with a composition containing uncolored hydrophilic binder, light sensitive aryl diazonium compound and noncoloring UV light absorber which retains its UV absorption during and after exposure of the carrier. These materials are useful in diazotype copying processes.

3,525,619

HEAT-DEVELOPABLE DIAZOTYPE MATERIAL

Siegfried Scheler, Wiesbaden-Schierstein, and Johannes Munder, Wiesbaden-Biebrich, Germany, assignors, by mesne assignments, to Keuffel & Esser Company, Morristown, N.J.

No Drawing. Filed Sept. 8, 1966, Ser. No. 577,835
Claims priority, application Germany, Sept. 10, 1965, K 57,094
Int. Cl. G03c *1/60, 5/34*
U.S. Cl. 96—75 8 Claims

A heat-developable diazotype material of improved shelf life and ready developability is prepared by providing a two-component vapor-permeable diazotype sheet on its reverse side with a composite layered coating which comprises a first layer of a composition including a resinous binder having uniformly dispersed therein finely divided particles of a water-soluble acid amide, and a second layer thereon of a resinous binder having uniformly dispersed therein finely divided particles of a strongly alkaline inorganic base having a relatively low water solubility.

3,525,620

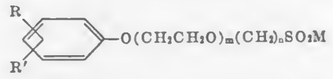
PHOTOGRAPHIC LIGHT-SENSITIVE ELEMENT

Fumihiko Nishio, Ikuo Shimizu, Sadaaki Koba, and Nobuo Tsuji, Asbigara-Kamigun, Kanagawa, and Yoshihide Hayakawa, Kita-Adachigun, Saitama, Japan, assignors to Fuiji Shashin Film Kabushiki Kaisha, Ashigara-Kamigun, Kanagawa, Japan

No Drawing. Filed Jan. 5, 1967, Ser. No. 607,385
Claims priority, application Japan, Jan. 5, 1966, 41/528
Int. Cl. G03c *1/04*
U.S. Cl. 96—84 10 Claims

Emulsion compositions and layers containing additions of (1) an aqueous dispersion of a vinyl polymer, and (2) a polyhydroxy compound.

Vinyl monomer is dispersed in water with the aid of an anionic dispersing agent of the following formula:



wherein R represents a hydrogen atom or an alkyl group having from 1 to 18 carbon atoms, R′ represents an alkyl group having from 1 to 18 carbon atoms, *m* is 0 or a positive integer of less than 20, *n* is 3 or 4, and M represents an alkali metal or an ammonium radical.

Monomer is then polymerized to form the polymer dispersion. Polymer dispersion and polyhydroxy compound are then added to gelatin containing compositions used to form layers in photographic elements.

3,525,621

ANTISTATIC PHOTOGRAPHIC ELEMENTS

Donald N. Miller, Penfield, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Continuation-in-part of application Ser. No. 594,226, Nov. 14, 1966. This application Feb. 12, 1968, Ser. No. 704,714
Int. Cl. G03c *1/82, 1/86*
U.S. Cl. 96—85 21 Claims

Antistatic properties are imparted to photographic elements without detrimental effect on the photographic properties thereof by incorporating therein an antistatic layer containing both colloidal silica and an ionic organic antistatic agent such as, for example, a salt containing arylsulfonic acid groups or a salt of a polymeric carboxylic acid.

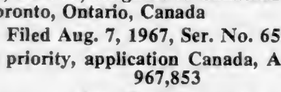
3,525,622

LIGHT-SENSITIVE SILVER HALIDE EMULSIONS

Jozef Frans Willems, Wilrijk-Antwerp, and Albert Lucien Poot, Kontich, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company

No Drawing. Filed Mar. 15, 1967, Ser. No. 623,207
Claims priority, application Great Britain, Mar. 15, 1966, 11,345/66
Int. Cl. G03c *1/08, 1/34*
U.S. Cl. 96—102 5 Claims

Silver halide emulsion layers in photographic material are stabilized against spontaneous fogging during storage and/or development by the inclusion therein of a compound having the following general formula:



3,525,623

METHOD FOR PROCESSING A FAT CONTAINING ORGANIC MATERIAL

Sven-Olof Osterman, Molndal, Sweden, assignor to Astra Nutrition Aktiebolag, Molndal, Sweden, a Swedish company

No Drawing. Filed June 29, 1966, Ser. No. 561,416
Claims priority, application Sweden, July 5, 1965, 8,869/65
Int. Cl. A23j *1/04*
U.S. Cl. 99—18 9 Claims

Fats and other objectionable taste and odor-producing substances are removed from fish by dissolving them in a combination of water and an organic solvent having limited solubility in water. Suitable solvents are n-butanol, sec-butanol and isobutanol. The process is carried out at a temperature above normal room temperature.

3,525,624

WATER ICE FLAVOR BASE AND COMPOSITION

Irving H. Rubenstein, Staten Island, N.Y., assignor to Harwood Specialties Corporation

No Drawing. Filed Apr. 6, 1966, Ser. No. 540,518
Int. Cl. A23l *1/00*
U.S. Cl. 99—28 5 Claims

A free-flowing liquid flavor base made up of about 10% soya whipping protein, flavor, color, and fruit juice. The flavor base is combined with an ice water mix made up of sugar, corn syrup solids, guar gum, and carboxymethylcellulose in the proportion of about 1 quart of the flavor base to about 10 gallons of the ice water mix.

3,525,625

FERMENTATION OF WORT

Robert A. Groulx and Orland O. Schaus, Toronto, Ontario, Canada, assignors to Canadian Breweries Limited, Toronto, Ontario, Canada

Filed Aug. 7, 1967, Ser. No. 658,905
Claims priority, application Canada, Aug. 15, 1966, 967,853
Int. Cl. C12c *11/04*
U.S. Cl. 99—31 6 Claims

This invention relates to the maintaining of a yeast cap on the top of a fermenter in the fermenting of beer, and involves the collapsing of the yeast cap over a small portion of its surface and venting the collapsed portion to permit the gas released by the collapsing of the yeast cap to rise freely. The yeast cap is collapsed by passing a revolving blade through it.

3,525,626

COLA BEVERAGE COMPOSITION

Robert L. Swaine, Lynnfield, and Donna W. Beusch, Cambridge, Mass., assignors to William C. Clay, Jr., Mount Sterling, Ky.

No Drawing. Filed July 13, 1965, Ser. No. 471,730
Int. Cl. A23l *1/00*
U.S. Cl. 99—78 2 Claims

A dry powder composition suitable for blending with heated water to form a hot cola beverage consisting essentially of from 10 to 20 weight percent of a cola flavoring, from 0.1 to 0.25 weight percent of vanilla powder, from 1 to 7 weight percent of extract of kola N.F., from 70 to 80 weight percent of sucrose, and from 0.4 to 0.7 weight percent of hydrated citric acid. Up to 0.5 weight percent of catechu extract, and up to 0.00003 weight percent of oil of patchouly are included in the composition.

3,525,627

WHEY COMPOSITION FOR MAKING YEAST-RAISED DOUGH PRODUCTS

Andrew D. Singleton, Northfield, Ill., and Ingmar B. Eggen, Fulton, N.Y., assignors to Kraftco Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 473,214, July 19, 1965. This application Mar. 6, 1969, Ser. No. 805,013
Int. Cl. A21d *2/00*
U.S. Cl. 99—91 5 Claims

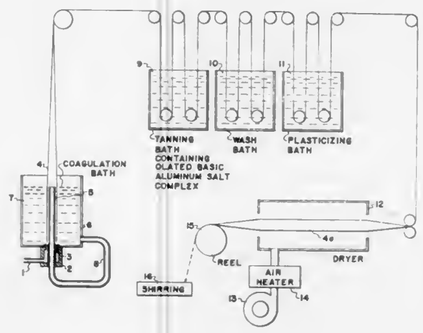
A dough constituent is provided for use in yeast-leavened dough products. The dough constituent includes whey solids, buffering and fortifying salts and minerals, a hydrophilic agent comprising corn flour and a water absorbing agent comprising soy flour.

3,525,628

ALUMINUM TANNAGE OF EDIBLE COLLAGEN CASING

Mauj A. Cobly, Catlin, Ill., assignor to Tee-Pak, Inc., Chicago, Ill.

Filed Nov. 20, 1967, Ser. No. 684,380
Int. Cl. A22c *13/00*; D01f *9/04*; B29d *23/04*
U.S. Cl. 99—176 13 Claims



An edible sausage casing having improved strength, bite, stuffing, linking, and cooking characteristics is prepared from hide collagen. Animal hides are limed to swell and dehair the hide, split to produce a collagen containing corium layer and then neutralized in dilute acid. The neutralized hide is ground into fine particles, formed into a slurry, and swollen with weak acid to produce an extrudable collagen paste or slurry having a solids content of about 2–6%. Alternatively, the collagen slurry may be prepared by acid or enzymatic or mechanical depilation of the hide, followed by grinding and acid swelling. The slurry is extruded through an annular die, coagulated with ammonium sulfate or sodium sulfate and tanned in a tanning bath or solution containing an olated basic aluminum salt complexed with an organic acid or salt of an organic acid. The tanned casing, containing about 1.5–5.0% aluminum is washed and finally plasticized with an aqueous solution of glycerin or similar plasticizer. The casing is dried and reeled and eventually shirred on a commercial shirring machine for delivery to the meat packer in a shirred and packaged form.

3,525,629

STERILIZATION OF MILK

Frank V. Kosikowski, Ithaca, N.Y., assignor to Cornell Research Foundation, Inc., Ithaca, N.Y., a corporation of New York

Filed Oct. 29, 1965, Ser. No. 505,694
Int. Cl. A23c *3/00*
U.S. Cl. 99—212 10 Claims

A method of purifying a fluid food containing bacteria and other microorganisms harmful to its consumption as a food product and the product quality where the bacteria have a higher density than the fluid food product, by passing the fluid food product through a centrifugal separating means, separating the fluid product into a first component substantially free of bacteria and a second component containing these bacteria plus a subcomponent of the original fluid having substantial food value, the second component being more dense than said first component, sterilizing the second component and returning the component into fluid mixture with the first component for use as a food.

3,525,630

COLORLESS INK TO GIVE BLACK PRINT

Paul S. Phillips, Jr., Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Continuation-in-part of application Ser. No. 688,596, Dec. 6, 1967. This application Mar. 13, 1969, Ser. No. 807,130
Int. Cl. C09d *11/00*
U.S. Cl. 106—21 6 Claims

A colorless marking liquid comprising a vehicle in which is dissolved a complement of several colorless reactants each exhibiting its own distinctive color on reaction with an eligible acidic record material sensitizing substance, the ink yielding an apparent substantial black on record material sensitized with an eligible acidic material for each reactant and otherwise yielding an apparent color where at least one but not all of the necessary eligible acidic substances to produce black are absent.

3,525,631

MANUFACTURE OF CERAMIC BODIES

William B. Brown, Jr., Farmingdale, and Kenneth H. Brinsmead, Northport, N.Y., assignors to Avnet, Inc., a corporation of New York

No Drawing. Filed Aug. 2, 1965, Ser. No. 476,671
Int. Cl. C04b *35/18, 35/48*
U.S. Cl. 106—57 12 Claims

A process of preparing ceramic articles comprising shaping a slurry of refractory particles and a gelling solution of phosphoric acid and alkyl silicate, allowing the shaped slurry to gel, and then firing the gelled shape.

3,525,632
METHOD FOR FORMING A CONCRETE CEMENT COMPOSITION

Charles R. Enoch, King of Prussia, Pa., assignor to Resco Products, Inc., Norristown, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 474,943, July 26, 1965. This application Nov. 8, 1967, Ser. No. 681,577

Int. Cl. C04b *7/32, 9/04, 9/18*

U.S. Cl. 106—85 **1 Claim**

A method for forming a rapid setting concrete cement composition which comprises dry blending magnesium containing compounds, aluminum containing compounds, and phosphorous containing compounds from stated sources and in stated weight percentage, and then pulverizing the blended material without a separate drying stage.

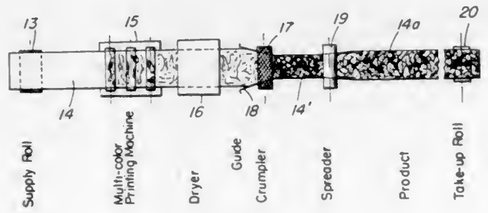
3,525,633
METHOD OF PRODUCING DECORATIVE SHEET MATERIAL

Emmerich T. Igler, 120 W. 12th St., New York, N.Y. 10011

Filed Dec. 15, 1966, Ser. No. 602,020

Int. Cl. B44c *3/08*

U.S. Cl. 117—8 **6 Claims**



To product decorative sheet material having a relief effect, initially flat metal foil is printed or coated with coloring material and then dried, followed by crushing or crumpling of the material, and finally spreading out or smoothing to achieve the final product.

3,525,634
METHOD FOR TREATING FIBROUS SUBSTRATES

Vincent Theodore Elkind, Metuchen, and Robert Tweedy Hunter, Piscataway, N.J., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 28, 1967, Ser. No. 686,292

Int. Cl. B44d *1/44*

U.S. Cl. 117—63 **6 Claims**

This invention relates to a method and means for achieving a degree of oil and/or water repellency by fibrous materials by treating such materials as textiles and the like with a fluorocarbon polymer and achieving the desired oil and/or water repellency by activation with a solvent, such as unsymmetrical trichlorotrifluoroethane.

3,525,635
MAGNETIC RECORDING MEDIA

Willis Dale Haller, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed July 1, 1965, Ser. No. 468,942

Int. Cl. H01f *10/06*

U.S. Cl. 117—71 **6 Claims**

Magnetic recording media having a dielectric substrate and a smooth surfaced magnetizable film of cobalt, nickel, iron or an alloy thereof, with an intermediate bonding layer containing an insulative polymeric matrix in which is distributed colloidal size particles of a nucleating metal for the electroless deposition of said magnetizable metals, the surface of said intermediate bonding layer having a surface resistance of at least 1×10^6 ohms per square exclusive of other materials therein.

3,525,636
METHOD AND COMPOSITION FOR PROTECTING A GLASS SURFACE

Burton S. Bogart, Lancaster, Ohio, assignor to Anchor Hocking Corporation, Lancaster, Ohio, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 458,762, May 25, 1965. This application Oct. 23, 1965, Ser. No. 504,121

The portion of the term of the patent subsequent to May 20, 1986, has been disclaimed

Int. Cl. B41m *1/18;* **C03c** *5/00, 17/00*

U.S. Cl. 117—72 **5 Claims**

A novel coating composition for application to either pristine glass or coated glass to improve the lubrication of the glass surface and the receptivity of the glass article to adhesives used in labelling. The invention is an aqueous dispersion of carnauba wax and polyvinyl alcohol in a medium comprising an anion-active dispersing agent.

3,525,637
METHOD OF PRODUCING LAYERS FROM THE INTERMETALLIC SUPERCONDUCTING COMPOUND NIOBIUM-TIN (Nb_3Sn)

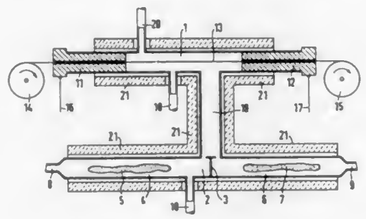
Kyongmin Kim, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed July 12, 1967, Ser. No. 652,763

Claims priority, application Germany, July 16, 1966, S 104,847

Int. Cl. C23c *11/08, 17/02*

U.S. Cl. 117—227 **2 Claims**



Described is an improvement in the method of producing layers of the intermetallic superconducting compound niobium-tin (Nb_3Sn) on a carrier, by passing chlorine over heated niobium to produce gaseous niobium tetrachloride and separately passing chlorine over heated tin to produce tin chloride and subsequently mixing the chlorides in a reaction vessel, and reducing them upon a heated carrier, by hydrogen, to which hydrogen chloride gas has been added. The improvement comprises adding chlorine to the niobium tetrachloride to at least partly convert said niobium tetrachloride into niobium pentachloride, prior to admixture with the tin chloride. The amount of chlorine added to the niobium tetrachloride is 10 to 20% the amount of chlorine passed over the heated niobium.

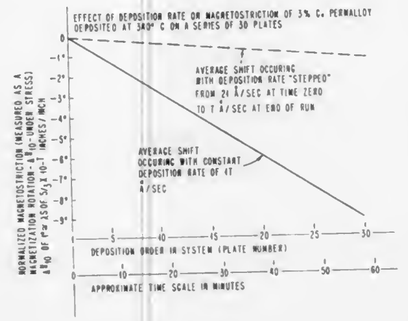
3,525,638
MAGNETOSTRICTION CONTROL IN MAGNETIC THIN FILMS

William B. Archey, Shelburne, Vt., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 20, 1967, Ser. No. 669,053

Int. Cl. C23c *13/04*

U.S. Cl. 117—240 **11 Claims**



Magnetostriction shift in a process for producing a series of nickel-iron base magnetic thin films is decreased by decreasing the rate of deposition of the nickel-iron base film as a function of time during the production of a series of films. This procedure decreases the variation in magnetostriction between films produced at the beginning and films produced at the end of a series.

3,525,639
WATER ACTIVATABLE STORAGE BATTERY

John T. Redmon, Detroit, Mich., assignor to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware

Filed June 6, 1969, Ser. No. 831,075

Int. Cl. H01m *35/00, 21/00*

U.S. Cl. 136—6 **5 Claims**

A water activatable storage battery comprising an outer casing, at least one cell having electrode plates positioned within the casing, a space above the plates, and a container storing liquid electrolyte within the space. The container is made of water-insoluble flexible material and has at least one finger-like extension that extends downwardly along the side of the plates. Each extension is sealed with a water-soluble closure means, which is positioned a predetermined distance above the bottom of the cell. The cell is activated when water introduced into the cell reaches the level of the closure means.

3,525,640
METHOD OF FABRICATING IRON ELECTRODES FOR ALKALINE STORAGE BATTERIES

Robert J. McCormick, Yorktown Heights, and Winslow E. Ryan, Pleasantville, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed July 18, 1968, Ser. No. 745,792

Int. Cl. H01m *35/30*

U.S. Cl. 136—76 **9 Claims**

A method for making sintered iron electrodes is described wherein high purity iron particles having a small nominal diameter are sintered onto a conductive mesh to form a plaque having a porosity within the range of 50 to 70 percent. The plaque is resintered to promote interconnections between the iron particles and, thereby, lower the resistivity of the plaque to within the range of 6×10^{-5} to 8×10^{-5} ohm-cm. The plaque is then electrochemically activated by cycling in a sulfur-containing alkaline solution.

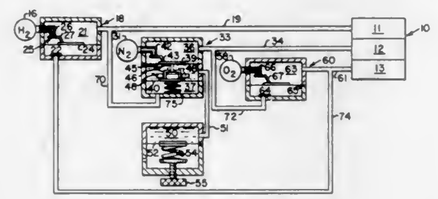
3,525,641
FUEL CELL CONTROL

Joseph O. Thorsheim, Minneapolis, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Dec. 29, 1965, Ser. No. 527,406

Int. Cl. H01m *27/02*

U.S. Cl. 136—86 **2 Claims**



A fuel cell control system in which the pressures in the two reactant sections and the electrolyte section are controlled by pressure regulators which are interconnected so that none of the regulated pressures can exceed the lowest of the supply pressures.

3,525,642
FUEL REACTOR WITH CONTROL SYSTEM

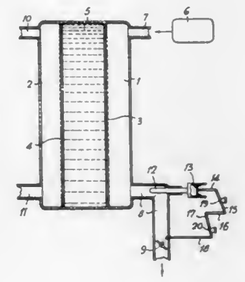
Donald Keith Ross, Wareham, Dorset, England, assignor to Energy Conversion Limited, London, England, a British company

Filed Apr. 7, 1966, Ser. No. 540,940

Claims priority, application Great Britain, Apr. 15, 1965, 16,203/65

Int. Cl. H01m *27/12;* **G01n** *7/10*

U.S. Cl. 136—86 **10 Claims**

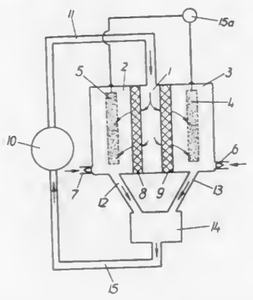


A control system for fuel reactors such as fuel cells is constructed as part of the exhaust system for the reactor to detect the partial pressure of unreacted fuel present in the exhaust gases of the reactor, and the sensing of the partial pressure of the fuel is used to control the flow of fuel containing fluid to the reactor.

3,525,643
PROCESS FOR PRODUCING ELECTRICAL ENERGY IN A FUEL CELL

Dieter Spahrbier, Frankfurt am Main, Germany, Guenther Ryhiner, deceased, late of Bad Soden im Taunus, Germany, by Anita Ryhiner, sole executrix, Bad Soden im Taunus, Germany, assignors to Varta Aktiengesellschaft, Frankfurt am Main, Germany, a corporation of Germany

Filed Apr. 13, 1966, Ser. No. 542,358
Int. Cl. H01m *27/14*
U.S. Cl. 136—86 **15 Claims**

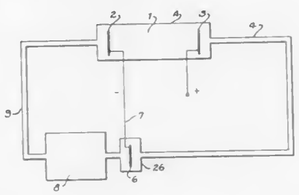


A process for producing electrical energy in a fuel cell. A single stream of electrolyte is supplied to a fuel cell including a pair of porous separation walls. Also substantially all the electrolyte is removed only from the electrode chambers.

3,525,644
DEVICE FOR THE GENERATION OF AN AREA FREE OF ELECTRICAL FIELD IN THE ELECTROLYTE CIRCUIT OF ELECTROCHEMICAL SYSTEMS

August Winsel, Kelkheim, Taunus, and Dietrich Sprengel, Kelkheim, Germany, assignors to Varta Aktiengesellschaft, Frankfurt am Main, Germany

Filed Feb. 6, 1968, Ser. No. 703,350
Claims priority, application Germany, Feb. 11, 1967, V 32,953
Int. Cl. H01m *27/00;* **C23f** *13/00*
U.S. Cl. 136—86 **27 Claims**



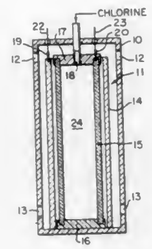
An area substantially free of an electrical field is generated within the closed electrolyte circuit of an electrochemical system comprising an electrochemical device such as a fuel cell battery by placing in the circuit at least one additional electrode.

3,525,645
SILVER CHLORIDE BATTERY AND METHOD OF OPERATING SAME

Joseph C. Duddy, Trevose, Pa., assignor to ESB Incorporated, a corporation of Delaware

Filed June 20, 1968, Ser. No. 738,671
Int. Cl. H01m *17/00, 27/00*
U.S. Cl. 136—86 **8 Claims**

An electric battery having a positive electrode comprising silver chloride on a porous, high surface area silver gas electrode, a saline solution such as sea water as an electrolyte, and a negative electrode of zinc or magnesium. The silver gas electrode has a hollow interior into which chlorine gas is supplied under pressure. The chlorine and the porous silver electrode react to produce silver chloride in-situ at a rate determined by the rate

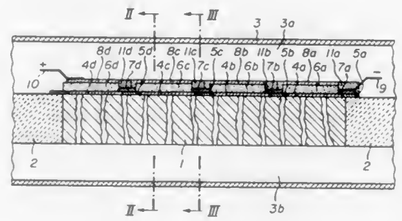


of discharge of the battery. Means are provided to enable sea water to flow into the battery to replenish the electrolyte as well as to enable the electrolyte already within the battery to be purged so as to prevent too large a concentration of zinc chloride to accumulate in the battery.

3,525,646
BATTERY OF FUEL CELLS OF SOLID ELECTROLYTE AND THE PROCESS OF MAKING THESE

Helmut Tannenberger, Geneva, and Reimar Schmitt, Chene-Bougeries, Geneva, Switzerland, assignors to Compagnie Francaise de Raffinage, Paris, France

Filed Aug. 29, 1968, Ser. No. 756,258
Claims priority, application Switzerland, Aug. 31, 1967, 12,226/67; July 19, 1968, 10,884/68; July 22, 1968, 10,978/68
Int. Cl. H01m *27/00*
U.S. Cl. 136—86 **20 Claims**



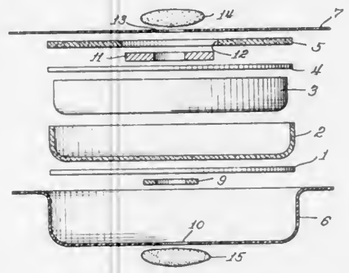
A battery of fuel cells is provided which comprises a porous, insulated support; a first layer with components of an electronically conductive material forming a plurality of electrodes, each electrode being separated from the next adjacent electrode, and with components of a gas-tight, electronically non-conductive material between adjacent electrodes circumferentially isolating each electrode; a second layer with components of an electrolyte for each cell, each of said electrolytes overlaying the electrode of each of the corresponding cells and a part of the non-conductive components of said first layer, with components of an electronically conductive gas-tight material overlaying a major portion of said non-conductive, insulating components of said first layer and the minor portion not covered by said electrolyte; a third layer of an electronically conductive material covering the major part of the electrolyte for each cell in the second layer, said third layer forming the second electrode for said cell,

said electrode partially also overlaying the electronically conductive components of said second layer; a terminal for each of the electrodes; and a surface of said insulated, porous support defining at least a part of one conduit. A method is also provided whereby the various layers are deposited on the support in a precisely delineated manner when using a plasma torch spray gun.

3,525,647
SEAL FOR WAFER CELLS

Howard J. Strauss, Rockford, Ill., assignor to Clevite Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Jan. 14, 1969, Ser. No. 790,944
Int. Cl. H01m *21/00*
U.S. Cl. 136—111 **7 Claims**

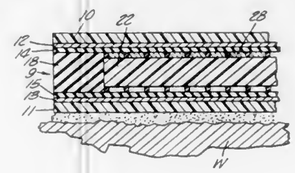


An electrical battery is provided comprising a stack of wafer or flat cells, particularly cells utilizing an alkaline electrolyte. An improved seal is provided between the electrodes or terminals of each cell and the adjacent integument covering at the periphery of apertures provided in the covering to permit electrical contact to be made between adjacent cells. The seal comprises a complete ring of an adhesive bonding the film or integument covering to the electrode or terminal about the aperture. Additionally, an electrolyte-absorbent material, as for example carboxymethylcellulose, in the form of a dry film, completely surrounds the adhesive seal. Any electrolyte which leaks around the edges of the electrode or terminal and which might otherwise penetrate an area where the seal between the adhesive and electrode surface is imperfect is instead absorbed and retained by the absorbent material, thereby preventing any attack of the leaking electrolyte upon the electrical connection to the cell.

3,525,648
THERMOELECTRIC HEAT FLOW RESPONSIVE DEVICE

Heinz Frank Poppendiek, La Jolla, Calif., assignor to The Regents of the University of California, Berkeley, Calif.

Continuation of application Ser. No. 579,672, Sept. 15, 1966. This application Jan. 12, 1968, Ser. No. 709,155
Int. Cl. H01v *1/00*
U.S. Cl. 136—226 **3 Claims**



A heat flow meter in which a plurality of turns of high melting point wire such as platinum is wound around an alumina plate with each of the turns having a portion thereof coated with a high melting point metal such as nickel, iron, or molybdenum to form a thermopile having a series of thermocouples lying on each side of the alumina plate. Leads are connected to the terminals of the thermopile structure and a vitreous glaze covers the wires coating and at least a portion of the terminals. The alumina plate is disposed between two insulating plates and each of such insulating plates has a heat conducting metal cover plate sealed thereto for heat diffusion and insulating means in the form of plates covers the metal cover plates.

3,525,649
METHOD AND MEANS FOR INCREASING THE CRITICAL CURRENT DENSITY OF SUPERCONDUCTING LAYERS HAVING β - TUNGSTEN CRYSTAL STRUCTURES

Hans-Joachim Bode, Erlangen, and Karl Wohlleben, Eltersdorf, Germany, assignors to Siemens Aktiengesellschaft, Erlangen, Germany, a corporation of Germany

Filed Aug. 29, 1966, Ser. No. 575,737
Claims priority, application Germany, Apr. 7, 1966, S 103,079
Int. Cl. C22c *27/00;* **C22f** *3/00*
U.S. Cl. 148—4 **8 Claims**

Described is a method of increasing the critical current density of superconducting intermetallic components having β-tungsten crystal structure. The method comprises subjecting layers of intermetallic superconducting compounds having β-tungsten crystal structure to proton irradiation of an energy content from about 100 kev. to several mev. at a proton flow density and for an irradiation period conjointly corresponding to an integrated proton flow of about 10^{15} to 10^{18} protons per cm.^{2}.

3,525,650
METHOD OF PRODUCING A WATER-INSOLUBLE GERMANIUM OXIDE COATING AT THE SURFACE OF A GERMANIUM CRYSTAL

Erich Pammer and Dieter Maly, Munich, Germany, assignors to Siemens Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

No Drawing. Filed Dec. 5, 1966, Ser. No. 598,954
Claims priority, application Germany, Dec. 10, 1965, S 100,895
Int. Cl. C23f *7/02*
U.S. Cl. 148—6.14 **5 Claims**

Processes whereby Ge body is heated in hydroxyl group containing liquid at pressure of at least 5 atmospheres to form water-insoluble tetragonal GeO_2 coating on Ge.

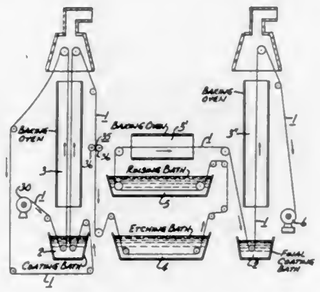
3,525,651
COATING OF METALS

Kenneth A. Smith, Cranford 11, Hillcrest Road, Worcestershire, Romsley, England; Dennis B. Freeman, 137 The Ridgeway, Harrow, Middlesex, England; and Colm A. Gill, 6001 Cote St. Luc, Hampstead, Montreal, Quebec, Canada

No Drawing. Filed Dec. 1, 1966, Ser. No. 598,205
Int. Cl. C23f *7/10*
U.S. Cl 148—6.15 **8 Claims**

A method for formulating a one step phosphate-lubricant composition for use in metal deforming processes wherein an aqueous zinc phosphate solution containing zinc ions and phospate ions is formed and to said phosphating solution there is added a solid, particulate mixture of a fatty acid lubricant and a water-soluble surface active agent, which solid, particulate mixture is then dispersed throughout the zinc phosphate phosphatizing solution.

3,525,652
METHOD OF MANUFACTURING AN INSULATED FOIL CONDUCTOR
Toshihiko Tanaka, Nishinomiya, Japan, assignor to Sumitomo Electric Industries, Ltd., Osaka, Japan, a company of Japan
Continuation-in-part of application Ser. No. 514,775, Dec. 20, 1965. This application July 28, 1969, Ser. No. 845,129
Int. Cl. H01b *13/16*
U.S. Cl. 156—51 **8 Claims**



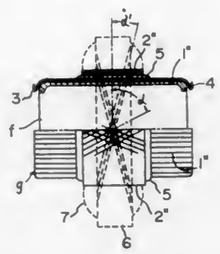
A method of manufacturing an insulated metallic foil conductor wherein the coating may be applied by immersion of the strip in a resin base bath or applied to the strip surfaces by reverse transfer roll applicators. In order that the marginal edges of the conductor have been properly coated to provide overall good dielectric strength, the marginal edges of the metallic foil strip with its coated foil surfaces is passed, vertically aligned, through an etching bath and then is reverse twisted 180° and its other marginal edge is passed through an etching bath so that marginal edges of the foil strip are consecutively etched to form a longitudinal pocket therealong, after which the etched edge surface coated strip is immersed in a final resin bath to provide a uniformly deposited integral coating within and over the marginal edge pockets and over the coated foil surfaces of the strip.

3,525,653
REDUCTION OF PILLING OF FABRICS WITH ULTRASONIC ENERGY
Geoffrey Windle Manock, Harrogate, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Continuation of application Ser. No. 540,832, Apr. 7, 1966. This application Aug. 13, 1969, Ser. No. 851,153
Int. Cl. B29c *27/08*
U.S. Cl. 156—73 **4 Claims**

Pilling of woven or knit fabrics made from spun yarns containing synthetic fibres is reduced by treating the fabric with an ultrasonic beam in order to attach at least some of the fibres to neighboring fibres at intervals.

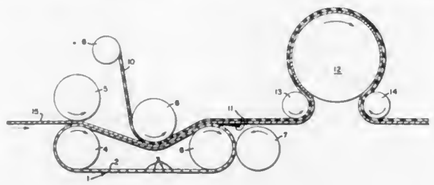
3,525,654
METHOD OF MANUFACTURING A RADIAL TIRE AND PNEUMATIC TIRE MANUFACTURED THEREBY
Hiroshi Uotani, Hiroyasu Iwamoto, and Masayoshi Kuroda, Kodaira, Tokyo, Japan, assignors to Bridgestone Tire Company Limited, Tokyo, Japan
Filed Mar. 21, 1966, Ser. No. 535,957
Int. Cl. B29h *17/26;* **B60c** *9/16, 9/22*
U.S. Cl. 156—124 **8 Claims**

A method of forming a radial tire comprising applying basic carcass cord plies normal to the mid-circumferential plane of a cylindrical former, adhering an annular rubber layer having a thickness of about 3 mm. and a Shore hardness of not less than 50° on the outer surface of said carcass cord plies, laminating thereon at least two reinforcing belt cord plies having an original large cord angle, applying tread stock thereon to form a cylindrical



green case, deforming and shaping said circumferential green case to a toroidal form until the cord angle of said reinforcing belt decreases to an angle of from 20 to 30° with respect to the direction of rotation of said tire, and vulcanizing said tire.

3,525,655
METHOD OF MAKING A TIRE USING A FABRIC WITH CONTRACTED FILAMENTS OR CORDS
John Oswald Wood, Two Gates, Tamworth; Glyn Beresford Redmond, Erdington, Birmingham; and John Raymond Hemsley, Dordon, near Tamworth, England (all % Fort Dunlop, Erdington, Birmingham 24, England)
Filed Apr. 29, 1964, Ser. No. 364,887
Claims priority, application Great Britain, May 6, 1963, 17,753/63
Int. Cl. B29h *17/28*
U.S. Cl. 156—126 **9 Claims**



A method for producing rubber tires, using rubberized textile filamentary fabrics in which the textile filaments are longitudinally compressed and unvulcanized rubber is then applied into adhering contact with the filament.

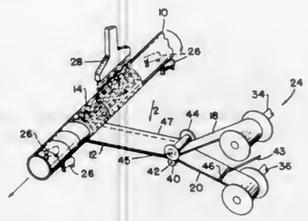
This invention relates to rubberized textile filamentary fabric and methods of manufacturing said fabric.

3,525,656
METHOD OF SIMULTANEOUSLY APPLYING A FLEXIBLE PLASTIC FILM AND A FLEXIBLE CARRIER BOARD TO A PIPE
Ted Kennedy, Jr., Ann Arbor, Mich., assignor to The Trenton Corporation, Ann Arbor, Mich., a corporation of Michigan
Filed May 9, 1967, Ser. No. 637,168
Int. Cl. B65h *81/00*
U.S. Cl. 156—188 **5 Claims**

This invention relates to a method of combining components of a wrapper and applying the same to a pipe, particularly a pipe that is intended to be installed in the ground.

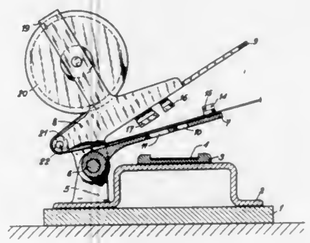
The covering consists of a flexible plastic film and a flexible carrier board. The two are simultaneously withdrawn from separate supply rolls, brought into surface-to-surface contact as they are withdrawn at a point prior

to contact with the pipe, and then together are helically wound on the pipe with the plastic film inward toward the pipe. One edge of the plastic film extends beyond the corresponding edge of the carrier board, and is overlapped



by succeeding convolutions to provide a plastic-to-plastic contact at the joint. The carrier board supports and protects the plastic film from the heat of the hot-applied undercoating and, when used, the hot-applied overcoating.

3,525,657
DEVICE FOR REPAIRING PUNCH TAPE
Jaroslav Svec, Brno, Czechoslovakia, assignor to Zavody Jana Svermy, narodni podnik, Brno, Czechoslovakia, a corporation
Filed Nov. 27, 1967, Ser. No. 685,941
Int. Cl. B32b *31/18, 31/20*
U.S. Cl. 156—521 **10 Claims**



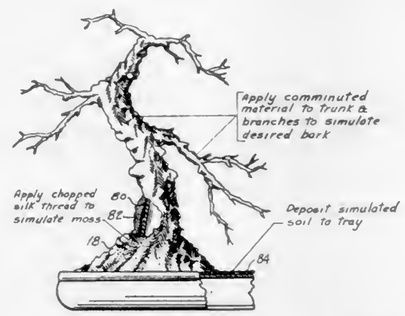
A device for repairing a punch tape card, or the like, at holes thereof which have been erroneously made. A guide guides the punch tape for longitudinal movement, so that a selected transverse row of holes which have been incorrectly punched can be situated at a selected location, this transverse row of holes being interrupted between its ends by a longitudinally extending row of guide holes of the punched tape. A punch guide is situated over the tape guide and is formed with an elongated slot extending transversely of the tape and having a length and width greater than the greatest possible length and width of the incorrect transverse row of holes which is aligned with this slot. The punch guide has, intermediate the ends of its slot a bridge portion extending across the slot and situated over the row of guide holes of the punch tapes so as to divide the slot into a pair of elongated openings with which the punch openings of the transverse row on opposite sides of the longitudinal row of guide holes are aligned. A pair of punches are situated over the punch guide and have a configuration matching that of its openings so as to be guided through these openings toward the punch tape, and an actuating means coacts with the punches to advance them along a working stroke through the openings of the punch guide toward the tape. An adhesive strip is situated between the punches and the punch guide means so that when the actuating means advances the punches along their working stroke the punches will cut from the adhesive strip portions matching the configurations of the holes of the punch guide means, these portions of the adhesive strip being advanced by the punches into engagement with the punch tape to adhere to and cover the punch tape at the row of incorrect openings extending transversely thereof, while leaving the guide holes uncovered.

3,525,658
GLASS-PLASTIC LAMINATES HAVING A LAYER OF GLASS FIBER FILLED POLYCARBONATE
Henry L. Setz, Bloomfield Hills, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 475,115, July 27, 1965. This application Nov. 21, 1968, Ser. No. 814,861
Int. Cl. B32b *17/04, 27/36*
U.S. Cl. 161—1 **7 Claims**



A transparent structural panel is produced by laminating with heat and pressure a layer of solid, structurally strong, transparent plastic impregnated with glass fibers between two layers of glass. The layer of transparent plastic impregnated with glass fibers between two layers of glass. The layer of transparent plastic sandwiched between the layers of glass is exemplified by an organic polycarbonate and contains a thermal coefficient of expansion-modifying amount of glass fibers that renders such plastic compatible with the two layers of glass during and after the laminating operation. The glass fibers are further characterized in that they are chosen to have a refractive index not substantially differing from that of the plastic.

3,525,659
ARTIFICIAL DWARF TREE AND METHOD OF MAKING SAME
Shinzo Ebihara, 20–11, 3-chome Asakusabashi, Daito-ku, Tokyo, Japan
Filed Oct. 24, 1966, Ser. No. 588,865
Int. Cl. A47g *33/06*
U.S. Cl. 161—22 **10 Claims**



An artificial dwarf tree and method of making the same in which I attach branches having wire cores and a root structure carrying a wire extending out of the bottom of the root structure to a tree trunk core formed by notching the wall of a generally straight hollow synthetic resin body bending the body to close the notches and heat sealing the wall. The tree is mounted in a

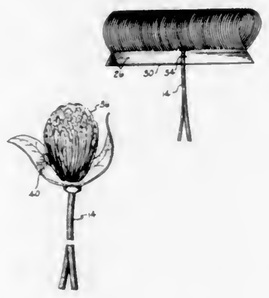
tray or the like by passing the root structure wires through holes in the false bottom of the tray. The assembly is wrapped with a fibrous wrapping to permit the application of bark simulating material to the trunk. Foliage or the like is applied to spikes molded on the twigs or branches.

3,525,660

ARTIFICIAL FLOWERS PREPARED FROM SLIT SHEETS OF MOLECULARLY ORIENTED PLASTIC

James E. Kerrigan, Arlington Heights, Ill., assignor to CPS Industries, Inc., a corporation of Delaware

Filed Dec. 13, 1966, Ser. No. 601,464
Int. Cl. A41g *1/00*
U.S. Cl. 161—30 **20 Claims**



The disclosure describes a decorative article called a split-mum bow which is specially constructed to be made economically on automated machines and a method of making the bow.

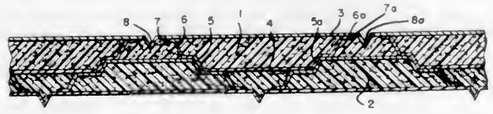
In the preferred embodiment, the bow comprises a parallelogram sheet of unidirectionally oriented material, such as polypropylene or one or more widths of weftless ribbon, through which a large number of slits are cut in the direction of orientation. The sheet is folded so that the opposite ends of each slit are secured at nearly adjacent positions and then the sheet is wrapped about an axis parallel to the direction of orientation and located near the center of the end of the sheet to form a bud. The bud is shaped by pressing on or cutting the bights of bows that have been formed until the desired flower-like appearance is achieved. The disclosure describes how various decorative backings and stamens can be added to enhance the visual appearance of the article. Other modifications are also described.

3,525,661

THERMAL INSULATION STRUCTURES

Robert Glover Jackson, Hornchurch, England, assignor to Conch International Methane Limited, Nassau, Bahamas, a company of the Bahamas

Filed Apr. 19, 1966, Ser. No. 543,726
Claims priority, application United Kingdom, June 28, 1965, 27,252/65
Int. Cl. B32b *3/12;* **E04b** *1/76*
U.S. Cl. 161—37 **1 Claim**



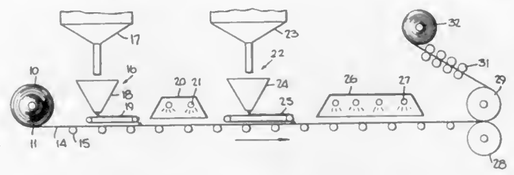
A thermal insulation structure for the walls of tanks used to contain cryogenic liquids is disclosed which utilizes sandwich-type insulating panels edge-joined at seam lines to form a wall structure; two contiguous layers of such panels are provided with the seam lines of each layer covered by an insulating area of the other layer. The individual panels are also edge-stepped to provide edge areas of reduced thickness into which the corresponding central areas of greater thickness of the contiguous other layer of panels are fitted.

3,525,662

COMPOSITE CONTOURED CARPETS FOR AUTOMOBILES AND THE LIKE AND METHOD FOR MAKING THE SAME

John W. Padgett, Bernardsville, and James Prophet, Jr., Cranford, N.J., assignors to Moore & Munger, New York, N.Y., a partnership

Filed Aug. 15, 1966, Ser. No. 572,348
Int. Cl. D05c *17/02*
U.S. Cl. 161—67 **22 Claims**



A method of making carpets and the resultant article in which the coating layer applied to the backing scrim consists of a powdered high viscosity polyolefin and a powdered low viscosity saturated hydrocarbon. The high viscosity material, which constitutes the major proportion of the coating, can be polyethylene. The low viscosity material can be petroleum wax, synthetic Fischer-Tropsch wax, mineral wax or low molecular weight polymerized olefin. The high viscosity material comprises 55 to 95% of the coating by weight and has a melt index not in excess of 70 and a density between 0.900–0.940. The low viscosity material has a molecular weight considerably lower than the polyolefin and has a melting point not less than 190° F. and a viscosity not exceeding 1000 centipoises at 125° C. The powders can be premixed and applied to the carpet simultaneously or the low viscosity material can be applied to the carpet first.

3,525,663

ANTICLASTIC CELLULAR CORE STRUCTURE HAVING BIAXIAL RECTILINEAR TRUSS PATTERNS

Jesse R. Hale, 14020 Budlong Ave., Gardena, Calif. 90247

Filed Mar. 9, 1967, Ser. No. 621,899
Int. Cl. B32b *3/28;* **E04c** *2/32*
U.S. Cl. 161—68 **10 Claims**



Anticlastic unitary structural membranes of essentially paraboloidal node form constructed of plastic, metal or other deformable material, have oppositely directed nodes which define opposite parallel bearing surfaces to which face sheets may be secured to form a structural sandwich. A pair of such membranes can be secured together, with or without inclusion therebetween of a compression material. These membranes can be made by heating and deforming a sheet between oppositely directed parallel pins or hollow cylinders in conjunction with pins.

3,525,664

ABRASION RESISTANT PLASTIC LAMINATE AND METHOD OF MAKING SAME

Edward Chaloner Hale, Beaconsfield, Quebec, and Eva Yvonne Singer, Hampstead, Quebec, Canada, assignors to Domtar Limited, Montreal, Quebec, Canada, a company of Canada

No Drawing. Filed Nov. 29, 1967, Ser. No. 686,708
Int. Cl. B23b *5/16*
U.S. Cl. 161—162 **6 Claims**

The present invention relates to a laminate comprising a plurality of resin-impregnated filler sheets and a resin-impregnated fibre containing surface sheet incorporating 20–130% silica spherules based on the dry weight of the fibres in said surface sheet.

3,525,665

METHOD OF TRANSFERRING IMPREGNATED WOOD CHIPS FROM AN IMPREGNATING VESSEL TO A DIGESTER

Adolf W. Gessner, Montclair, N.J., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware

Filed Oct. 22, 1965, Ser. No. 502,269
Int. Cl. D21c *3/26*
U.S. Cl. 162—19 **2 Claims**

In the treatment of cellulosic material wherein the material is treated in seriatim in an impregnator, liquor-drainer and digester, the digester and liquor-drainer are maintained at about the same pressure, a pressure higher than the impregnator, by introducing a compressed gas into the liquor drainer. In this manner, steam in the digester is prevented from entering the liquor drainer.

3,525,666

PROCESS FOR PREPARING KRAFT PULPING LIQUOR FROM BLACK LIQUOR INCLUDING SEPARATE CARBONATION WITH COMBUSTION GASES AND EVAPORATION STEPS

Rolf Brannland, Alfredshem, Sweden, assignor to Mo och Domsjo Aktiebolag, Ornskoldsvik, Sweden, a limited company of Sweden

No Drawing. Continuation-in-part of application Ser. No. 482,908, Aug. 26, 1965. This application Mar. 11, 1969, Ser. No. 806,297
Claims priority, application Sweden, Aug. 31, 1965, 10,435/65
Int. Cl. D21c *11/12*
U.S. Cl. 162—30 **10 Claims**

A process is provided for recovering economically sulfur lost as hydrogen sulfide from black liquor during evaporation in black liquor reclaiming processes, and reusing the sulfur content of the hydrogen sulfide in preparing white liquor for pulping in the kraft process. The hydrogen sulfide is obtained from the black liquor by carbonating the black liquor to a pH below 11 with combustion gases containing at least 15% CO_2, and thereafter stripping hydrogen sulfide from the resulting liquor by evaporating the liquor without addition of combustion gases, oxidizing the hydrogen sulfide to sulfur, and dissolving the sulfur in a sulfide-containing aqueous solution to form fresh white liquor.

3,525,667

PROCESS AND PRODUCT

Otto V. Ingruber, Vankleek Hill, Ontario, William B. Cranford, Hawkesbury, Ontario, George L. Avon, Gatineau, Quebec, James K. Watson, Pointe Claire, Quebec, and Jack L. Neal, Bale D'Urfe, Quebec, Canada, assignors to Canadian International Paper Company, Montreal, Quebec, Canada, a corporation of Canada

Filed Oct. 7, 1966, Ser. No. 585,036
Int. Cl. D21c *7/12;* **G01n**
U.S. Cl. 162—62 **6 Claims**

A process of cooking lignocellulosic raw material in sulfite liquor in the manufacture of dissolving pulp, wherein combined SO_2, total SO_2 and temperature parameters are selected for optimum efficiency, the combined SO_2 downwardly within a range of from about 0.7% to 0.2% based on the sulfite liquor, the total SO_2 upwardly within a range of from about 7 to 16% based on the sulfite liquor, and the temperature downwardly within a range from about 130° C. to 120° C.

3,525,668

METHOD FOR IMPROVING THE WET STRENGTH AND WATER RESISTANCE OF PAPER

Alan A. Goldstein, San Rafael, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Sept. 27, 1966, Ser. No. 582,259
Int. Cl. D21h *3/06, 3/44*
U.S. Cl. 162—169 **2 Claims**

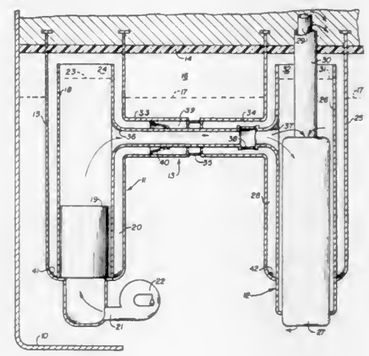
Applying an aqueous dispersion of 40 to 90% by weight of bitumen, 6 to 45% by weight hydrocarbon wax, and 1 to 20% by weight of a copolymer of an olefin and an olefinic alcohol ester has been found to impart improved wet strength and water resistance to paper.

3,525,669

INSULATED DUCTS FOR NUCLEAR REACTORS

John Germer, San Jose, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Oct. 2, 1968, Ser. No. 764,460
Int. Cl. G21c *15/02*
U.S. Cl. 176—52 **7 Claims**



A means for insulating ducts in a tank type sodium reactor to reduce the structural stress caused by temperature differences and sudden temperature changes. This is accomplished by providing a gas insulation sleeve about the critical stress areas with appropriate seal rings adjacent the connector areas which allows expansion and contraction of the structure while substantially reducing structural stress thereof.

3,525,670

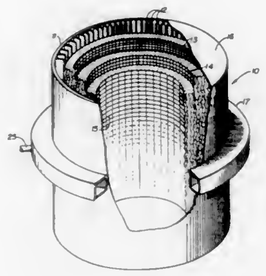
TWO-PHASE FLUID CONTROL SYSTEM

Norman J. Brown, Livermore, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Dec. 17, 1968, Ser. No. 784,343
Int. Cl. G21c *7/22, 7/00;* **F08d** *15/00*
U.S. Cl. 176—86 **5 Claims**

A closed loop, two-phase fluid control system for a nuclear space reactor including: a vessel disposed in the

core region of the reactor and having an internal capillary structure gradient for coalescing a liquid phase neutronic reactive fluid into a continuous liquid body; a condenser external to the reactor core for respectively condensing and cooling the vapor and liquid phases of the



fluid exiting from the vessel; an external regulator for controlling the flow rate of the liquid phase fluid into the vessel; and an external pressure regulator for controlling the vapor pressure of the vapor phase fluid in the vessel.

3,525,671
ANAEROBIC PHOTOSYNTHETIC FERMENTATION OF HYDROCARBONS

Donald O. Hitzman, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Nov. 6, 1967, Ser. No. 681,023
Int. Cl. C12b *1/00, 1/20;* **C12d** *3/00*
U.S. Cl. 195—28 **3 Claims**

Cultivating photosynthetic micro-organisms anaerobically in the presence of light and a hydrocarbon having from 1 to 30 carbon atoms per molecule as the carbon source. Said process providing cultivated microorganisms and numerous metabolites such as decanol.

3,525,672
LOW TEMPERATURE STABLE STARCH PRODUCTS

Otto B. Wurzburg, Whitehouse Station, and Chester D. Szymanski, Martinsville, N.J., assignors to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 17, 1967, Ser. No. 616,779
Int. Cl. C12b *1/00;* **C12c** *11/04*
U.S. Cl. 195—31 **11 Claims**

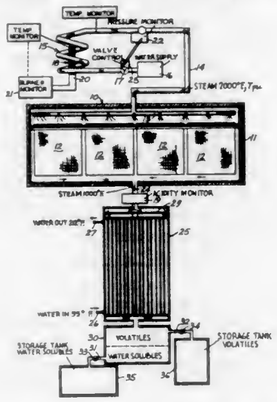
A method for the preparation of starch products characterized by improved stability and resistance to syneresis and gelling when exposed to low temperatures and repeated freeze-thaw cycles, wherein swollen, inhibited starch granules are treated with an enzyme capable of splitting the 1,4 linkages of the starch molecule but not the 1,6 linkages therein.

3,525,673
CLOSED, CONTROLLED SYSTEM FOR CARBONIZING ORGANIC REFUSE

Eric C. Cameron, Box 1554, Yakima, Wash. 98901

Continuation-in-part of application Ser. No. 640,323, May 22, 1967. This application Mar. 24, 1969, Ser. No. 826,739
Int. Cl. C10b *49/00, 53/00*
U.S. Cl. 201—1 **4 Claims**

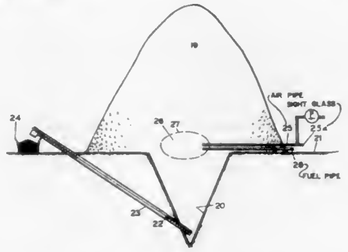
A method for treating organic refuse wherein the refuse is reduced to basic carbon by subjecting it to the passage of superheated steam at low atmospheric pressures within a closed system. The refuse is thereby converted to usable carbon products, and the volatile gases and dissolved materials can be condensed and either salvaged or discarded without the usual pollution problems associated with refuse disposal.



3,525,674
SUBMERGED COMBUSTION CARBONIZATION

Herbert L. Barnebey, Columbus, Ohio, assignor to Barnebey-Cheney Co., Columbus, Ohio, a corporation of Ohio

Filed May 23, 1966, Ser. No. 552,151
Int. Cl. C10b *49/02*
U.S. Cl. 201—27 **8 Claims**



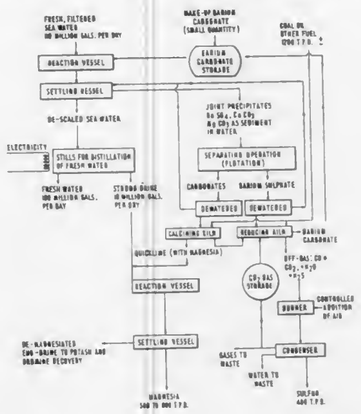
Carbonization is effected in a pile of carbonizable particles while, preferably, the particles move continuously through a relatively stationary combustion zone. The combustible gases evolved as a result of carbonization are not removed from the pile but, rather, are burned in the combustion zone, as they evolve, by the introduction of air therein. Stabilization of the combustion zone is maintained, when heating is necessary, by introducing air and combustible fluids into the combustion zone from outside the pile; and, when cooling is necessary, by introducing water into said zone. The process permits of a single step production of activated carbon.

3,525,675
DESALINATION DISTILLATION USING BARIUM CARBONATE AS DESCALING AGENT

Antoine M. Gaudin, Newtonville, Mass., assignor, by mesne assignments, to Orca, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed May 22, 1968, Ser. No. 731,196
Int. Cl. B01d *3/02;* **C02d** *5/02*
U.S. Cl. 203—7 **6 Claims**

A method of desalinating sea water comprises descaling the sea water with barium carbonate to form and remove scale-forming components as precipitates. The precipitates are then treated to reform barium carbonate therefrom which can be recycled and reused with additional sea water. The precipitates are preferably treated to separate insoluble carbonates from insoluble sulfates after which barium sulfate is reduced to form barium carbonate. Additional steps in the process permit economic recovery of fresh water along with commercially usable byproducts having substantial commercial value.



3,525,676
CORROSION INHIBITION

Ram Dev Bedi, Southfield, Mich., assignor to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 20, 1967, Ser. No. 691,946
Int. Cl. B01k *3/02;* **C23b** *5/48*
U.S. Cl. 204—15 **8 Claims**

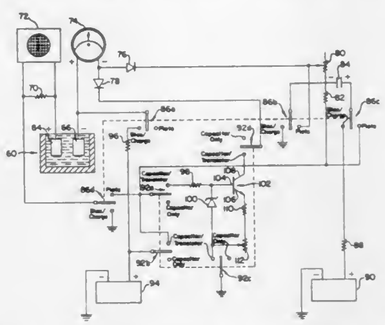
According to one of its aspects, this invention relates to a process for inhibiting stress-induced corrosion on an article having a predetermined area to be plated and selected areas not to be plated which comprises maintaining an anode in an electroplating bath, maintaining in said bath said article to be plated having a front portion facing said anode and a back portion further spaced from said anode; maintaining said article as plating cathode in an electroplating bath containing at least one plating anode; maintaining said article cathodic with respect to said anode; maintaining in said bath an auxiliary cathode adjacent to a portion of the back side of said predetermined area to be plated which corresponds to the plated areas to be subjected to stress; maintaining a plating current between said plating anode and said plating cathode; maintaining a counter potential between said article as plating cathode and said auxiliary cathode whereby said selected areas not to be plated are maintained anodic with respect to said auxiliary cathode; initiating said counter potential prior to initiation of said plating current; and maintaining said counter potential and said plating current during electroplating whereby an article is obtained in which a selected area remains unplated, said selected area being located opposite to and on the back side of said predetermined plated area to be subjected to stress.

3,525,677
ELECTRODEPOSITION OF CONSTANT-COMPOSITION THIN FILMS

Herman E. Austen, Trotwood, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Mar. 24, 1969, Ser. No. 809,824
Int. Cl. B01k *3/00;* **C23b** *5/32*
U.S. Cl. 204—43 **1 Claim**

Electrodeposition utilizing a plating current that varies in a predetermined manner as a function of time so as to compensate for variation in the composition of electrodeposited thin magnetic nickel-iron films is disclosed. A batch fabrication circuit embodiment and several continuous plating embodiments for supplying the plating current of the present invention are also disclosed.



3,525,678
METHOD OF PREPARING DIALKYL ESTERS OF PERFLUORODICARBOXYLIC ACIDS

Yung Ki Kim and Ogden R. Pierce, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

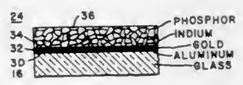
No Drawing. Filed Oct. 24, 1966, Ser. No. 588,704
Int. Cl. B01j *1/10;* **C07c** *69/62*
U.S. Cl. 204—158 **3 Claims**

This invention concerns the preparation of dialkyl esters of perfluorodicarboxylic acids, by reacting omega-bromo monoalkyl esters of perfluorocarboxylic acids with metals. Preferably the reaction is carried out under the influence of electromagnetic radiation having a wave length of less than 4000 A.

3,525,679
METHOD OF ELECTRODEPOSITING LUMINESCENT MATERIAL ON INSULATING SUBSTRATE

Harold D. Wilcox, South Port, and Donald M. Phillips, Cayuta, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 5, 1964, Ser. No. 364,908
Int. Cl. B01k *5/02;* **C23b** *13/00*
U.S. Cl. 204—181 **11 Claims**



The invention relates to depositing a conductive coating on an insulating substrate to provide adequate conductivity for electrophoretically depositing a powdered material such as a luminescent material onto the conductive coating and then chemically removing a substantial portion of the conductive coating through the luminescent coating to provide a coating of luminescent material on the insulating substrate.

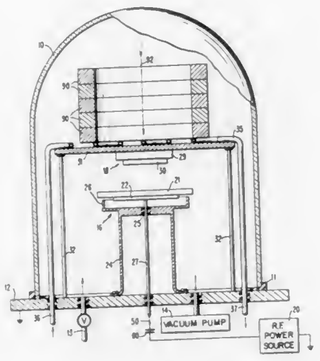
3,525,680
METHOD AND APPARATUS FOR THE RADIO FREQUENCY SPUTTERING OF DIELECTRIC MATERIALS

Pieter D. Davidse, Poughkeepsie, N.Y., and Walter J. Kleinfelder, Palo Alto, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 20, 1965, Ser. No. 514,853
Int. Cl. C23c *15/00*
U.S. Cl. 204—192 **4 Claims**

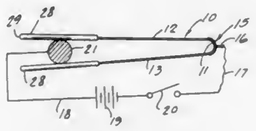
An improvement in a system and method for radio frequency sputtering of a dielectric material to deposit a

film on a substrate whereby a radio frequency power source is coupled with an electrode associated with a source of dielectric material in an ionization chamber, an ionizable gas is introduced into said chamber, a glow discharge is produced and dielectric material is sputtered



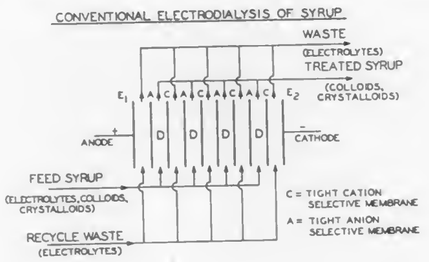
and deposited onto a substrate, said improvement comprising passing the current from the output of the radio frequency power source through a capacitor and thence to the electrode associated with the source of dielectric material.

3,525,681
ELECTROLYTIC DEVICE
Felix R. Rapids, Chicago, Ill., assignor to Rapid Electroplating Process, Inc., Chicago, Ill., a corporation of Illinois
Filed Apr. 21, 1967, Ser. No. 632,653
Int. Cl. B23p *1/02*
U.S. Cl. 204—224 **3 Claims**



A pair of electrically conductive tongs, the free leg portions of which are provided with electrodes enclosed by or carrying absorbent material saturated with an electrolyte of the desired composition. The legs are elongated and are of sufficient resiliency to be spread apart or to be brought together to accommodate therebetween a wide range of diameters of cylindrical articles or thicknesses of planar faced pieces to be plated, or stripped, when the proper electric current is passed through the tongs, electrolyte, and article. The tongs are of such size as to be held in one hand in firm simultaneous engagement with opposite surfaces of the article to be treated while moving the tongs relative to the axis or length of the article. The utility of the device and method resides in the ease with which metals and other electrodepositable substances can be applied locally to, or stripped from, surfaces to facilitate soldering or other processing steps, or to build up worn or low spots, particularly on shafting, collars, sleeves and other cylindrical or planar articles. By making the article the anode, stripping of metal or of metal coatings from the article can be effected.

3,525,682
SEPARATION OF UN-IONIZED SUBSTANCES BY ELECTRO-OSMOSIS
Wayne A. McRae, Lexington, and William E. Katz, Boston, Mass., assignors to Ionics, Incorporated, Watertown, Mass.
Original application Aug. 26, 1965, Ser. No. 482,729, now Patent No. 3,440,159. Divided and this application Nov. 13, 1968, Ser. No. 795,134
Int. Cl. B01d *13/02;* **B01k** *5/00*
U.S. Cl. 204—301 **9 Claims**



The invention is directed to apparatus for separating low molecular weight un-ionized substances from liquid mixtures such as sugar solutions containing the same by electro-osmosis. The electro-osmosis is effected in an electrolytic cell wherein alternating "tight" (low permeability coefficient) and "loose" (high permeability coefficient) ion exchange membranes define the chambers therein from which the low molecular weight substances are removed from the high molecular weight substances from their respective alternating chambers.

3,525,683
SWEETENING OF JP-4 JET FUEL WITH AN ALKALI METAL PLUMBITE, PHTHALOCYANINE COMPOUND AND ELEMENTAL SULFUR
Kenneth L. Johnston and Dominic Fontana, Great Falls, Mont., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Mar. 21, 1968, Ser. No. 714,797
Int. Cl. C10g *19/06, 27/06, 29/02*
U.S. Cl. 208—199 **2 Claims**

Addition of a phthalocyanine compound to conventional "Doctor" solution results in a novel sweetening solution which permits extension of treating period for satisfactory sweetening of hydrocarbons prior to dumping or regeneration.

3,525,684
CATALYST AND PROCESS FOR HYDROREFINING PETROLEUM CRUDE AND RESIDUAL OILS
Mark J. O'Hara, Prospect Heights, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Nov. 13, 1968, Ser. No. 775,537
Int. Cl. C10g *23/02*
U.S. Cl. 208—216 **5 Claims**

A catalyst comprising a refractory inorganic oxide with from about 1 to about 5 wt. percent boron phosphate, a metal of Group VI–B and an Iron Group metal impregnated thereon and characterized by a pore volume of at least about 0.5 cc./gm. in the 117–500 A. range, said Iron Group metal having been impregnated thereon from an aqueous impregnating solution comprising an Iron Group metal halide in solution with a sufficient quantity of another salt of said metal to establish an Iron Group metal-halogen atomic ratio of from about 1:1 to about 3:1. The catalyst composite is particularly useful for hydrorefining petroleum crude oils and residual crude oils.

3,525,685
INTERMEDIATE SEWAGE TREATMENT PROCESS AND MEANS
Richard N. Edwards, 409 Vernon Terrace, Raleigh, N.C. 27609
Filed June 25, 1969, Ser. No. 836,498
Int. Cl. C02c *1/12*
U.S. Cl. 210—15 **8 Claims**

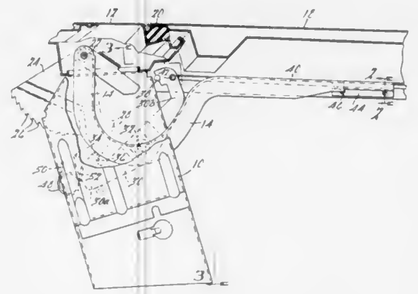


The improvement of a process of and means positioned directly in a sewage transporting means of a sewage and waste collection and treatment system without changing the volumetric flow at any point therein for supplying the proper amount of oxygen to the sewage and waste to prevent the sewage and waste from becoming septic, to control the build up of undesirable sulfides, sulfates, methane gases, sulfuric acid, anaerobic bacteria and odors, and to stimulate the growth of desirable aerobic bacteria during the transportation of the sewage and waste from the point of collection to the point of treatment.

3,525,686
HEMODIALYSIS SOLUTION CONTAINING SORBITOL AND METHOD OF USING SAME
Martin Roberts, Seattle, Wash., assignor to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
No Drawing. Filed Mar. 19, 1968, Ser. No. 714,338
Int. Cl. B01d *13/00*
U.S. Cl. 210—22 **9 Claims**

A hemodialysis solution for dialyzing waste chemical products from blood and correcting fluid and electrolyte abnormalities. This solution containing 0.1% to 7.5% sorbitol by weight and electrolytes, does not carmelize and is stable in the pH range of 6.5 to 7.7.

3,525,687
HINGE MECHANISM FOR POSITIONING A VEHICLE DECK LID
Peter M. Ross, Livonia, and Dennis N. Tino, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Apr. 1, 1968, Ser. No. 717,504
Int. Cl. B62d *25/10*
U.S. Cl. 296—76 **12 Claims**



A hinge mechanism that permits conventional pivotal movement of a vehicle luggage compartment closure or deck lid between a closed position and an open position and provides for holding the deck lid in intermediate open positions when oversize loads are carried in the luggage compartment such that the deck lid cannot be closed. This is accomplished by actuation of a ratchet mechanism that allows deck lid movement towards the closed position until the load is contacted, and prevents deck lid movement away from the closed position until the ratchet mechanism is released.

3,525,688
DRILLING FLUIDS
Billy L. Swanson, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed May 8, 1967, Ser. No. 636,653
Int. Cl. C10m *3/22*
U.S. Cl. 252—8.5 **10 Claims**

A water base drilling fluid having incorporated therein a polyethylene glycol having a molecular weight in the range of from 9,000 to 200,000 in an amount sufficient to reduce water loss due to filtration through the filter cake on the well bore.

3,525,689
ORGANIC LIQUIDS THICKENED WITH SILICA-SILICATE MATERIALS
Ralph Marotta, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Feb. 1, 1968, Ser. No. 702,213
Int. Cl. C10m *5/12, 5/02, 7/02*
U.S. Cl. 252—13 **16 Claims**

The present invention provides a novel thickening agent which comprises an intimate mixture of (a) silica aerogel or fume silica, or mixtures thereof and (b) chrysotile asbestos, said asbestos being present in an amount of at least 25% by weight based on the total weight of said mixture. The present invention also relates to various organic liquid compositions (e.g. styrene-polyester resin liquids) containing such mixture therein as a thickening agent therefor.

3,525,690
GREASE COMPOSITIONS
John B. Christian, Yellow Springs, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
No Drawing. Continuation-in-part of application Ser. No. 433,227, Feb. 16, 1965. This application Aug. 30, 1967, Ser. No. 665,205
Int. Cl. C10m *7/28, 7/30*
U.S. Cl. 252—25 **5 Claims**

A grease composition stable up to 600° F. comprising (a) a thickener selected from the group consisting of 19 to 24% by weight of ammeline, 7 to 10% by weight of spherical boron nitride particles ranging from .1 to .5 micron in diameter and 20 to 35% in weight of a fluorocarbon resin or polymer, and (b) the balance a base fluid of hexafluoropropylene epoxide.

3,525,691
SOLID LUBRICANT COMPOSITIONS EMPLOYING POLYBENZOTHIAZOLE RESINS AND LUBRICATING PIGMENTS
Bobby D. McConnell, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
No Drawing. Filed Mar. 22, 1968, Ser. No. 715,162
Int. Cl. C10m *5/22, 5/20, 5/02*
U.S. Cl. 252—25 **10 Claims**

Solid lubricant compositions employing polybenzothiazole resins and lubricating pigments are produced by admixing finely divided lubricant pigments into a solution of polybenzothiazole resin and solvent therefor. For example, a solid lubricant composition is produced by dissolving powdered polybenzothiazole in dimethylacetamide to form a solution of about 25 weight percent

solids to which is added 7 weight percent zinc oxide and 68 weight percent of the solid lubricant pigment comprising a mixture of molybdenum disulfide (MoS_2) and antimony trioxide (Sb_2O_3). The resulting slurry is sprayed onto the surface of a test specimen and the wetted test specimen is placed into an oven where it is dried at 200° F. for one hour. It is then heated at 600° F. under nitrogen for one hour to effect crosslinking and bonding to specimen surface. Other solid lubricant pigments which may be used include molybdenum diselenide, graphite, tungsten disulfide, tungsten diselenide and the like.

3,525,692

OLEOPHILIC GRAPHITE AND HEAVY METAL SULPHIDES

Stanley Charles Dodson, Leatherhead, Surrey, and Roger John Russell Cairns, Camberley, Surrey, England, assignors to The British Petroleum Company Limited, London, England

No Drawing. Filed Aug. 20, 1968, Ser. No. 753,866
Claims priority, application Great Britain, Sept. 5, 1967, 40,445/67
Int. Cl. C10m *5/02*
U.S. Cl. 252—29 **3 Claims**

In order to cut down metal wear debris formed by the grinding mill when grinding graphite to form oleophilic graphite a load-carrying additive, e.g. zinc dialkyl dithiophosphate is added to the grinding medium.

3,525,693

ALKENYL SUCCINIC POLYGLYCOL ETHER

Richard E. Lyle, El Cerrito, and Robert G. Anderson, Novato, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Dec. 29, 1964, Ser. No. 421,993
Int. Cl. C10m *1/32;* **C07d** *27/00;* **C07c** *103/14*
U.S. Cl. 252—34 **6 Claims**

Polyethylene glycol ester, amide or imide derivatives of alkenyl succinic anhydride are useful in lubricant compositions as ashless detergents.

3,525,694

MAGNETIC RECORDING MATERIAL

Johann H. Bisschops, Berchem, Willy K. Van Landeghem, Sint-Gillis-Waas, and Romain H. Bollen, Hove, Belgium, assignors to Gevaert-Agfa N.V., Mortsel-Belgium, a Belgian company

No Drawing. Filed Aug. 30, 1967, Ser. No. 664,304
Claims priority, application Great Britain, Aug. 30, 1966, 38,553/66
Int. Cl. H01f *1/26*
U.S. Cl. 252—62.54 **6 Claims**

Magnetic recording material having improved abrasion resistance under repeated reuse is obtained by incorporating a minor amount of petrolatum in the recording layer containing magnetically susceptible particles dispersed in an appropriate binder.

3,525,695

LAUNDRY WASHING PROCESS

Gerard Mouret and Michel Gobert, Paris, France, assignors, by mesne assignments, to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 15, 1966, Ser. No. 579,507
Claims priority, application France, Sept. 23, 1965, 32,443
Int. Cl. D06l *3/00*
U.S. Cl. 252—95 **5 Claims**

A process for bleaching stained cloth which comprises pre-soaking said cloth in aqueous media and thereafter contacting said cloth with a peroxide compound at a temperature of at least 60° C. and wherein contacting of said peroxide and said cloth is prevented prior to the attainment of a temperature of at least 60° C.

3,525,696

LOW-FOAMING GERMICIDAL SURFACTANT-IODINE COMPOSITIONS FOR CLEANED-IN-PLACE EQUIPMENT

William Schmidt, Jamaica, N.Y., and Abraham Cantor, Elkins Park, Pa., assignors to West Laboratories, Inc., Long Island City, N.Y., a corporation of New York

No Drawing. Filed Apr. 25, 1966, Ser. No. 544,852
Int. Cl. C11d *3/48, 9/50*
U.S. Cl. 252—106 **13 Claims**

A low-foaming surfactant-iodine composition for use in cleaned-in-place equipment, said composition consisting essentially of one part by weight of available iodine, 1 to 4 parts of an anionic surfactant containing a sulfonate grouping and selected from the class consisting of aralkyl sulfonates and N-substituted alkanoyl taurates, .25 to 2 parts of an amphoteric surfactant containing a carboxylate joined through 1 to 4 methylene groups, including methylene groups interrupted by an ether group, to the nitrogen of a moiety selected from the class consisting of fatty alkyl substituted amine and 2-fatty alkyl substituted imidazolinium moieties, 12 to 50 parts of an acid selected from the group consisting of phosphoric acid, hydroxyacetic acid, and mixtures thereof, and aqueous-alcoholic diluent in an amount to provide in said composition an available iodine concentration of about 0.5 to 2.5%.

3,525,697

DISPERSIBLE RUBBER ACCELERATORS AND STABILIZERS

Eric Rogers, Wrexham, Wales, assignor to Monsanto Chemical Limited, London, England, a British company

No Drawing. Filed Apr. 17, 1967, Ser. No. 631,176
Claims priority, application Great Britain, Apr. 19, 1966, 12,088/66
Int. Cl. C09k *3/00*
U.S. Cl. 252—182 **15 Claims**

A zinc salt of a dithiocarbamic acid or of a mercaptobenzothiazole is mingled by spraying and mixing or by other blending means with an amine salt of a sulfated fatty acid ester to produce water-dispersible compositions. Optional ingredients are finely divided, absorbent, water-insoluble solid as anti-caking agent, alkyl sulfate wetting agent, and suspension-stabilizing agent, which may be bentonite or a water-soluble polyelectrolyte.

3,525,698

CERIUM AND LANTHANIDE ACTIVATED ALKALINE EARTH METAL PHOSPHATE PHOSPHORS

Joseph Reder Leto and David Neil Travis, Stamford, Conn., and Marilyn Judith Burger, New York, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Oct. 20, 1967, Ser. No. 676,736
Int. Cl. C09k *1/36*
U.S. Cl. 252—301.4 **10 Claims**

Cerium activated alkaline earth metal phosphates, such as calcium, strontium or barium phosphates, are further activated with certain lanthanide ions and preferably also alkali metal ions and fired in the customary manner to produce phosphors. These phosphors fluoresce in narrow bands corresponding to the particular lanthanide ion. The phosphors may be represented by the following general formula:

$$[M^{2+}_{1-2(x+y)}Ce^{3+}_{x}Ln^{3+}_{y}Z^{1+}_{(x+y)}]_3(PO_4)_2$$

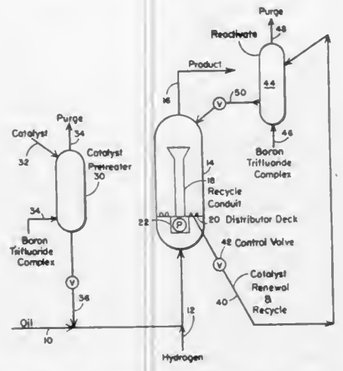
where M^{2+} is an alkaline earth metal ion, Ln^{3+} is a lanthanide ion selected from the group consisting of terbium dysprosium, thulium, samarium and neodymium, Z^{1+} is an alkali metal ion and x and y are small decimal fractions.

3,525,699

HYDROCRACKING WITH FLUORIDED CATALYST

Paul M. Koppel, Springfield, and Peter Maruhnic, Pennington, N.J., assignors to Hydrocarbon Research Inc., New York, N.Y., a corporation of New Jersey

Filed Nov. 13, 1967, Ser. No. 682,371
Int. Cl. C10g *13/02*
U.S. Cl. 252—433 **1 Claim**



A method for preparation of an acid site catalyst for use in catalytic hydrocracking of hydrocarbons from a typical alumina based hydrogenation catalyst by reacting the hydrogenation catalyst with a solution of boron-trifluoride etherate complex (BTFE) in benzene at reflux followed by a high temperature heating step under an inert atmosphere.

3,525,700

TYPE O CRYSTALLINE MATERIAL

Laurence R. Steenberg, Chicago, and Edward J. Bicek, Mount Prospect, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Feb. 13, 1967, Ser. No. 615,371
Int. Cl. B01j *11/40;* **C01b** *33/28*
U.S. Cl. 252—455 **11 Claims**

A synthetic composition having a host solid crystalline almuinosilicate containing silicon centered and aluminum centered tetrahedra and arranged in three dimensional cages and having crystallographically significant but nonstructural silica inclusions within the cage structure. The invention is also directed to the manufacture of the composition, its conversion to a suitable hydrocracking catalyst and its utilization as a hydrocracking catalyst in a hydrocracking process.

3,525,701

OXIDATION CATALYST OF AN OXIDE COMPOSITION OF ANTIMONY, TIN AND COPPER

John Lynn Barclay, Tadworth, Surrey, and Edward James Gasson, Epsom Downs, Surrey, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Filed Mar. 1, 1965, Ser. No. 436,361
Claims priority, application Great Britain, Mar. 21, 1964, 12,048/64
Int. Cl. B01j *11/06, 11/40*
U.S. Cl. 252—461 **5 Claims**

Catalytic oxide compositions of antimony, tin, and copper. The catalytic composition is prepared by coprecipitation of heat-decomposable compounds of antimony, tin and copper by addition of an alkaline material to an aqueous solution of the mixed salts of said metals, and recovering the mixed precipitate which is dried and calcined. These catalytic compositions are useful in oxidation reactions.

3,525,702

METHOD OF INCREASING THE ACTIVITY AND STABILITY OF RANEY-TYPE CATALYSTS

Ferdinand von Sturm, Erlangen-Buchenbach, and Annie Thieleking, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

Filed Feb. 2, 1967, Ser. No. 613,467
Claims priority, application Germany, Feb. 5, 1966, S 101,849
Int. Cl. B01j *11/22*
U.S. Cl. 252—472 **4 Claims**

Raney-type catalysts, preferably Raney nickel, are heated in a hydrogen atmosphere for at least 1 minute to 150–600° C., preferably 250–350° C., and then cooled in the hydrogen atmosphere to normal room temperature. Pre-polarization of the catalyst prior to heating is recommended. The processed catalysts exhibit increased and prolonged catalytic activity. They are particularly useful in electrodes of electrochemical cells, notably fuel cells.

3,525,703

METHOD OF ADHERING A SYNTHETIC FIBRE TO A RUBBER, AN ADHESIVE SOLUTION AND A LAMINATE OBTAINED BY IMPROVING A METHOD OF ADHERING A SYNTHETIC FIBRE TO A RUBBER

Ichiro Iwami and Toshio Honda, Kodaira, Tokyo, Japan, assignors to Bridgestone Tire Company Limited, Tokyo, Japan

Filed Aug. 22, 1966, Ser. No. 574,012
Int. Cl. G08g *51/24, 45/08*
U.S. Cl. 260—5 **4 Claims**

A water-base adhesive composition for bonding synthetic fiber material to rubber includes a solids content of 1 to 40% by weight of a mixture of a thermosetting resorcinol-formaldehyde resin, a high polymer epoxy resin latex and a rubber latex. Preferably the mixture contains 5 to 15% of resorcinol-formaldehyde resin, 20 to 35% of high polymer latex containing epoxy groups, and 50 to 70% of rubber latex. For bonding polyethylene-terephthalate tire cord to rubber in manufacturing tires, a suitable composition includes 27.1 parts of a sodium hydroxide-catalyzed resorcinol-formaldehyde resin (27.1:36.5), 187 parts styrene-butadiene copolymer latex, 177 parts vinylpyridine-styrene-butadiene copolymer latex and 102 parts of glycidyl methacrylate-butadiene copolymer latex (20:80), all parts by weight.

3,525,704

LITHOGRAPHIC IMAGE LACQUER CONTAINING AN ACRYLIC ESTER TERPOLYMER

Ronald M. Stimson and Gilden R. Van Norman, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 29, 1967, Ser. No. 663,958
Int. Cl. C09d *3/76, 3/80*
U.S. Cl. 260—17.3 **21 Claims**

A lithographic printing plate image lacquer having an aqueous phase and a resinous phase with a vinylidene chloride-acrylonitrile-lower alkyl acrylic ester terpolymer included in the resinous phase; especially efficacious lower alkyl acrylic ester moieties are typified by those derived from methyl acrylate and methyl methacrylate.

3,525,705

FLAME-RESISTANT POLYURETHANES PREPARED FROM CERTAIN PHORPHORUS COMPOUNDS

Charles Lichtenberg Harowitz, Richmond, Va., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Apr. 20, 1959, Ser. No. 807,328
Int. Cl. C08g *22/44, 22/08*
U.S. Cl. 260—2.5 **8 Claims**

Fire-retardant polyurethane products are formed by reacting a polyisocyanate with a particular phosphorus-

containing compound formed from the reaction of a particular acid or ester of phosphorus with an alkylene oxide or dioxide. When an ester of phosphorus is desired to be reacted with the alkylene oxide or dioxide, it may be produced by reacting P_2O_5 with an alcohol, polyol, or mixtures thereof. Advantageously, the P_2O_5 is reacted with butanol at temperatures below about 70° C. for a period of time sufficient such that the reaction product has a primary acidity of about 5.98 meq./g, and a total acidity of about 7.17 meq./g. Thereafter, this reaction product is reacted with propylene oxide at about 35–45° C. to obtain a propoxylated dibutyl pyrophosphoric acid. The propoxylated dibutyl pyrophosphoric acid reaction product is thereafter reacted with a polyisocyanate to form a fire-retardant polyurethane resin.

3,525,706
STABILIZED PIGMENTED POLYCARBONATE RESIN

Thornton R. Calkins, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Jan. 22, 1968, Ser. No. 699,295
Int. Cl. C08g *51/04;* **C08h** *1/02*
U.S. Cl. 260—37 **3 Claims**

An aromatic polycarbonate composition that is color stable, which composition consists of an aromatic polycarbonate resin having in admixture therewith 0.01–4.0 weight percent of a pigment, 0.001–0.5 weight percent of an organic phosphite and 0.001–0.03 weight percent of boric acid, all of which are based on the weight of the aromatic polycarbonate resin.

3,525,707
ORGANOPOLYSILOXANE COMPOSITIONS CONTAINING BORON - OXYGEN COMPOUND, PHOSPHOROUS POLYETHER, AND FILLER

William J. Bobear, Latham, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Continuation of application Ser. No. 603,114, Dec. 20, 1966. This application Aug. 5, 1969, Ser. No. 849,279
Int. Cl. C08g *5/04;* **C08k** *1/02*
U.S. Cl. 260—37 **9 Claims**

Organopolysiloxane compositions are provided comprising a diorganopolysiloxane, a dialkyl-alkylphosphonate, and a boron oxygen compound. The organopolysiloxane compositions also can contain certain phosphorus-containing polyethers. These organopolysiloxane compositions can be employed to make self-bonding insulating tapes.

3,525,708
FIRE RETARDANT POLYURETHANE COATING COMPOSITIONS

Charles C. Clark, Kenmore, and Arthur J. Krawczyk, Cheektowaga, N.Y., assignors to Textron Inc., a corporation of Delaware

No Drawing. Filed Aug. 9, 1965, Ser. No. 478,410
Int. Cl. C08f *45/58*
U.S. Cl. 260—45.85 **28 Claims**

Polyurethane-type, fire retardant coating compositions are made from an aromatic diisocyanate, a phenoxy ether diol, especially containing 3 to 5 chlorine atoms on the phenyl group, and a polyhydroxy aliphatic phosphate or phosphonate. The compositions have excess isocyanate groups, are moisture-curing, and are especially useful as coating compositions exhibiting intumescent properties. The desired characteristics of the compositions can be improved by the addition of a haloalkyl phosphate along with, if desired, an alkylene diamine tetraacetic acid. Representative reactants are tolylene diisocyanate, pentachlorophenoxy glyceryl ether and di(polyoxypropylene butyl phosphate, or O,O-diethyl-N,N-bis(2-hydroxyethyl) aminomethyl phosphonate.

3,525,709
MODIFIED POLYORGANOSILOXANES

Sheena Margaret Somerville, Camberley, and Ian Malcolm White, Farnborough, England, assignors to Minister of Technology in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England

No Drawing. Continuation-in-part of application Ser. No. 532,118, Mar. 7, 1966. This application Feb. 2, 1968, Ser. No. 702,558
Claims priority, application Great Britain, Mar. 9, 1965, 9,889/65
Int. Cl. C08f *11/04*
U.S. Cl. 260—46.5 **12 Claims**

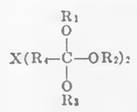
Silicone elastomers are obtained by cross-linking by conventional means modified polyorganosiloxane gums consisting essentially of polymeric chains of alternate Si and O atoms into which aromatic diester groups have been incorporated. For example 3-fluorodimethylsilyl-2,2-dimethylpropan-1-ol is reacted with isophthaloyl chloride to produce bis-(3-fluorodimethylsilyl-2,2-dimethylpropyl) isophthalate which is subjected to mildly alkaline hydrolysis to give the corresponding bis-(3-hydroxydimethylsilyl-2,2-dimethylpropyl) isophthalate which is carefully purified and then polymerized by heating in the presence of a conventional siloxane polycondensation catalyst. The elastomeric compositions have increased resistance to attack by solvents.

3,525,710
ORTHOESTER STABILIZED POLYVINYL-CHLORIDE RESINS

Louis L. Wood, Washington, D.C., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Application Dec. 12, 1966, Ser. No. 612,066, which is a continuation-in-part of applications Ser. No. 403,353, Oct. 12, 1964, and Ser. No. 499,093, Oct. 20, 1965. Divided and this application May 22, 1968, Ser. No. 750,688
Int. Cl. C08f *45/58*
U.S. Cl. 260—45.95 **5 Claims**

Polyvinyl chloride resins are thermally stabilized by the addition of an orthoester having the formula



wherein R_1, R_2 and R_3 are selected from the group consisting of alkyl, phenyl, phenylalkyl, alkylphenyl and alkylphenylalkyl; R_4 is selected from the group consisting of alkylene, phenylene, and alkylphenylene; and X is selected from the group consisting of oxygen and sulfur. The resin may be further stabilized by the addition of a polyhydric alcohol in a concentration of from 1% to 10%.

3,525,711
SELF-EXTINGUISHING SYNTHETIC PLASTICS MATERIALS BASED ON A DI-ALKYL ESTER OF 2,3-DIHYDROXYPROPANE PHOSPHONIC ACID COMPONENT

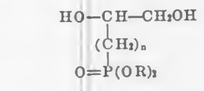
Herbert Jenkner, Cologne-Deutz, Germany, assignor to Chemische Fabrik Kalk G.m.b.H., Cologne-Kalk, Germany

No Drawing. Filed Aug. 13, 1965, Ser. No. 479,669
Claims priority, application Germany, Aug. 14, 1964, C 33,644; Oct. 3, 1964, 1,495,385
Int. Cl. C08g *17/133, 22/30, 51/54*
U.S. Cl. 260—47 **6 Claims**

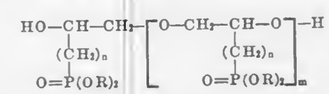
Flame resistance is imparted to polyurethane, polyester or epoxy resins by replacing a portion of the

starting polyhydroxy compound normally employed as one of the reaction components with a diol selected from the group consisting of

(a) diols of the general Formula I



(b) diols of the general Formula II



(c) isomers of diols of the general Formula II

in which Formulae I and II *n* is a whole number between 1 and 24, *m* is a whole number between 1 and about 2,000, and R are like or different radicals selected from the group consisting of methyl, ethyl, propyl, isopropyl, butyl, isobutyl, cyclopentyl, cyclohexyl, phenyl, toluyl and benzyl radicals and such radicals in which the hydrogen is partly substituted by a halogen selected from the group consisting of Cl and Br so as to provide a 1 to 10 wt. percent phosphorus content in the starting mixture from which the resins are produced.

3,525,712
PROCESS FOR PREPARING THERMOPLASTIC POLYCARBONATES

Morton Kramer, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Sept. 1, 1965, Ser. No. 484,445
Int. Cl. C08g *17/13*
U.S. Cl. 260—47 **2 Claims**

Thermoplastic randomly branched aromatic polycarbonates are prepared by adding to the reaction medium a difficulty soluble polyfunctional organic compound, such as 4,4'-bis(p-hydroxyphenyl) pentanoic acid, in finely divided form. The finely divided form may be attained by adding the polyfunctional organic compound as particles 50 weight percent thereof having a size less than 100 microns, as a solid solution consisting of polycarbonate having dissolved therein the polyfunctional organic compound, or as a solvent solution of the polyfunctional organic compound from which the latter precipitates in finely divided form.

3,525,713
REACTION OF HALOCYCLOALKENYLACYL HALIDES WITH PREPOLYMERS

Herman S. Bloch, Skokie, and Louis Schmerling, Riverside, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 400,933, Oct. 1, 1964. This application July 1, 1968, Ser. No. 741,306
Int. Cl. C08g *30/10*
U.S. Cl. 260—47 **11 Claims**

Prepolymeric compositions of matter containing hydrogen which is replaceable by reaction with an acid halide are treated with halo-substituted cycloalkenylacyl halides to impart flame retardance thereto. For example, polyesters and polyamines may be treated with 1,4,5,6, 7,7-hexachloro-5-norbornen-2-ylacetyl chloride or the analogous bromide thereof.

3,525,714
SELF-COLORED PHTHALOCYANINE - CONTAINING COPOLYESTERS AND METHOD FOR PRODUCTION THEREOF

Winfried Zeschmar, Kufstein-Schaftenau, Austria, assignor to Alpine Chemische Aktiengesellschaft Kufstein, Tyrol, Austria, a joint-stock company of Austria

No Drawing. Continuation of application Ser. No. 550,154, May 16, 1966. This application Feb. 14, 1969, Ser. No. 802,727
Claims priority, application Austria, May 19, 1965, A 4,569/65
Int. Cl. C08g *17/06, 17/08*
U.S. Cl. 260—47 **10 Claims**

Fiber and film-forming copolyesters exhibiting a uniform and resistant self-color containing esterified phthalocyanine-tetracarboxylic acid residues.

3,525,715
CROSS-LINKED COPOLYESTERS AND PROCESS OF MAKING THEM

Josef Hrach, Schaftenau, Austria, and Winfried Zeschmar, Beuel, Germany, assignors to Sandoz Ltd., Basel, Switzerland

No Drawing. Continuation-in-part of application Ser. No. 547,160, May 3, 1966. This application July 23, 1969, Ser. No. 844,156
Claims priority, application Austria, May 7, 1965, A 4,177/65, A 4,178/65
Int. Cl. C08g *17/08, 17/10, 33/10*
U.S. Cl. 260—47 **10 Claims**

Improved fiber- and film-forming copolyesters are produced by reacting (a) an aromatic dicarboxylic acid or a dimethylester thereof, wherein the carboxyl or carboxymethyl groups are separated by at least three carbon atoms, (b) an aliphatic diol, and (c) at least one olefinic unsaturated dicarboxylic acid acting as a cross-linking agent. Preferably there is included a fourth component, (d) a diol containing a phenylene ring.

3,525,716
PROCESS FOR THE POLYMERIZATION OF CYCLIC ETHERS

Seizo Okamura, Kyoto, Japan, and Lars O. Oldsberg, Perstorp, Sweden, assignors to Perstorp AB, Perstorp, Sweden

No Drawing. Filed June 9, 1967, Ser. No. 673,524
Claims priority, application Sweden, June 9, 1966, 7,886/66
Int. Cl. C08g *1/04*
U.S. Cl. 260—67 **2 Claims**

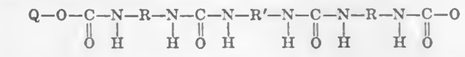
Process for the polymerization of cyclic ethers such as trioxane, dioxolane, etc., either separated or in admixture with each other or optionally together with vinyl compounds, olefins, etc., characterized in that a small amount of tetraoxane is added to the reactants.

3,525,717
METHOD FOR PREPARATION OF THERMOPLASTIC POLYURETHANE UREAS

John Henry Butler, Piscataway, Eugene Yue Chieh Chang, Somerville, and Samuel Kaizerman, New Brunswick, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Aug. 4, 1966, Ser. No. 570,179
Int. Cl. C08g *22/04, 53/00*
U.S. Cl. 260—75 **4 Claims**

A process for the preparation of a thermoplastic polyurethane-urea molding composition of an essentially linear structure which comprises a plurality of structural units having the formula:



wherein Q represents the residue on removal of the terminal hydroxyl groups from a hydroxyl-terminated poly-

ester or polyether; R is a divalent aromatic radical; and R′ is a divalent organic radical in which at least the terminal members are aliphatic; said composition having a melt-flow temperature in the range of 100 and 180° C. and being capable of repeated shapings by injection or compression molding techniques without significant decomposition: said process comprising addition of a 10 to 75% solution of an isocyanate-terminated polyester or polyether intermediate containing less than 1% unreacted diisocyanate in water-miscible solvent, to a 1.0 to 10% solution of a diamine in a mixture of water and water-miscible solvent in the presence of high-speed, high-shear agitation, said solvent being capable of dissolving said isocyanate-terminated polyester or polyether, whereby said molding composition is formed as an easily dried, granular product.

3,525,718

PROCESS FOR THE PRODUCTION OF POLYAMIDE RESIN AND PRODUCT

Michael Edward Derieg, West Orange, N.J., and Porter Louis Pickard, Jr., Corpus Christi, Tex., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 25, 1967, Ser. No. 633,388
Int. Cl. C08g *20/02*
U.S. Cl. 260—78 **10 Claims**

One to two moles of certain beta-lactones, such as beta-propiolactone, are reacted with each mole of certain primary or secondary diamines, such as hexamethylene diamine, and piperazine, to produce an amino acid addition product; and the resulting amino acid addition product is dehydrated to form a polyamide resin. The polyamide resin, which may be linear and/or crosslinked, may possess a melting point in excess of 300° C., and may be used to form fibers, films, etc.

3,525,719

PROCESS FOR THE PRODUCTION OF POLYAMIDES

Hans Helmut Schwarz and Karl Heinz Hermann, Krefeld-Bockum, Hermann Schnell, Krefeld-Uerdingen, and Friedhelm Roederer, Krefeld-Bockum, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Mar. 1, 1968, Ser. No. 709,766
Claims priority, application Germany, Mar. 10, 1967, F 51,781
Int. Cl. G08g *41/00*
U.S. Cl. 260—78 **4 Claims**

The invention relates to an improvement in the process for the production of polyamides by continuous polymerisation of cyclic lactams in the presence of alkaline catalysts by introducing preheated lactam and catalyst separately into a mixing zone and thereafter carrying out polymerisation under streaming and adiabatic conditions in a reaction zone, and to an apparatus for carrying out the polymerisation.

3,525,720

PARTIALLY OXIDIZED INTERPOLYMERS OF MONOOLEFINS AND POLYENES WHICH CURE BY OXIDATIVE MECHANISM

Marco Wismer, Gibsonia, and Paul J. Prucnal, Cheswick, Pa., assignors to PPG Industries, Inc., a corporation of Pennsylvania

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,312
Int. Cl. C08f *15/04, 15/40*
U.S. Cl. 260—80.5 **20 Claims**

This invention relates to an organic, solvent-soluble, partially-oxidized interpolymer of a polyunsaturated hydrocarbon and at least one monoolefin having a single copolymerizable ethylenic group, said interpolymer having prior to oxidation an essentially saturated carbon chain containing a substantial proportion of the total carbon atoms in the polymer molecule and at least about 2 percent by weight of ethylene unsaturation in the polymer molecule, said interpolymer containing after oxidation at least about 0.5 percent by weight of added combined oxygen, and compositions derived therefrom.

3,525,721

COPOLYMERS OF ALKOXY ALKYL ACRYLATES, ALKYL ACRYLATES AND GLYCIDYL ACRYLATE

August H. Jorgensen, Jr., Avon Lake, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Nov. 14, 1967, Ser. No. 683,014
Int. Cl. C08f *15/40*
U.S. Cl. 260—80.72 **9 Claims**

Vulcanizable acrylic elastomers having an improved balance of low temperature flexibility and oil resistance are prepared by polymerizing together an alkyl acrylate, an alkoxy alkyl acrylate and a small amount of glycidyl acrylate or methacrylate. Typical examples of such copolymers are those containing about 20 to 60 percent methoxy or ethoxy ethyl acrylate, about 80 to 40 percent ethyl or n-butyl acrylate and less than 5 percent of a glycidyl acrylate. These acrylic copolymers may be vulcanized with a variety of curing systems for example, a fatty acid soap and dipentamethylene thiuram hexasulfide, soap and sulfur, zinc dimethyl dithiocarbamate, hexamethylene diamine, ammonium stearate, and the like.

3,525,722

MODIFICATION OF RUBBERY POLYMERS OF CONJUGATED DIENES WITH TERTIARY DODECYL MERCAPTAN

John E. Burleigh and Carl A. Uraneck, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 18, 1967, Ser. No. 691,251
Int. Cl. C08d *5/02, 27/07, 3/14*
U.S. Cl. 260—85.1 **8 Claims**

Rubbery polymers of conjugated dienes are modified by contacting the polymer with a mercaptan formed by reacting triisobutylene with hydrogen sulfide. The contacting is carried out under conditions to effect a reaction of from about 0.05 to about 0.75 percent of the double bonds in said polymer with said mercaptan.

3,525,723

SIZING AGENT FOR TEXTILE FIBERS DERIVED FROM METHANOLYSIS OF A VINYL ACETATE ACRYLAMIDE COPOLYMER

Shiro Masuda, Kozo Konishi, Masaaki Suzui, and Tetsuyuki Sakamoto, Ohmi-machi, Nishi Kubiki-gun, Japan, assignors to Denki Kagaku Kogyo Kabushiki Kaisha, Chiyoda-ku, Tokyo, Japan

No Drawing. Filed Nov. 3, 1967, Ser. No. 680,360
Int. Cl. C10m *7/26;* **C08f** *15/20*
U.S. Cl. 260—85.7 **6 Claims**

A warp sizing agent is prepared by the partial saponification of a vinyl acetate-acrylic amide copolymer. This product is superior to a mixed size including acrylic acid ester and polyvinyl alcohol in terms of such adhesiveness, softness and moisture absorptive property which can be adjusted to suit the particular fibers to be sized by the degree of saponification. In addition, the product is characterized by ease of handling, transporting and weighing because of its powdery state, and is readily dissolved in water.

3,525,724

FLUOROCARBON POLYMERS COMPRISING CARBONYL GROUPS

Edward Noonan Squire, Glen Mills, Pa., and William Franklin Gresham, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 13, 1967, Ser. No. 608,974
Int. Cl. C08f *27/22, 15/02*
U.S. Cl. 260—87.5 **13 Claims**

Fluorocarbon polymers comprising at least 0.1 mole percent difluoroketene units, $—CF_2—C(O)—$, which are useful as molding resins. A process for preparing said polymers by reacting fluorocarbon homo- or copolymers comprising alkyl trifluorovinyl ether units. $—CF_2—CF(OR)—$, with a Lewis acid selected from the class consisting of sulfur trioxide, aluminum trichloride, and titanium tetrachloride, whereby at least part of the ether units are converted to the ketene units. The reaction can be conducted in the presence of a liquid medium, such as a fluorocarbon, in an inert atmosphere at a temperature in the range of about 20–200° C. for about 1–75 hours.

3,525,725

PROCESS FOR THE PRODUCTION OF ACRYLONITRILE POLYMERS

Dieter Kramer and Carlhans Suling, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 6, 1967, Ser. No. 651,382
Claims priority, application Germany, July 11, 1966, F 49,666
Int. Cl. C08f *3/76, 15/22, 15/36*
U.S. Cl. 260—88.7 **5 Claims**

Acrylonitrile polymers containing at least 80% acrylonitrile and up to 20% other copolymerizable ethylenically unsaturated compounds are prepared by polymerizing in a polar organic solvent for acrylonitrile polymers in the presence of catalytic amounts of a quaternary ammonium salt of an aliphatic or aromatic sulfonamide. The final products are useful in production of films and filaments.

3,525,726

METHOD FOR ACCELERATING THE HARDENING OF ADHESIVES OR SEALING AGENTS WHICH HARDEN UNDER EXCLUSION OF OXYGEN

Joachim Galinke, Dusseldorf, and Bernd Wegemund, Hilden, Germany, assignors to Henkel & Cie G.m.b.H., Dusseldorf, Germany, a corporation of Germany

No Drawing. Filed Dec. 7, 1966, Ser. No. 599,727
Claims priority, application Germany, Apr. 15, 1966, H 59,127
Int. Cl. C08f *3/64, 3/66*
U.S. Cl. 260—89.5 **3 Claims**

The present invention relates to a process for accelerating the hardening of adhesives or sealing agents which harden under exclusion of oxygen, said adhesive being based on mixtures of methacrylic acid esters or acrylic acid esters, organic peroxides and amines. The said accelerating is effected by organic isocyanates.

3,525,727

PROCESS AND CATALYST SYSTEM FOR THE LOW-TEMPERATURE POLYMERIZATION OF VINYL MONOMERS CONTAINING VINYL CHLORIDE

Carlo Nicora, Varese, Giancarlo Borsini, Milan, Giovanni Confalonieri, Monza, and Guidobaldo Cevidalli, Seveso, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed Feb. 8, 1967, Ser. No. 614,535
Claims priority, application Italy, Feb. 10, 1966, 2,912/66
Int. Cl. C08f *1/62, 3/30*
U.S. Cl. 260—92.8 **12 Claims**

A process and catalyst system for the low-temperature (0° C. to −100° C.) polymerization of vinylic monomer components containing at least 75% by weight of vinyl chloride (i.e. vinyl chloride alone or in combination with up to 25% by weight of vinyl monomers copolymerizable with vinyl chloride) whereby the reaction is carried out in the presence of a multicomponent catalyst system constituted by:

(a) A triorgano boron compound of the general formula BR_3, coordinated with ammonia or a substituted ammonia of the general formula



where R represents an alkyl radical with a straight or branched chain containing from 1 to 6 carbon atoms, a cyclo-aliphatic radical containing from 3 to 8 carbon atoms, an aryl radical, or an aralkyl radical containing between 1 and 6 carbon atoms in the alkyl chain attached to the benzene nucleus; R′ and R″ are the same or different members from the group of hydrogen atoms, hydrocarbon radicals of straight or branched chain and a carbon number of 1 to 6, and respective bonds of a heterocyclic nitrogen compound; and R‴ is a member of the group consisting of hydrogen, aliphatic hydrocarbon radicals of straight or branched chain and a carbon number of 1 to 6, an aryl radical (phenyl or substituted phenyl), or an aralkyl radical containing an alkyl group attached to the benzene nucleus and having from 1 to 6 carbon atoms; and

(b) A tetravalent cerium salt (or double salt with ammonium) of an inorganic acid, (e.g. sulfuric acid, nitric acid, pyrophosphoric acid and perchloric acid).

3,525,728

POLYMERISATION OF OLEFINS IN THE PRESENCE OF A HOMOGENEOUS CATALYST

Michael John Symes, Sutton, England, assignor to The British Petroleum Company Limited, London, England, a corporation of Great Britain

No Drawing. Filed Dec. 28, 1966, Ser. No. 605,192
Claims priority, application Great Britain, June 6, 1966, 25,096/66
Int. Cl. C08f *3/00*
U.S. Cl. 260—93.7 **8 Claims**

Alpha olefins are polymerized between −100° and 200° C. in the liquid phase. A homogeneous catalyst is used which is a solution of the reaction product of an aluminium halide and a halide of a metal of Group VII or VIII.

In an example, 2 g. cobalt chloride and 10 g. aluminium chloride were refluxed in cyclohexane under nitrogen for 24 hours.

100 ml. 4-methylpentene-1 and 50 ml. cyclohexane were cooled to −10° C. 20 ml. of the catalyst solution were added and exotherm to +30° C. occurred. The mixture

was cooled and a further 30 ml. of catalyst solution were added producing a similar exotherm. The reaction was terminated after 10 minutes. 50 g. polymer were obtained.

3,525,729
PROCESS FOR PRODUCTION OF POLYMERS WITH CONTROLLED SATURATION
Rudolf H. Gaeth, Lake Jackson, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Dec. 4, 1967, Ser. No. 687,485
Int. Cl. C08d *3/06, 5/00*
U.S. Cl. 260—94.3 **9 Claims**

Polymers of conjugated 1,3-dienes with a controlled degree of saturation are prepared by (A) polymerizing the diene in the presence of a catalyst formed by mixing (1) a nickel component, (2) lithium aluminum hydride or organometallic compound and (3) boron trifluoride, a boron trifluoride complex with an ether, or hydrogen fluoride, and (B) then introducing hydrogen into the polymerization mixture without deactivating the catalyst under conditions such that a desired number of double bonds in the polymer are hydrogenated.

3,525,730
CHLORINATED COPOLYMER OF TOLUENE AND A POLYDIENE
Karl Nützel, Cologne-Stammheim, Klaus Hoehne, Leverkusen-Schlebusch, and Diez Heine, Leverkusen-Kuepersteg, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Nov. 17, 1965, Ser. No. 508,370
Int. Cl. C08d *5/04;* **C08f** *27/02*
U.S. Cl. 260—94.7 **5 Claims**

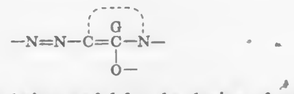
A copolymer of polybutadiene or polyisoprene and toluene which is after-chlorinated and useful as a binder for lacquers.

3,525,731
PROCESS FOR THE ISOLATION OF STAPHYLOCOCCI-ENTEROTOXIN FROM FOODSTUFFS
Iwan Milanow Stojanow, Berlin-Pankow, and Elly Gertrud Schenk, Oranienburg, near Berlin, Germany, assignors to Institut fur Milchforschung Oranienburg, Sachsenhausener, near Berlin, Germany
No Drawing. Filed June 7, 1966, Ser. No. 555,708
Int. Cl. A61k *23/00*
U.S. Cl. 260—112 **6 Claims**

Enterotoxin in foodstuff may be qualitatively or quantitatively determined after extraction of the foodstuff specimen with pH adjustment to approximately 4, heating the resultant extract, precipitation of the ballast material from the extract and removal thereof by centrifugation, cooling the supernatant liquid to solidify fat, centrifuging the supernatant liquid, dialyzing and gel concentrating the supernatant liquid, passing the supernatant through a molecular sieve to obtain pure enterotoxin and reconcentrating the enterotoxin.

3,525,732
1:2 CHROMIUM COMPLEX DYESTUFFS CONTAINING A MONOAZO DYESTUFF AND DISAZO DYESTUFF
Fabio Beffa, Basel, and Guido Schetty, Aesch, Basel-Land, Switzerland, assignors to J. R. Geigy S.A., Basel, Switzerland
No Drawing. Filed May 1, 1967, Ser. No. 634,882
Claims priority, application Switzerland, May 6, 1966, 6,651/66
Int. Cl. C09b *45/06, 45/26, 62/02*
U.S. Cl. 260—145 **11 Claims**

Heavy metal 1:2 complex dyestuffs containing a monoazo dyestuff moiety and a disazo dyestuff moiety bound in complex linkage to the heavy metal atom, preferably chromium, the disazo dyestuff moiety containing as middle component a naphthalene nucleus and as that terminal component which participates in complex formaton a 5- or 6-membered heterocyclic system G forming together with the azo bridge to which it is linked the atomic sequence



these new dyestuffs being useful for the dyeing of organic materials of most different kinds in brown, olive, blue, navy blue, or green to black shades; dyeings on wool, silk, leather, and synthetic polyamide fibres with those novel dyestuffs which contain water-solubilizing groups being particularly distinguished by good fastness properties; and those dyestuffs containing a fibre-reactive grouping being useful especially for the dyeing of cellulosic fibres, but also of polyamide fibres.

3,525,733
WATER-INSOLUBLE MONOAZO COMPOUNDS CONTAINING AN ANILINE COUPLING COMPONENT SUBSTITUTED BY BOTH AN ACYLAMIDO GROUP AND A DICARBOXIMIDO GROUP
Max A. Weaver and James M. Straley, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed May 9, 1967, Ser. No. 637,060
Int. Cl. C09b *62/66, 62/82;* **D06b** *1/38*
U.S. Cl. 260—152 **16 Claims**

Water-insoluble monoazo compounds, prepared by diazotizing an aniline compound, a 2-aminothiazole, or a 2-aminobenzothiazole and coupling the resulting diazonium with an aniline compound having an acylamido group and a dicarboximido group, produce dyeings ranging from yellow to blue hydrophobic textile materials. The compounds exhibit improved fastness properties such as fastness to light and resistance to sublimation on polyester fibers.

3,525,734
PROCESS FOR THE PRODUCTION OF CELLULOSE TRIACETATE HAVING GOOD CHARACTERISTICS
André Rajon, Tassin-la-Demi-Lune, France, assignor to Societe Rhodiaceta, Paris, France, a corporation of France
No Drawing. Filed Apr. 3, 1969, Ser. No. 813,344
Claims priority, application France, Apr. 5, 1968, 147,206
Int. Cl. C08b *3/28*
U.S. Cl. 260—230 **6 Claims**

Cellulose triacetate containing at most 150 (e.g. 100, 66, 55 or 30) parts per million by weight of combined sulfuric acid and having a dissolution factor of at least 90 (e.g up to 98) in 10 minutes is produced, using as starting material an acetic gum obtained by the acetylation of wood pulp in the presence of sulfuric acid as catalyst, by first stabilizing, e.g., with triethanolamine, then precipitating by progressively adding an aqueous (e.g. 12%) acetic acid solution, e.g. at a temperature of from 10 to 30° C., so that the liquid phase at the end of the precipitation has an acetic acid concentration not exceeding 65%, e.g. 55 to 65%; the resulting precipitate is then washed first with an aqueous acetic acid solution of the same concentration until sulfate ions have practically disappeared from the washing water, then with aqueous acetic acid having a concentration such that it is miscible in all proportions with an aliphatic ether (e.g. ethyl or isopropyl ether) and thereafter, without intermediate drying, directly displacing the aqueous acetic acid solution with the aliphatic ether until a neutral reaction is obtained, the resulting ether impregnated cellulose triacetate being dried, e.g. air dried.

3,525,735
HIGHLY ABSORBENT CELLULOSE ETHERS
Ivan Keith Miller, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 738,846, May 29, 1958. This application Oct. 27, 1961, Ser. No. 148,066
Int. Cl. C08b *11/00*
U.S. Cl. 260—231 **5 Claims**

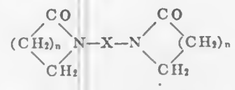
The process for preparing a modified viscose which comprises reacting alkali cellulose with an etherifying agent such as reacting alkali cellulose with carbon disulfide and acrylonitrile and dissolving the reacted cellulose in a dilute aqueous solution of alkali hydroxide. The cellulose derivatives, which have high absorbency, are useful as sponges, surgical dressings, disposable diapers, paper towels, filters among many other uses.

3,525,736
SUBSTITUTED DIAZIRIDINES AND DIAZIRINES
Robert Fitz Randolph Church, Riverside, Conn., and Martin Joseph Weiss, Oradell, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Dec. 30, 1966, Ser. No. 606,017
Int. Cl. C07d *45/00, 49/32, 87/38*
U.S. Cl. 260—239 **8 Claims**

Diazirine containing and diaziridine containing aliphatic alcohols, carboxylic acids, esters, acetals, amines and amine derivatives are prepared from the corresponding ketone or by subsequent transformations of diazirine containing compounds. These compounds are useful as blood sugar lowering agents, diuretics, analgesics, blood cholesterol lowering agents, anti-inflammatory agents and herbicides.

3,525,737
N,N'-SULFIDES AND METHOD OF MAKING THE SAME
Rudolf Kern, Hambach, and Ivan Butula, Heidelberg-Pfaffengrund, Germany, assignors to Rhein-Chemie G.m.b.H., Mannheim, Germany
No Drawing. Filed Dec. 5, 1967, Ser. No. 687,971
Claims priority, application Germany, Dec. 8, 1966, R 44,754, R 44,755
Int. Cl. C07d *41/06*
U.S. Cl. 260—239.3 **18 Claims**

Compounds of the formula:



wherein X is either S or S—S, and *n* is an integer between 1 and 10, both inclusive, are prepared by reacting a lactam having a free hydrogen atom or a metal atom directly attached to nitrogen with a substance selected from the group consisting of sulfurdichloride (SCl_2) and disulfurdichloride (S_2Cl_2). The compounds are useful as fungistats.

3,525,738
PIPERAZINE ESTRONE SULFATE PROCESS
Charles George Lex, Kenosha, Wis., assignor to Abbott Laboratories, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 24, 1969, Ser. No. 809,963
Int. Cl. C07c *173/00*
U.S. Cl. 260—239.5 **7 Claims**

Piperazine estrone sulfate is made from estrone by a fast, complete conversion reaction using dimethylformamide/sulfur trioxide complex as the sulfating reactant and dimethylformamide as the solvent, followed by the addition of piperazine.

3,525,739
LOWER ALKOXYTETRAHYDROPYRANYL ETHERS OF CORTICOID STEROIDS
Alexander D. Cross, Mexico City, Mexico, and John A. Edwards, Los Altos, Calif., assignors to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed May 22, 1968, Ser. No. 731,299
Int. Cl. C07c *173/00*
U.S. Cl. 260—239.55 **17 Claims**

The 4' - (lower)alkoxytetrahydropyran-4'-yl ethers of corticoids have high oral activities.

3,525,740
5',6'-DIHYDRO-2H-PYRAN-4'-YL ETHERS OF ANABOLIC STEROIDS
Alexander D. Cross, Mexico City, Mexico, and John A. Edwards, Los Altos, Calif., assignors to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Continuation-in-part of application Ser. No. 731,300, May 22, 1968. This application Oct. 9, 1968, Ser. No. 766,321
Int. Cl. C07c *173/00*
U.S. Cl. 260—239.55 **36 Claims**

The 5',6'-dihydro-2H-pyran-4'-yl ethers of anabolic steroids have high oral activities.

3,525,741
CHLORINATED STILBYL NAPHTHOTRIAZOLE BRIGHTENERS
Reinhard Zweidler, Basel, Rudolf Keller, Riehen, near Basel, and Max Keller, Riehen, Switzerland, assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware
Continuation of application Ser. No. 489,655, Sept. 23, 1965, which is a continuation-in-part of application Ser. No. 381,906, July 10, 1964. This application Nov. 21, 1967, Ser. No. 684,872
Claims priority, application Switzerland, July 9, 1964, 9,043/64
Int. Cl. C07d *55/02;* **C11d** *9/44*
U.S. Cl. 260—240 **10 Claims**

Certain new chlorinated mononaphtho triazolyl stilbenes are provided which are useful as optical brighteners and are particularly characterized by their exceptional stability in the presence of chlorine bleaches.

3,525,742
MEROCYANINE SENSITIZING DYES CONTAINING A PYRROLO[1,2-a]INDOLIUM NUCLEUS
Gene L. Oliver, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Original application Dec. 28, 1964, Ser. No. 421,661. Divided and this application Jan. 8, 1968, Ser. No. 710,417
Int. Cl. C07d *27/56;* **C09b** *23/10*
U.S. Cl. 260—240.4 **6 Claims**

Novel merocyanine dyes containing an N,α-alkylene bridge, useful as spectral sensitizers for photographic silver halide emulsions, are obtained by reacting a pyrroloindolium or benzopyrroloindolium cyclammonium salt, such as 1-anilinomethylene-9,9-dimethyl-2,3-dihydro-1H, 9H-pyrrolo[1,2-a]indolium bromide, for example, with a 5- or 6-membered heterocyclic ketone, such as 3-ethylrhodanine, 3-methyl - 1 - phenyl - 2 - pyrazolin-5-one or 1-ethyl-2-thiobarbituric acid, for example. 5-(9,9-dimethyl-2,3-dihydro 9H-pyrrolo[1,2-a] - indol - 1 - ylmethylene-3-ethylrhodanine and 5-(9,9 - dimethyl-2,3-dihydro-9H-pyrrolo[1,2-a]-indol - 1 - ylmethylene-1-ethyl-2-thiobarbituric acid, for example, are illustrative of the merocyanine dye compounds.

3,525,743

PHENOTHIAZINE DERIVATIVES

Milton Wolf, West Chester, and Francis J. Greek, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 495,698, Oct. 13, 1965. This application Feb. 29, 1968, Ser. No. 709,237

Int. Cl. C07d *93/14*

U.S. Cl. 260—243 9 Claims

Pyrrolophenothiazine-1,2-diones are prepared having pharmacological activity, demonstrating particularly analgesic activity. They are useful in the field of experimental pharmacology.

3,525,744

N-(FLUOROACETYLAMINO-TRICHLOROMETHYL)-METHYL AMINES

Christa Fest, Wuppertal-Elberfeld, and Gunther Hermann, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

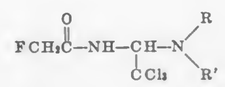
No Drawing. Continuation of application Ser. No. 502,318, Oct. 22, 1965. This application Apr. 9, 1969, Ser. No. 816,171

Claims priority, application Germany, Oct. 29, 1964, F 44,338

Int. Cl. C07d *87/42*

U.S. Cl. 260—247.2 11 Claims

N-(fluoroacetylamino - trichloromethyl) - methyl amine having the general formula



in which R and R', each respectively, is hydrogen, alkyl, aryl having 6–10 ring carbon atoms, or such alkyl or aryl which are substituted with at least one of halo, nitro, cyano, and/or lower alkoxy, R and R' when taken together with N forming a heterocyclic ring having 5–6 ring members such as piperidino, pyrrolidino, and morpholino, which possess rodenticidal properties, as well as compositions thereof with dispersible carrier vehicles and methods of using such compounds to combat rodents, such compounds being prepared by conventional methods.

3,525,745

PROCESS FOR THE PREPARATION OF PERHALOALKOXY-s-TRIAZINES AND NOVEL PERFLUOROALKOXY-s-TRIAZINES

Richard W. Anderson, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 632,952, Apr. 24, 1967. This application Jan. 23, 1969, Ser. No. 793,579

Int. Cl. C07d *55/48*

U.S. Cl. 260—248 10 Claims

The invention is a process for the preparation of mono-, bis- and tris(perhaloalkoxy)halo-s-triazines. The process involves contacting a cyanuric halide with an alkoxide source material selected from the group of perhalomethoxide source material and secondary perhaloalkoxide source material. The process is carried out at a temperature not in excess of 25° C. in the presence of certain alkali metal fluorides. Also provided by the present invention are novel perfluoroalkoxy-s-triazines.

3,525,746

PERFLUOROALKYL-SUBSTITUTED s-TRIAZINES

John A. Young, Greenwood Village, Colo., and Robert L. Dressler, Hays, Kans., assignors to the United States of America as represented by the Secretary of the Air Force

No Drawing. Filed Apr. 5, 1968, Ser. No. 719,228

Int. Cl. C07d *55/12, 55/18, 55/22*

U.S Cl. 260—249.6 4 Claims

A method for synthesizing perfluoroalkyl-substituted s-triazines which involves a fluoride catalyzed reaction between a polyfluoro-1,3,5-triazine and a perfluoro compound containing carbon-carbon or carbon-nitrogen unsaturation. The reaction effects a replacement of one or more fluorine atoms of the fluoro-triazine compound with perfluoroalkyl groups. The extent of the perfluoroalkyl replacement is controlled by the molar ratios of the two reactants and by the reaction conditions. This method finds utility in providing a one-step process for the synthesis of perfluoroalkyl compounds which in turn are useful as high temperature lubricants and hydraulic fluids.

3,525,747

METHOD FOR PRODUCING HETEROCYCLIC DICARBOXIMIDES

Richard L. Jacobs, Perrysburg, Ohio, assignor, by mesne assignments, to The Sherwin-Williams Company, a corporation of Ohio

No Drawing. Filed June 26, 1968, Ser. No. 740,080

Int. Cl. C07d *51/76*

U.S. Cl. 260—250 11 Claims

A method for producing 2,3- and 3,4-pyridinedicarboximides and 2,3-pyrazinedicarboximides, which is accomplished by anhydrous alkylation of the corresponding imide precursors with an organic halide in the presence of sodium hydride or equivalent and a suitable solvent.

3,525,748

CERTAIN 2-AMINO-3-PHENYL-3,4-DIHYDROQUINAZOLIN-4-ONES

Marcel Pesson, Paris, France, assignor to Laboratoire Roger Bellon, Paris, France, a company of France

No Drawing. Continuation of application Ser. No. 460,839, June 2, 1965. This application Apr. 12, 1968, Ser. No. 721,121

Claims priority, application Great Britain, June 3, 1964, 23,057/64

Int. Cl. C07d *51/48*

U.S. Cl. 260—256.4 10 Claims

There are disclosed certain 2-amino-3-phenyl-3,4-dihydroquinazolin-4-ones and processes for making them. The compounds are sedatives and hypnotics.

3,525,749

CERTAIN 1,3-DIOXEPINO-[5, 6-c]-PYRIDINES

Earl M. Chamberlin and Elbert E. Harris, Westfield, and John L. Zabriskie, Jr., Scotch Plains, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 19, 1969, Ser. No. 808,694

Int. Cl. C07d *31/50*

U.S. Cl. 260—294.8 2 Claims

Novel intermediates which may be hydrolyzed to Vitamin B_6 prepared utilizing novel dioxepins as the dienophile in a Diels-Alder condensation.

3,525,750

1,2,3,4,5,6-HEXAHYDRO-AZEPINO[4, 5-b] INDOLE DERIVATIVES

Ulrich Renner, Riehen, Switzerland, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Filed May 29, 1967, Ser. No. 642,214

Claims priority, application Switzerland, May 31, 1966, 7,853/66, 7,854/66

Int. Cl. C07d *27/54*

U.S. Cl. 260—326.5 9 Claims

1,2,3,4,5,6-hexahydro-azepino[4,5-b] indole derivatives and 1,2,3,6 - tetrahydro-azepino[4,5-b]indole derivatives which are useful as antitussive agents; therapeutical compositions containing these derivatives and processes for producing an antitussive effect in mammals. Illustrative embodiments are 3 - methyl-6-benzyl - 1,2,3,4,5,6-hexahydro-azepino[4,5-b]indol-5-ol and 3-methyl-6-benzyl-1,2,3,6-tetrahydro-azepino[4,5-b]indol-5(4H)-one.

3,525,751

HORMONAL DIPHENYL METHYLOL AND BENZHYDRYLIDENE DERIVATIVES

John H. Fried, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Mar. 27, 1967, Ser. No. 625,963

Int. Cl. C07d *73/00, 79/00, 89/10*

U.S. Cl. 260—327 10 Claims

1,3-dithiane, 1,3,5-trithiane, 5-substituted 1,3-dithianes, N-substituted 1,3,5-dithiazines, and 1,3,5-oxadithiane substituted with di(p-hydroxyphenyl)methylol 4',4''-dihydroxy benzhydrylidene, or the ethers thereof, at the carbon atom adjacent to the two sulfur atoms exhibit antifertility and anti-estrogenic activity. They are prepared from di-p-hydroxy phenyl ketone or the ethers thereof and the appropriate 6-membered monocyclic 1,3-dithiaheterocyclic.

3,525,752

MAKING TETRATHIASPIRO COMPOUNDS

John J. D'Amico, Dunbar, and Robert H. Campbell, St. Albans, W. Va., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 558,587, June 20, 1966. This application Feb. 5, 1968, Ser. No. 702,818

Int. Cl. C07d *69/00, 79/00;* C08c *11/60*

U.S. Cl. 260—327 3 Claims

Making tetrathiaspiro compounds by reacting cyclic esters of cyanodithioimidocarbonic acid, or the corresponding urea, with alkylene or phenylene dithiols in alcoholic hydrogen chloride. The products react with dithiols, by which reaction unsymmetrical tetrathiaspiro compounds can be produced. The tetrathiaspiro compounds are useful for accelerating vulcanization of rubber.

3,525,753

COUMARIN DERIVATIVES HAVING OPTICAL WHITENING PROPERTIES

Asim Kumar Sarkar, Adel, Leeds, England, assignor to Hickson & Welch Limited, Yorkshire, England, a British company

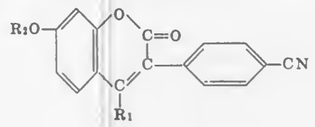
No Drawing. Filed Sept. 11, 1967, Ser. No. 666,997

Claims priority, application Great Britain, Sept. 21, 1966, 42,223/66

Int. Cl. C07d *7/26;* D06m *9/00*

U.S. Cl. 260—343.2 4 Claims

New coumarin derivatives useful as optical whitening agents and their use in the treatment of textile materials. The coumarin derivatives are compounds of the formula



wherein R_1 is a hydrogen atom or alkyl group containing 1–4 carbon atoms and R_2 is an alkyl group containing from 1 to 4 carbon atoms.

3,525,754

PREPARATION OF 3-OXABICYCLO[3.1.1] HEPTANE-2-ONE

Gilbert H. Berezin, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 30, 1966, Ser. No. 606,033

Int. Cl. C07d *7/06*

U.S. Cl. 260—343.5 3 Claims

Process for the preparation of 3-oxabicyclo[3.1.1]heptane-2-one comprising heating the trans form of a 3-hydroxymethylcyclobutane-carboxylate in the presence of a transesterification catalyst. This compound is readily converted to certain substantially pure cis-1,3-difunctionally substituted cyclobutanes that are useful polymer intermediates.

3,525,755

PROCESS OF PREPARING POLYCARBOXYLIC ACID ESTERS OF TERTIARY 17-STEROID ALCOHOLS

Paul-Eberhard Schulze, Berlin, Germany, assignor to Schering A.G., Berlin, Germany

No Drawing. Filed Nov. 15, 1965, Ser. No. 514,724

Claims priority, application Germany, Nov. 25, 1964, Sch 36,156

Int. Cl. C07c *169/32*

U.S. Cl. 260—397.4 15 Claims

Polycarboxylic esters of tertiary 17-steroid alcohols are prepared by mixing and reacting a polycarboxylic acid with trifluoroacetic acid anhydride in a suitable solvent with a steroid compound, preferably under nitrogen.

3,525,756

HERBICIDAL HEXACHLOROCYCLOHEXADIENONE DERIVATIVES

John J. Krajewski, Wheeling, Ill., assignor to International Minerals and Chemical Corporation, a corporation of New York

No Drawing. Filed July 1, 1966, Ser. No. 562,135

Int. Cl. C07c *97/08*

U.S. Cl. 260—396 3 Claims

1. A 4 - trialkylammoniumpentachlorocyclohexa - 2,5-diene-1-one chloride.

3,525,757

METHODS OF PREPARING 15,16β-METHYLENE-TESTOSTERONE AND ESTERS THEREOF

Otfried Schmidt, Friedmund Neumann, and Rudolf Wiechert, Berlin, Germany, assignors to Schering AG., Berlin, Germany

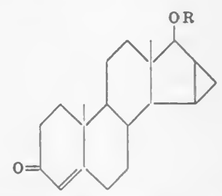
No Drawing. Filed Jan. 30, 1968, Ser. No. 701,547

Claims priority, application Germany, Feb. 9, 1967, Sch 40,192

Int. Cl. C07c *169/22*

U.S. Cl. 260—397.4 6 Claims

15,16β-methylene-testosterone and its esters of the formula



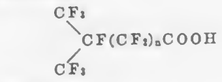
wherein R represents hydrogen or a physiologically tolerated acyl radical, are prepared by hydrogenating the corresponding 17-ketosteroid.

3,525,758
PREPARATION OF FLUORINE-CONTAINING CARBOXYLIC ACIDS

Atsuo Katsushima, Fuse-shi, Osaka-fu, Iwao Hisamoto, Suita-shi, Osaka-fu, and Masayuki Nagai, Osaka-fu, Japan, assignors to Daikin Kogyo Kabushiki Kaisha, Kita-ku, Osaka-shi, Japan

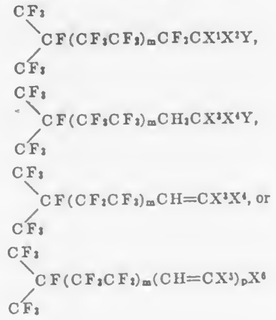
Filed Feb. 5, 1965, Ser. No. 430,698
Claims priority, application Japan, Feb. 8, 1964, 39/6,569, 39/6,570; May 16, 1964, 39/27,600
Int. Cl. C07c *53/34*
U.S. Cl. 260—408 **4 Claims**

Aliphatic ω,ω di-(trifluoromethyl) perfluorocarboxylic acids and salts, esters and amides thereof. The acids have the structural formula:



wherein n is 2 to 21.

Methods for preparing such compounds by oxidizing compounds having the following structural formulae:



wherein

Y is Br or I;
X^1 and X^2 are each H, F, Cl, Br or I, but only one of X^1 and X^2 may be F;
X^3 and X^4 are each H, F, Cl, Br, I, OH, R, OR, OCR, OOCR, ROH, COOR, or COOH, R being an alkyl group having 1 to 3 carbon atoms;
X^5 and X^6 are each H, Cl, Br or I, but only one of X^5 and X^6 may be H;
m is an integer from 1 to 10; and
p is an integer from 2 to 3.

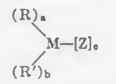
The acids and the derivatives have improved surface tension properties.

3,525,759
METAL ORGANO PHOSPHATES AND AMINE SALTS THEREOF

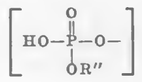
Frederick G. Hess, Cranbury, N.J., assignor to Cities Service Oil Company, Bartlesville, Okla., a corporation of Delaware

No Drawing. Original application May 26, 1965, Ser. No. 459,080, now Patent No. 3,346,492, dated Oct. 10, 1967. Divided and this application Aug. 17, 1967, Ser. No. 677,812
Int. Cl. C07f *7/22, 7/02, 7/08*
U.S. Cl. 260—429.7 **8 Claims**

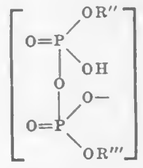
Metal organo phosphates and amine neutralization salts thereof having the formula:



wherein M is a polyvalent metal, R and R' are each selected from the group consisting of hydrogen and hydrocarbyl radicals of from 1 to 30 carbon atoms, a is an integer from 0 to 2, b is an integer from 1 to 3, c is an integer from 1 to 3, the sum of a plus b is an integer from 1 to 3, the sum of a plus b plus c is an integer from 2 to 4 and is equal to the valence of the metal, and Z is a radical selected from the group consisting of:



and



wherein R'' and R''' are each hydrocarbyl radicals of from 1 to 30 carbon atoms. These compositions are useful as gasolene and lubricating oil and additives.

3,525,760
DIORGANOTIN DI(THIOALKYLENE CARBOXYLIC ACID ESTERS) AND THE PREPARATION THEREOF

Toshio Seki, Osaka-shi, and Kozaburo Suzuki, Kobe-shi, Japan, assignors to Nitto Kasei Co., Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Original application May 16, 1967, Ser. No. 638,774. Divided and this application June 26, 1969, Ser. No. 851,120
Int. Cl. C07f *7/22*
U.S. Cl. 260—429.7 **5 Claims**

Sulfur containing organotion compounds of the formula

$$R_2Sn[S(CH_2)_mCOO(CH_2CH_2O)_nY]_2$$

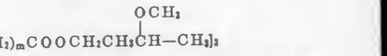
prepared by the reaction of an ester and a dialkyltin oxide may be used as stabilizers for resins.

3,525,761
DIORGANOTIN DI(THIO CARBOXYLIC ACID ESTERS) AND THE PREPARATION THEREOF

Toshio Seki, Osaka-shi, and Kozaburo Suzuki, Kobe-shi, Japan, assignors to Nitto Kasei Co., Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Original application May 25, 1967, Ser. No. 641,152. Divided and this application June 25, 1969, Ser. No. 852,136
Int. Cl. C07f *7/22*
U.S. Cl. 260—429.7 **4 Claims**

Sulfur containing organotin compounds of the formula



prepared by the reaction of an ester and a dialkyltin oxide may be used as stabilizers for resins.

3,525,762
PURIFICATION AND RECOVERY OF COBALT-CONTAINING CATALYSTS

Yataro Ichikawa, Iwakuni-shi, Japan, assignor to Teijin Limited, Osaka, Japan, a corporation of Japan

Continuation-in-part of application Ser. No. 441,882, Mar. 22, 1965. This application Feb. 12, 1969, Ser. No. 798,591
Int. Cl. C07f *15/06;* **C07c** *63/02*
U.S. Cl. 260—439 **9 Claims**

A method of refining and recovering cobalt salt catalysts of lower aliphatic monocarboxylic acids of 2–4 carbon atoms, which comprises heating such cobalt salt catalysts at a temperature from 50–300° C. in the presence of an aqueous solution of a lower aliphatic monocarboxylic acid of 2–4 carbon atoms in which

(a) not less than 2 moles of the aliphatic monocarboxylic acid, and not less than 4 moles of water, per gram-atom of the cobalt are present, and
(b) the concentration of the aliphatic monocarboxylic acid in the total aqueous solution present in the system being from not less than 0.2 mole percent to not more than 80 mole percent,

Such cobalt salt catalyst is one used for the oxidation of hydrocarbons or their oxidation derivatives with molecular oxygen, the used catalyst being in the form of a trivalent form of the cobalt salt.

3,525,763
PRODUCTION OF SALTS OF ORGANOFLUOROSILICIC ACIDS

Richard Müller and Christian Dathe, Radebeul, Germany, assignors to Institut fur Silikon- und Fluorkarbonchemie, Radebeul, Germany

No Drawing. Filed Aug. 17, 1966, Ser. No. 572,914
Int. Cl. C07f *7/08*
U.S. Cl. 260—448.2 **5 Claims**

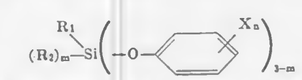
A process for producing salts of organofluorosilicic acids of the formula $M_m[RSiF_{m+3}]$, in which M stands for the cations of ammonium, sodium or potassium, m stands for 1, 2, or 3; and R designates specifically defined alkyl, cycloalkyl, alkenyl, cycloalkenyl or phenyl groups, and such of the beforementioned groups in which hydrogen atoms bound to carbon are substituted by OH—, SO_3H— or NO_2; the process comprising reacting trifunctional organosilanes of the formula $RSiX_3$, in which R stands for the beforementioned groups and X is a substituent selected from the group consisting of alkoxy, acyloxy and sulfide, with NH_4F, NaF and KF or the bifluorides of NH_4, Na or K, thereby replacing said X by fluorine, and wherein the ratio of fluorinating agent to silane is at least 4:1. The products obtained are starting materials for metalorganic compounds, e.g. organomercury which may in turn be used as disinfectants, anticonceptives and the like.

3,525,764
PRODUCTION OF HALOGENATED PHENOXYSILANES

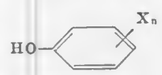
Hans-Joachim Kotzsch, Rheinfelden, and Roshdy Ismail, Spich, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany, a corporation of Germany

No Drawing. Filed Jan. 8, 1968, Ser. No. 696,141
Claims priority, application Germany, Jan. 7, 1967, D 51,958
Int. Cl. C07f *7/06, 7/18*
U.S. Cl. 260—448.8 **8 Claims**

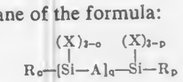
Production of halogenated phenoxysilanes of the formula:



wherein R_1 is alkenyl, alkyl, cycloalkyl or aryl, R_2 is alkyl, cycloalkyl, aryl, alkoxy or aryloxy, X is fluorine, chorine or bromine, and n is a whole number of from 1 to 5 and m is 0 or 1; by condensing a halogenated phenol of the formula:



with a halogensilane of the formula:



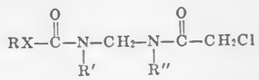
wherein R is hydrogen, alkyl, cycloalkyl, aryl, alkoxy, aryloxy or alkenyl, X is fluorine, chlorine or bromine, o and p each have a value of 0, 1 or 2, q is equal to or greater than 1, and A is oxygen, alkylene, cycloalkylene, aralkylene or arylene which latter groups can contain ether or thioether groups, the halogen groups bonded to the silicon being exchanged for halogenated phenoxy groups, in the presence of tertiary amines or of their hydrochlorides, whose dihydrochlorides have an HCl tension at the reaction temperature, which is lower than the reaction pressure, the condensation being effected at a temperature of 40 to 150° C., and preferably of 55 to 100° C., possibly under use of a solvent.

3,525,765
SUBSTITUTED CARBAMYL AND THIOCARBAMYL METHYL-CHLOROACETAMIDES

Llewellyn W. Fancher, Orinda, and Duane R. Arneklev, Sunnyvale, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 443,100, Mar. 26, 1965. This application May 16, 1968, Ser. No. 729,508
Int. Cl. C07c *155/08, 125/06*
U.S. Cl. 260—479 **7 Claims**

This invention pertains to certain substituted carbamyl methyl-chloroacetamides and thiocarbamyl-methyl-chloroacetamides corresponding to the formula



in which X is oxygen or sulfur; R is alkenyl, alkynyl, haloalkyl and nuclearly substituted phenyl in which the substituents are 1 to 5 halogens, especially chlorine; R' is hydrogen, alkyl, phenyl, alkenyl or cyclohexyl; and R'' is hydrogen, alkyl or alkenyl. The above compounds are effective herbicides. Representative compounds are: propargyloxy-N-methyl-carbamylmethyl chloroacetamide, allyloxy-N-methylcarbamylmethyl chloroacetamide, β-chloro-ethoxy - carbamylmethylchloroacetamide, 2,4-dichlorophenoxycarbamyl-N-methyl chloroacetamide, and p-chlorophenoxycarbamyl-N-methyl chloroacetamide.

3,525,766
5-HALO-3-PHENYLSALICYLANILIDES

Jack D. Early, Bethesda, Md., and John P. Chupp, Kirkwood, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Oct. 13, 1965, Ser. No. 495,678, now Patent No. 3,382,145. Divided and this application Aug. 8, 1967, Ser. No. 659,040
Int. Cl. C07c *103/26, 121/60;* **A01n** *9/20*
U.S. Cl. 260—559 **4 Claims**

Compounds characterized by a 5-halo-3-phenylsalicylanilido nucleus, the anilido group of which having substituents of the group nitro, cyano and trifluoromethyl, which substituted anilido group can be further substituted with chloro, bromo or fluoro substituents. These compounds are useful as gastropodicides.

3,525,767
ACETAMIDES

Kenneth Wayne Ratts, Creve Coeur, and Angelina Ngo Yao, University City, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed May 11, 1966, Ser. No. 549,150
Int. Cl. C07c *103/56*
U.S. Cl. 260—561 **7 Claims**

This invention relates to N,N-disubstituted α-sulfuranylidene acetamides which are useful as fire retardants, rust inhibitors and intermediates for petroleum additives and agricultural chemicals.

3,525,768
N-HYDROXYALKYL OXYPROPIONAMIDES
Donald I. Hoke, Chagrin Falls, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Filed July 17, 1968, Ser. No. 747,774
Int. Cl. C07c *103/38*
U.S. Cl. 260—561 **4 Claims**

N-3-oxohydrocarbon-substituted acrylamides are reacted with an alcohol or analogous hydroxy compound in an alkaline medium and then reduced to form compounds which are useful as surfactants and also as chemical intermediates in the preparation of N-3-hydroxyalkyl acrylamides. The latter are useful monomers.

3,525,769
PRODUCTION OF ACRYLAMIDES
Franz Merger, Ludwigshafen, Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Dec. 27, 1968, Ser. No. 787,596
Claims priority, application Germany, Dec. 30, 1967, 1,643,730
Int. Cl. C07c *103/56*
U.S. Cl. 260—561 **10 Claims**

Production of diacrylamide, dimethacrylamide and trimethacrylamide by reaction of urea with acrylyl chloride or methacrylyl chloride in the presence of a base at a temperature less than 40° C. The products are valuable starting materials for the production of synthetic resins, raw materials for surface coatings and intermediates for pesticides.

3,525,770
AMINOBICYCLO[3.2.2]NONANES
Alfred W. Chow, Radnor, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Original application Aug. 10, 1966, Ser. No. 571,430, now Patent No. 3,439,102, dated Apr. 15, 1969. Divided and this application Nov. 6, 1968, Ser. No. 773,943
Int. Cl. A61k *27/00;* **C07c** *87/40*
U.S. Cl. 260—563 **8 Claims**

Amino, aminomethyl, and α-aminoethylbicyclo[3.2.2]nonanes and their salt are prepared, formulated, and administered to animals to combat influenza infections.

3,525,771
3-(3-HYDROXY-3-PHENYL-BUTYLAMINO) PROPIOPHENONES
Nicholas Malatestinic, Brooklyn, N.Y., and Albert Ziering, Nutley, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Original application Sept. 9, 1964, Ser. No. 395,329, now Patent No. 3,337,546, dated Aug. 22, 1967. Divided and this application June 23, 1967, Ser. No. 648,208
Int. Cl. A61k *27/00;* **C07c** *95/00*
U.S. Cl. 260—570.5 **3 Claims**

3 - (3-hydroxy 3-phenyl butylamino) propiophenone and analogs thereof are prepared by acid hydrolysis of the corresponding 3 - (3,4,5,6-tetrahydro-2H-1,3-oxazin-3-yl) propiophenones. The novel propiophenone derivatives have hypotensive properties.

3,525,772
PROCESS FOR THE PRODUCTION AND RECOVERY OF N,N-DIMETHYLLAURYLAMINE OXIDE
Jorge R. Muratorio, Buenos Aires, Argentina, assginor to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 1, 1967, Ser. No. 679,634
Int. Cl. C07c *85/16, 87/06*
U.S. Cl. 260—583 **6 Claims**

A process for the production and recovery of N,N-dimethyllaurylamine oxide which comprises reacting N,N-dimethyllaurylamine with peracetic acid in an organic solvent medium whereby the reaction products form an ammonium acetate salt, treating the ammonium acetate salt so as to remove the acetate radical from the salt and recovering a N,N-dimethyllaurylamine oxide solution having good detergent properties.

3,525,773
PROCESS FOR PREPARING ARYLOXYALKANOLS
Heinz Schulze, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware
No Drawing. Filed Apr. 1, 1968, Ser. No. 717,949
Int. Cl. C07c *43/20*
U.S. Cl. 260—613 **8 Claims**

Aryloxyalkanols are prepared by reacting a phenol or polyphenol with an alkylene oxide in the presence of a catalytically active nitrogen compound such as ammonia or an amide. The compounds prepared by the process of this invention are useful as flame retarders, solvents, intermediates for resins and biocidal agents.

3,525,774
ETHYLENE GLYCOL RECOVERY
Morris H. Clarke, Beaumont, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware
No Drawing. Filed Aug. 2, 1967, Ser. No. 657,764
Int. Cl. C07c *29/24;* **C08g** *17/04*
U.S. Cl. 260—637 **3 Claims**

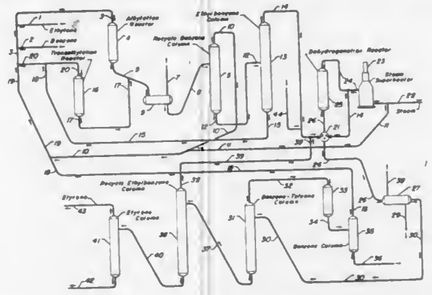
In the preparation of terephthalate polyesters it is necessary to employ an excess of ethylene glycol which is recovered at the completion of the reaction. This recovered ethylene glycol is contaminated with impurities which make it unsuitable for use without treatment. Purified ethylene glycol can be obtained from this contaminated ethylene glycol by first acidifying the material to precipitate soluble solid materials, adding ammonia to dissolve the precipitated solids and distilling ethylene glycol from the mixture.

3,525,775
CATALYTIC XYLENE ISOMERIZATION PROCESS AND CATALYST THEREFOR
Anthony P. Bolton, Amherst, and Mohammed A. Lanewala and Samuel W. Donley, Buffalo, N.Y., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Mar. 29, 1968, Ser. No. 717,424
Int. Cl. C07c *5/24, 15/10*
U.S. Cl. 260—668 **8 Claims**

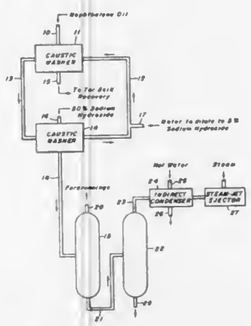
The catalytic isomerization of non-equilibrium mixtures of xylenes is accomplished using a zeolitic molecular sieve of low sodium cation content and preferably having a substantial trivalent metal cation content, which zeolite has deposited thereon a hydrocarbonaceous coke in an amount of from about 5 to about 20 weight percent.

3,525,776
ALKYLATION-DEHYDROGENATION PROCESS
Charles V. Berger, Western Springs, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Nov. 12, 1968, Ser. No. 774,684
Int. Cl. C07c *3/50, 5/18, 15/10*
U.S. Cl. 260—669 **3 Claims**

A process for alkylating an alkylatable aromatic hydrocarbon and steam dehydrogenating the resultant alkylated aromatic to form an alkenyl aromatic hydrocarbon having an alkenyl group containing at least two carbon atoms in which the saturate-containing unalkylated alkylatable aromatic hydrocarbon withdrawn as a purge from the alkylation zone is recovered and purified in the dehydrogenation zone. This process is especially adaptable to the production of styrene from ethylene and benzene.



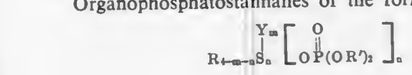
3,525,777
METHOD OF RECOVERING NAPHTHALENE
Thomas F. Johnson, Penn Hills Township, Allegheny County, Philip X. Masciantonio, Penn Township, Westmoreland County, and James H. Schelling, Franklin Township, Westmoreland County, Pa., assignors to The United States Steel Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 345,279, Feb. 17, 1964. This application Dec. 23, 1968, Ser. No. 786,332
Int. Cl. C07c *7/04*
U.S. Cl. 260—674 **8 Claims**



A method for recovering naphthalene from a coal-tar naphthalene-oil fraction comprising washing the fraction sequentially with dilute and then with concentrated aqueous caustic solution and then distilling the fraction at a first absolute pressure to separate the forerunnings from the naphthalene and residue, and then distilling the naphthalene and residue at a second absolute pressure substantially less than the first absolute pressure to separate naphthalene from residue, whereby said naphthalene has a crystallizing point of at least 78° C.

3,525,778
ORGANOPHOSPHATOSTANNANES AND CURABLE ORGANOPOLYSILOXANE COMPOSITIONS CONTAINING THE SAME
Guenther Fritz Lengnick, Manitou Beach, Mich., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 27, 1968, Ser. No. 708,501
Int. Cl. C07f *7/22;* **C08f** *11/04;* **C08g** *31/14*
U.S. Cl. 260—825 **10 Claims**

Organophosphatostannanes of the formula:



in which Y represents halogen, OR'', or



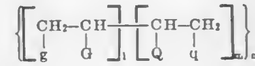
R and R' are organic groups; R'' is an alkyl or aryl group; *m* is an integer of from 0 to 2; *n* is an integer greater than 0; and the sum of *m* and *n* is less than 4 and their use as curing catalysts for organopolysiloxanes are described herein.

3,525,779
EPOXY RESIN ADHESIVE CONTAINING MINOR AMOUNTS OF A POLYURETHANE MODIFIER
Jerry Marvin Hawkins, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 570,677, Aug. 4, 1966. This application Nov. 15, 1968, Ser. No. 776,251
Int. Cl. C08g *45/12*
U.S. Cl. 260—830 **8 Claims**

A thermosettable resin composition comprising an epoxy resin, a modifier which is the adduct of a polyol and an isocyanate, said adduct having from 0–30% free isocyanate (—NCO) groups and a compound which is nonreactive with the epoxy resin and which contains either an —OH or —SH group in sufficient quantity to react with the free isocyanate groups. This composition is particularly useful in adhesive formulations.

3,525,780
METHOD OF MANUFACTURING POLYMER MATERIALS HAVING LIMITED ELECTROSTATIC CHARGEABILITY
Shu Kambara, Isao Shinohara, and Eishun Tsuchida, Tokyo, Japan, assignors to Chiyoda Kako Kensetsu Kabushiki Kaisha, Tokyo, Japan
No Drawing. Filed Oct. 11, 1966, Ser. No. 585,743
Claims priority, application Japan, Oct. 20, 1965, 40/64,579
Int. Cl. C08f *29/22, 37/18*
U.S. Cl. 260—874 **3 Claims**

Polymeric materials of limited electrostatic chargeability are prepared by incorporating into a polymer an oligomer having a similar chemical structure and which is compatible with said polymer, said oligomer having a molecular weight from about 10^2 to about 10^4 and having the formula



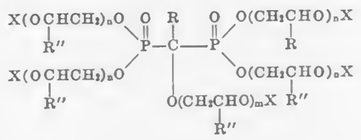
wherein *l*, *m* and *n* are numbers greater than 1; G is hydrogen, halogen, phenyl or carboxyl; *g* is hydrogen, phenyl, or carboxyl; and Q and *q* are selected from hydrogen, carboxyl, alkali salt of carboxylic acid, acid amide, phenyl, ester of alkyl group having 1–20 carbon atoms, hydroxylated alkyl group having 1–3 carbon atoms, and a phenyl or phenylalkyl group having a quaternary ammonium salt added thereto.

3,525,781
BLOCK COPOLYMERS PREPARED BY FEEDING BATCH PREPOLYMER INTO A CONTINUOUS REACTOR
Jack S. Scoggin, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed May 17, 1965, Ser. No. 456,092
Int. Cl. C08f *15/04*
U.S. Cl. 260—878 **10 Claims**

Continuous polymerization process employing at least two batch reaction zones and utilizing the polymer formed therein to continuously feed a subsequent, continuous polymerization zone.

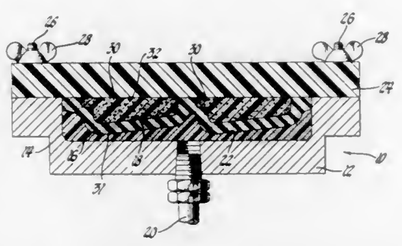
3,525,782
ACYLDIPHOSPHONATES
James Keith Jacques, Handsworth Wood, Birmingham, England, assignor to Albright & Wilson (Mfg.) Limited, Oldbury, near Birmingham, Warwickshire, England, a British company
No Drawing. Filed July 7, 1965, Ser. No. 470,218
Claims priority, application Great Britain, Aug. 6, 1964, 32,081/64; Jan. 8, 1965, 936/65
Int. Cl. C07f 9/28; C08g 17/133
U.S. Cl. 260—932 2 Claims

The invention provides phosphonate esters having the formula



wherein m is a number from 0 to 20, each n is a number from 1 to 20, each X is selected from the group consisting of hydrogen and acyl residues of carboxylic acids with at least one X being hydrogen, R is selected from the group consisting of alkyl, chlorinated alkyl, phenyl, and chlorinated phenyl groups having up to 10 carbon atoms, and each R'' is selected from the group consisting of hydrogen, methyl, chloromethyl and bromomethyl groups. The invention also provides a process for preparing phosphonate esters in which an acyldiphosphonic acid is reacted with at least one mole of an alkylene oxide per equivalent of phosphorus-bonded hydroxyl group in said acyldiphosphonic acid. The phosphonate esters are used to prepare polyester materials having flame-retardant properties.

3,525,783
MOLD DESIGN FOR SELF-APPLICATION OF RELEASE AGENT
John Prikkel III, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 28, 1967, Ser. No. 686,261
Int. Cl. B28b 7/38; B29c 1/04
U.S. Cl. 264—39 3 Claims

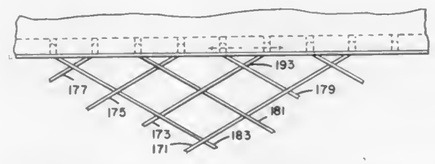


A thin film of silicone fluid mold release agent is satisfactorily applied to the cavity-defining surface of a relatively thin silicone rubber mold member by providing a suitable reservoir adjacent the mold member on the side opposite the cavity-defining surface, filling the reservoir with the silicone fluid release agent and subjecting the fluid to suitable pressure whereby the fluid slowly permeates the rubber to form a thin film of release agent on the cavity-defining surface.

3,525,784
METHOD OF PREPARING IRON ORE PELLETS
Joachim Endell, Bottrop, Germany, assignor to Firma Huttenwerk Oberhausen AG., Oberhausen, Rhineland, Germany, a corporation of Germany
No Drawing. Filed Aug. 15, 1968, Ser. No. 752,760
Claims priority, application Germany, Aug. 17, 1967, 1,583,175
Int. Cl. C21b 1/10, 1/24, 1/28
U.S. Cl. 264—63 4 Claims

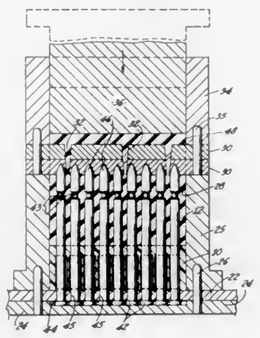
A method of producing iron-ore pellets wherein particles or iron ore are milled together with a binder in the form of clay (i.e. clay slate, clay schist, shale clay or flint clay) containing 10 to 20% by weight residual coal and obtained from the washing of coal and subjected to pelletizing in a drum or pan pelletizer and prefired at a temperature below 850° C. (preferably 750 to 800° C.) and then are sintered at a temperature of 1200 to 1250° C. prior to being introduced into a shaft-type furnace for direct gas reduction of the pellets.

3,525,785
METHOD FOR EXTRUDING WOVEN NET-LIKE STRUCTURES
Theodore H. Fairbanks, West Chester, Pa., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Oct. 24, 1967, Ser. No. 677,603
Int. Cl. D01d 5/20; D02g 1/20
U.S. Cl. 264—103 6 Claims



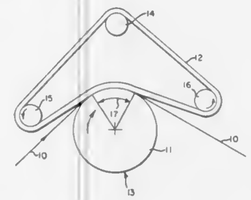
A method of making a woven web or braids having interlaced strands by periodically crossing a series of extruded streams with another series of extruded streams without contacting with each other.

3,525,786
METHOD OF MANUFACTURING INSULATORS FOR MULTIPLE CONDUCTOR CONNECTORS
John E. Meyn, Anaheim, Calif., assignor to Microdot, Inc., South Pasadena, Calif., a corporation of California
Filed Apr. 8, 1966, Ser. No. 541,162
Int. Cl. B29f 1/10; B32b 1/10
U.S. Cl. 264—135 11 Claims



The product is a multiple-bore rigid insulator of thermosetting material with a multiple-bore elastomeric grommet united therewith. The rigid insulator is placed in a mold with multiple core pins extending from the multiple bores thereof through a mold cavity. The face of the rigid insulator is coated with uncured thermosetting adhesive and then, with the mold heated, uncured elastomeric material is extruded under heat and pressure into the mold cavity to form the grommet around the core pins and to bond the resultant grommet to the face of the insulator. When the product is ejected from the mold and from the core pins, the grommet assumes a desirable tapered configuration.

3,525,787
PROCESS FOR PRODUCING LOW PERMANENT SHRINKAGE CELLOPHANE
Daniel Edward McDermott, Henrico County, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 26, 1966, Ser. No. 581,841
Int. Cl. B29c 17/00, 17/02; B29d 7/22
U.S. Cl. 264—284 6 Claims



Process for treatment of regenerated cellulose film having reduced machine direction permanent shrinkage including subjecting a film consisting essentially of nonfibrous gel-regenerated cellulose containing at least 35% by weight of plasticizer to normal and shear forces by passing said film between a heated rotating body and an endless belt in cooperative association therewith.

3,525,788
ROTOCASTING OF POLYSTYRENE
Granville J. Hahn, Big Spring, Tex., assignor to Cosden Oil & Chemical Company, Big Spring, Tex., a corporation of Delaware
Filed May 24, 1967, Ser. No. 640,936
Int. Cl. B29c 5/04; B29b 1/00
U.S. Cl. 264—310 4 Claims



Polystyrene beads are converted to a form useful for rotocasting by press-flattening to a non-spheroidal shape by passing through rollers which coalesces some of the beads into larger particles while reducing large beads into a flattened shape in one dimension, whereby the product used in rotocasting evenly coats the inside of the mold, particularly in the wall projections, and large flat surface areas which were normally too thin to allow polystyrene beads to be molded by rotocasting.

3,525,789
SUBSTITUTED TRIAZINONES
John Paul Chupp, Kirkwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 523,924, Feb. 1, 1966. This application June 5, 1968, Ser. No. 734,554
Int. Cl. A01n 9/22; C07d 55/12
U.S. Cl. 71—93 9 Claims

1-(chloro substituted phenyl)-4,6-diisopropyl-3,5-dimethyl-hexahydro-1,3,5-triazin-2-ones which are phytotoxic.

3,525,790
DIHYDROQUINIDINE POLYGALACTURONATE AND DIHYDROQUINIDINE GALACTURONATE COMPOSITIONS
Alfred Halpern, Great Neck, N.Y., assignor, by mesne assignments, to Synergistics, a copartnership consisting of Mortimer D. Sackler and Raymond R. Sackler, Yonkers, N.Y.
No Drawing. Application Mar. 21, 1966, Ser. No. 535,736, which is a continuation-in-part of application Ser. No. 373,827, June 9, 1964. Divided and this application Aug. 21, 1968, Ser. No. 772,880
Int. Cl. A61k 27/00
US. Cl. 424—180 12 Claims

Pharmaceutical compositions containing dihydroquinidine polygalacturonate and dihydroquinidine galacturonate are described together with the method for treating cardiac arrhythmias therewith.

3,525,791
NONSUGARBASE COMPOUNDED TABLET OR LOZENGE BASE MATERIAL FOR USE IN THE PREPARATION OF SUCKABLE, STRUCTURALLY SOUND AND HARD AT ROOM TEMPERATURE, NONHYGROSCOPIC, NONCARIES-FORMING TABLETS OR LOZENGES
Gerhard W. Ahrens, 1781 E. 15th St., New York, N.Y. 11229
No Drawing. Filed May 20, 1968, Ser. No. 730,626
Int. Cl. A61k 15/00
U.S. Cl. 424—280 2 Claims

Sugarfree, suckable, structurally sound and hard at room temperature, nonhygroscopic, noncariesforming tablets or lozenges possessing maximum stability and shelf life are prepared using a new nonsugarbase compounded tablet or lozenge base material possessing medical properties of its own, which is nonhygroscopic, cold water insoluble, edible, palatable, structurally sound and hard at room temperature and dispersible and/or dissolvable in mouth fluids through sucking action for the release of the said medical properties of its own and of the properties of any other desired and suitable ingredients that may have been incorporated in the said tablets or lozenges prepared therewith.

This compounded homogeneously textured, nonsugarbase, nonhygroscopic, cold water insoluble, edible, palatable, structurally sound and hard at room temperature and dispersible and/or dissolvable in mouth fluids by sucking action tablet or lozenge base material as described herein is formed by the incorporation in the heretofore thought of being unsuitable because of its structural softness and weakness at room temperature but edible, palatable, nonhygroscopic and cold water insoluble solid fatty acid mono-ester of sorbitan "sorbitan mono-stearate" and compounding therewith of sufficient amounts of the organic acid metal salt possessing medical properties "calcium ascorbate dihydrate" which is a nonhygroscopic and hard

crystallinic but watersoluble material, alone, or in conjunction with a partial substituent for the same selected from a group of anti-caries and caries-preventive phosphate salts also capable of acting as mineral balancing agent for calcium metabolically such as "dibasic magnesium phosphate," whereby the medical properties of both the "calcium ascorbate dihydrate" and the "dibasic magnesium phosphate" are transferred to the resulting said new tablet or lozenge base material.

3,525,792

METHOD FOR CONTROLLING THE GROWTH OF MICROORGANISMS

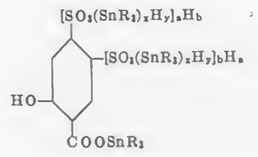
John R. Leebrick, Roselle Park, N.J., assignor to M&T Chemicals Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Dec. 15, 1961, Ser. No. 159,738, now Patent No. 3,201,432, dated Aug. 17, 1965. Divided and this application Feb. 25, 1965, Ser. No. 444,929

Int. Cl. A01n *9/00*

U.S. Cl. 424—288 **11 Claims**

In accordance with certain of its aspects, the method of this invention for controlling the growth of microorganisms which comprises applying to the locus at which control is desired a compound of the formula



wherein R is a hydrocarbon radical selected from the group consisting of lower alkyl radicals and the phenyl radical; *a*, *b*, *x*, and *y*, are selected from the group consisting of 0 and 1; $a+b=1$; and $x+y=1$.

3,525,793

MICROBIOCIDAL QUATERNARY AMMONIUM COMPOUNDS CONTAINING SYNERGISTIC BLENDS OF ALKYL GROUPS

Alfonso N. Petrocci, Glen Rock, Kenneth W. Prodo, Westfield, and Edward G. Shay, Belle Mead, N.J., and Reginald L. Wakeman, Philadelphia, Pa., assignors to Millmaster Onyx Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 688,355, Dec. 6, 1967. This application June 30, 1969, Ser. No. 837,905

The portion of the term of the patent subsequent to Oct. 14, 1986, has been disclaimed

Int. Cl. A01n *9/20*

U.S. Cl. 424—329 **4 Claims**

A microbiocidal quaternary ammonium compound consisting essentially of a blend of two alkyl dimethyl ethylbenzyl ammonium halides wherein the alkyl component in one halide has 12 carbon atoms and the alkyl component of the other has 14 carbon atoms, the proportion of one to the other being between 90/10 and 10/90 by weight. It has been discovered that when this specific blend is used in these specific proportions, the compounds have a synergistic effect on each other, and the product is far more microbiocidally active, especially in hard water, than when the alkyl component consists of either of these compounds individually or in any other combination.

3,525,794

2-BROMO - 2 - CHLORO-1,1,3,3-TETRAFLUORO-PROPANE AS AN INHALATION ANESTHETIC

Bernard M. Regan, Chicago, Ill., assignor to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware

No Drawing. Application Aug. 31, 1967, Ser. No. 664,605, which is a continuation-in-part of application Ser. No. 538,523, Feb. 2, 1966. Divided and this application Dec. 5, 1968, Ser. No. 805,059

Int. Cl. A61k *13/00*

U.S. Cl. 424—350 **1 Claim**

2-bromo-2-chloro-1,1,3,3-tetrafluoropropane, useful as a nonflammable inhalation anesthetic which is stable toward soda-lime.

ELECTRICAL

3,525,795

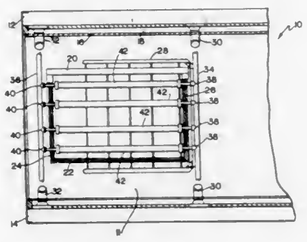
ELECTRIC FURNACE AND TUBULAR HEATING ELEMENT FOR USE THEREWITH

Herbert W. Westeren, Barrington, and William H. Kimball, Providence, R.I., assignors to C. I. Hayes Inc., Cranston, R.I., a corporation of Rhode Island

Filed Apr. 29, 1968, Ser. No. 724,716

Int. Cl. H05b *3/60, 3/66*

U.S. Cl. 13—25 **10 Claims**



An electric furnace having a heating chamber in which a heating element is located, the resistance heating element being comprised of a flexible graphite cloth material that has a generally tubular configuration.

3,525,796

ELECTRONIC MUSICAL INSTRUMENT PROVIDED WITH GENERATORS AND INDIVIDUAL FORMANT FILTERS

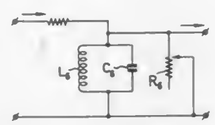
Nico Valentinus Franssen, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 3, 1967, Ser. No. 680,387

Claims priority, application Netherlands, Nov. 8, 1966, 6615720

Int. Cl. G10h *3/00, 1/02*

U.S. Cl. 84—1.11 **9 Claims**



An electronic musical instrument is constructed of multi-frequency filters, each of which is provided with a resonant circuit and a selectively operable key for varying the resonance quality factor of the resonance circuit. The timbre of a resulting signal will be directly affected by the variation occurring in the quality factor as determined by the operation of the key, the frequency to which the resonant circuit is tuned being relative to the frequency of the applied signal. The key may be directly tied to a variable resistor connected to a resonant circuit which in turn is tuned to a fundamental frequency or a harmonic of the fundamental frequency. Alternatively, operation of the key may cause a variation of resonance quality factor by varying the operating point of a transistor circuit having a predetermined resistive ratio over a range of operating points.

3,525,797

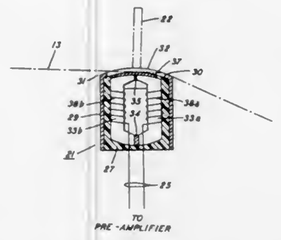
STRINGED MUSICAL INSTRUMENT WITH ELECTROMAGNETIC PICKUP ALSO FUNCTIONING AS A BRIDGE

Leonard W. Pavia, 460 Columbia Turnpike, Florham Park, N.J. 07932

Filed Jan. 16, 1968, Ser. No. 698,317

Int. Cl. G10h *3/00*

U.S. Cl. 84—1.15 **9 Claims**



A multi-stringed fretless musical instrument is disclosed in which all strings are simultaneously struck and the very small string vibrations are picked up by a magnetic pick-up which is itself the bridge of the instrument.

3,525,798

FULLY FILLED PLASTER SHEATHED TELECOMMUNICATION CABLES

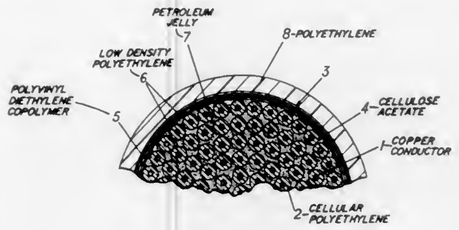
Charles David Forber, Upholland, near Wigan, England, assignor to British Insulated Callender's Cables Limited, London, England

Filed Mar. 21, 1968, Ser. No. 714,890

Claims priority, application Great Britain, Mar. 23, 1967, 13,660/67

Int. Cl. H01b *3/44, 11/00*

U.S. Cl. 174—26 **9 Claims**



In a fully filled plastic sheathed multi-conductor telecommunication cable there is provided between the conductors and the sheath a separating layer which will serve both as a heat barrier and a barrier to the passage through the sheath of the filling material and which will bond to the sheath at or below the temperature at which the sheath is extruded on the core.

3,525,799

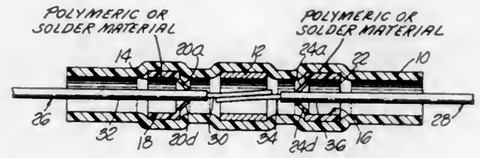
HEAT RECOVERABLE CONNECTOR

Roger H. Ellis, Atherton, Calif., assignor to Raychem Corporation, Menlo Park, Calif., a corporation of California

Filed May 17, 1968, Ser. No. 730,015

Int. Cl. H02g *15/08*

U.S. Cl. 174—84 **10 Claims**



A connector formed from a heat shrinkable tubular member containing a fusible insert. The insert is provided with inwardly extending fingers for grasping and locating an object inserted into the tubular member. The heat shrinkable tubular member may additionally contain a solder insert for making a good electrical connection between a pair of wires inserted into the tubular member, or the fusible insert may itself be solder and serve a dual purpose.

3,525,800

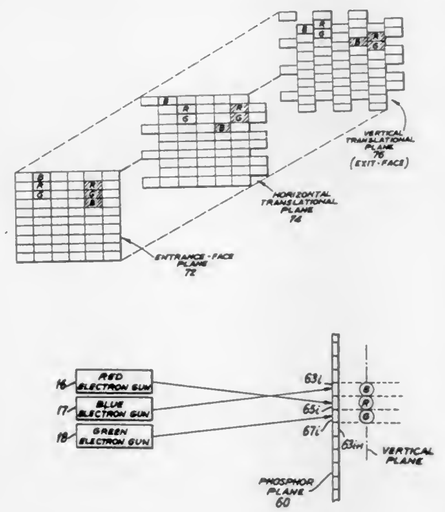
COMPATIBLE COLOR DISPLAY ARRANGEMENT INCLUDING AN OPTICAL FIBER ARRAY

Roger L. Wilcox, Box 534, Amagansett, N.Y. 11930

Continuation-in-part of application Ser. No. 563,197, July 6, 1966. This application Oct. 12, 1966, Ser. No. 586,204

Int. Cl. H04n *5/72*

U.S. Cl. 178—5.4 **13 Claims**

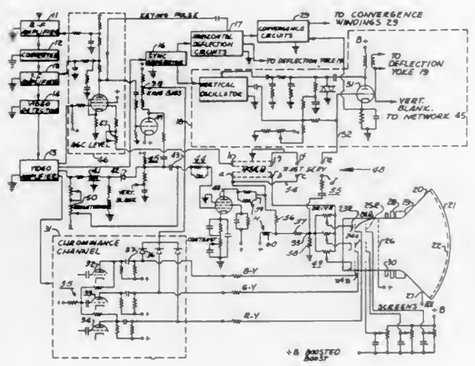


An improved color television display cathode ray tube includes cyclically recurring light emitting phosphor sheets coupled to an array of optical fibers. Three electron beams each impinge upon associated like-color emitting ones of the phosphor sheets, and the light pattern produced by the irradiated phosphor sheets is visible at the exit face of the fiber array after undergoing a spatial transformation.

3,525,801
SERVICE AID FOR COLOR TELEVISION RECEIVER

Donald H. Willis, Indianapolis, Ind., assignor to RCA Corporation, a corporation of Delaware

Filed June 5, 1967, Ser. No. 643,433
Int. Cl. H04n *5/44*
U.S. Cl. 178—5.4 6 Claims

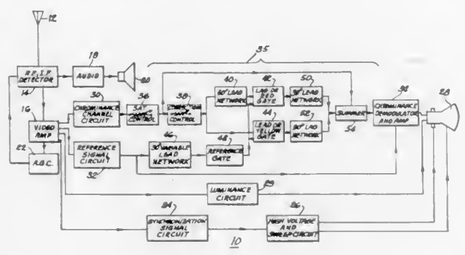


A color television receiver servicing or "set-up" system comprising a three position switch for selectively coupling to the cathodes of a color television receiver (1) normal luminance signal information including blanking signals, (2) a luminance signal of controllable brightness level devoid of picture information for providing a blank raster for purity checking and adjustment and (3) a reference voltage level in combination with horizontal blanking signals for providing, upon deactivation of vertical deflection circuits, a single horizontal line devoid of picture information for permitting color temperature adjustment.

3,525,802
HUE EXPANDER CIRCUITS

Paul J. Whiteneir, Jr., Fort Wayne, Ind., assignor to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware

Continuation-in-part of application Ser. No. 823,781, May 12, 1969. This application Oct. 2, 1969, Ser. No. 863,236
Int. Cl. H04n *9/12*
U.S. Cl. 178—5.4 11 Claims

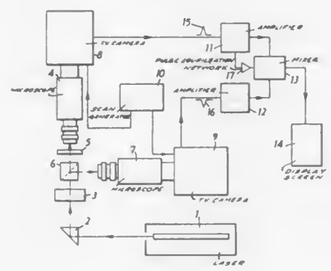


Color television hue expander circuits are disclosed having bipolar transistor chrominance signal and reference gates and phase shifting circuits allowing the use of a single reference signal gate.

3,525,803
MEANS FOR DETECTING MALIGNANT CELLS IN HUMAN AND ANIMAL TISSUE

Desmond Smart, Newcastle-upon-Tyne, England, assignor to International Research & Development Company Limited, Fossway, Newcastle-upon-Tyne, England

Filed July 28, 1967, Ser. No. 656,751
Claims priority, application Great Britain, Aug. 1, 1966, 34,474/66
Int. Cl. A61b *5/00*; H04n *7/00*; G01n *21/40*
U.S. Cl. 178—6 8 Claims

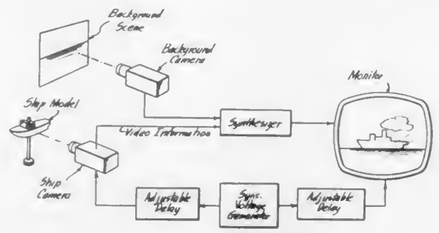


A method of detecting malignant cells in which a tissue or cervical smear is illuminated with plane polarized light emitted by a laser and changes in polarization of the light transmitted are detected with the aid of a polarizing analyzer. Two microscopes respectively receive light transmitted through a specimen alone and light transmitted both through the specimen and the analyzer, and two television cameras, synchronously scanned, record the images formed in the two microscopes, there being a single display screen connected to the cameras to produce a composite image on the screen, normal cells producing a bright image and malignant cells a dark image.

3,525,804
GATED VIDEO DISPLAY

Joseph R. Owen, Orlando, Fla., assignor to the United States of America as represented by the Secretary of the Navy

Filed Apr. 10, 1968, Ser. No. 720,172
Int. Cl. H04n *1/38*
U.S. Cl. 178—6 5 Claims

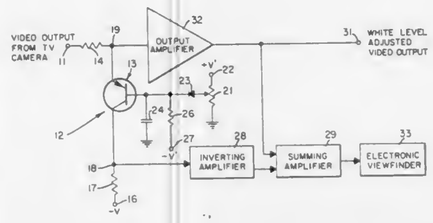


In some TV type simulators used in naval training devices, a target such as the image of a ship is caused to move a particular distance on a TV monitor screen by introducing a proportional delay in the TV monitor (or camera) sweep voltage. The invention concerns a novel gating and control circuit for preventing an undesired reiteration of video information on the monitor screen which can result from delays of certain durations.

3,525,805
PICTORIAL VIDEO LEVEL INDICATOR

Edwin S. Busby, Jr., Menlo Park, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Dec. 18, 1967, Ser. No. 691,380
Int. Cl. H04n *7/02*
U.S. Cl. 178—7.1 9 Claims

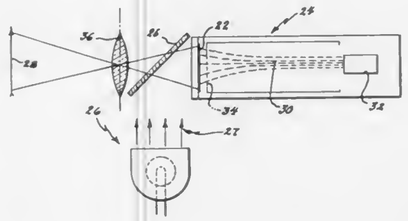


A system for use with the electronic view-finder, or other scene monitor associated with a television camera, which is effective to incorporate video signal amplitude or level information in the displayed television pictures. The system produces an easily recognized abrupt reversal of the brightness sense of bright objects, as viewed in the viewfinder, whenever they exceed a proper reference level. Such reversal does not disturb the spatial arrangement of picture elements viewed, or otherwise limit the usefulness of the view-finder image. An operator may set a proper video level in accordance with the scene viewed in the viewfinder without shifting his gaze to a separate level display, or interpreting the display. The system is thus particularly useful with a portable camera operated by one person.

3,525,806
ELECTRONIC SHUTTER

Appleton D. Cope, Hightstown, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force

Filed Aug. 31, 1967, Ser. No. 665,686
Int. Cl. H04n *5/26*
U.S. Cl. 178—7.2 2 Claims

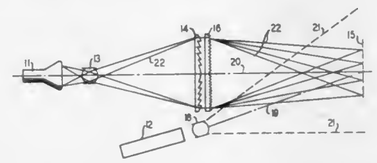


A technique for extracting the signal from a storage vidicon or image storage tape by electronically controlling the optical exposure to thereby eliminate the need for a mechanical shutter. The technique consists of first flooding the photoconductor with light until the layer is saturated with photo-excited carriers; then applying an electric field across the photoconductor and simultaneously removing the flood illumination and exposing the photoconductor to the image and finally removing the electric field to terminate the exposure interval.

3,525,807
TELEPHONE-TELEVISION SUBSTATION APPARATUS

Donald R. Herriott, Morris Township, Morris County, and Kenneth M. Poole, Bernardsville, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed July 25, 1967, Ser. No. 655,925
Int. Cl. H04n *5/26*
U.S. Cl. 178—7.85 8 Claims

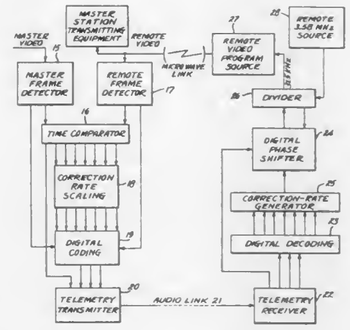


In a telephone-television substation, light from the kinescope tube is projected through a Fresnel lens which images it at a location appropriate for observation by a viewer. A diffusing screen is used to control the illuminance at the viewing plane. The field of view of the camera tube is centered on the viewing plane so that in order to see the displayed image the viewer must orient himself with respect to the camera tube for proper transmission of his image. Stereoscopic images may also be projected by the optical systems described.

3,525,808
METHOD AND APPARATUS FOR SYNCHRONIZING TELEVISION SIGNALS

Buck C. Brown, Rockville, Md., assignor to Tracor, Inc., Austin, Tex., a corporation of Texas

Filed Oct. 9, 1967, Ser. No. 673,752
Int. Cl. H04n *5/04*
U.S. Cl. 178—69.5 11 Claims

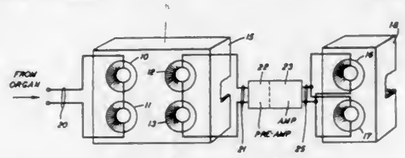


A system for phase-locking the synchronizing signals of one or more remotely located television program sources with the synchronizing pulses of a central or master program source in which a particular synchronizing pulse having unique time location characteristics is isolated from both the remote and master signal sources, the two isolated pulses being compared to determine a phase error. A correction signal is developed representative of the direction of the phase error and converted into audio frequency tones. The audio signals are transmitted over low quality transmission lines to the remote video source location where the tones are reconverted into a correction signal used to shift the phase of the remote source synchronizing signals.

3,525,809
ELECTRONIC ORGAN SOUND REPRODUCTION APPARATUS

Leonard W. Pavia, Florham Park, N.J., assignor to Pavia-Farny Associates, Morris Plains, N.J.

Filed Sept. 11, 1967, Ser. No. 666,760
Int. Cl. G10h *1/02;* **H04r** *1/28*
U.S. Cl. 179—1 **8 Claims**

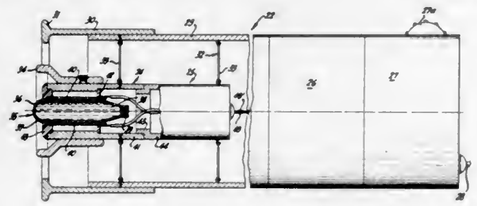


To reproduce bass or pedal electronic organ notes the initial attack of the note is heard by the listener from a first pair of speakers in one sound box while the delayed build up of the note is heard from a second pair of speakers in a separate sound box. Coupling between the two pairs of speakers is provided by a pair of pick-up speakers mounted on the same face of the first sound box as the first pair of speakers and connected through an amplifier to the second pair of speakers.

3,525,810
MICROPHONE ASSEMBLY FOR USE IN A STETHOSCOPE

Alan John Adler, Palo Alto, Calif., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware

Filed Dec. 5, 1966, Ser. No. 599,141
Int. Cl. A61b *5/02*
U.S. Cl. 179—1 **15 Claims**



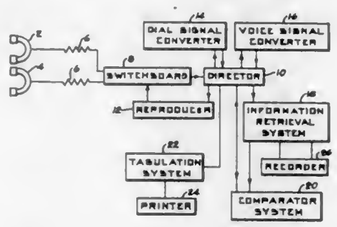
A microphone assembly for use in a stethoscope. A sound sensing means including a deformable fluid-filled casing is resiliently supported within an outer casing so as to project outwardly beyond the outer casing in its normal position. Upon movement of the outer casing into engagement with a body surface, the deformable casing is displaced inwardly against the biasing force of the resilient support for providing firm contact with the body surface. A sleeve connected to and surrounding the sensing means is additionally provided to limit the magnitude of the force with which the fluid-filled casing can engage the body surface for preventing excessive deformation thereof. A plurality of transducer elements are mounted on the deformable casing for converting the received sound energy into electrical energy.

3,525,811
REMOTE CONTROL VOTING SYSTEM

Fred C. Trice, 3831 NE. 22 Way, Lighthouse Point, Fla. 33064; Frank F. Flohr, 2520 NE. 48 Center, Pompano Beach, Fla. 33064; Karl S. Hesch, 1913 S. Ocean Drive, Hallandale, Fla. 33009; and Alvaro Garcia, 180 N. Glen Drive, Rochester, N.Y. 14626

Filed Dec. 26, 1968, Ser. No. 786,909
Int. Cl. G07c *13/00;* **G10l** *1/00*
U.S. Cl. 179—1 **9 Claims**

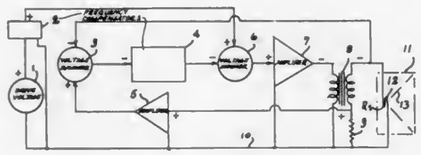
A remote control voting system including a connecting system between remote voters and a polling place, a switchboard connected to the remote voters for regulating the inflow and outflow of data at the poll, and a director for regulating the flow of data to signal converters, verification means, and voting tabulation means. The verification means includes an information retrieval system and a comparator for verifying the identity of the voter by code number and voice print. The voting tabulation means receives and tabulates votes from identified voters.



3,525,812
TRANSDUCER CIRCUIT AND METHOD OF OPERATION

James E. Verdier, 453 Pardee Place, Dayton, Ohio 45431

Continuation of application Ser. No. 500,388, Oct. 21, 1965. This application May 8, 1969, Ser. No. 823,190
Int. Cl. H04r *3/00*
U.S. Cl. 179—1 **7 Claims**

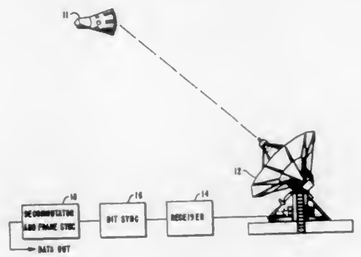


The invention relates to a loud speaker circuit in which the resistance drop across the speaker coil is measured and is fed back into the driving voltage for the speaker coil after having been inverted so as to be 180° out of phase with the resistance drop across the speaker coil.

3,525,813
AUTOMATIC FRAME SYNCHRONIZER FOR A SEQUENTIAL INFORMATION SYSTEM

Verl L. Taylor, Costa Mesa, and Morris W. Barnhart, Anaheim, Calif., assignors, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware

Filed May 9, 1966, Ser. No. 548,744
Int. Cl. H04j *3/06*
U.S. Cl. 179—15 **13 Claims**

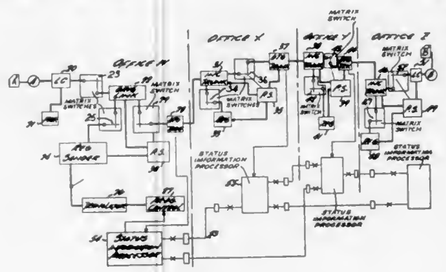


A frame synchronizer for a telemetry signal decommutator which operates in one of three modes and which automatically operates at an optimum level of performance. Counters are provided for the temporary storage of parameters which determine whether the synchronizer is to advance or revert from one operating mode to another. Means responsive to the actual errors encountered in the received data are utilized to change the stored parameters from time to time thereby automatically adapting the synchronizer to the quality of the received data signal.

3,525,814
ORIGINATING REGISTER CONTROL SWITCHING SYSTEM WITH OPTIMUM-ROUTING NETWORK STATUS PROGRAMMING

John Edward Cox, 482 Grace Ave., Garfield, N.J. 07026

Filed Dec. 27, 1965, Ser. No. 516,223
Int. Cl. H04q *3/56*
U.S. Cl. 179—18 **17 Claims**

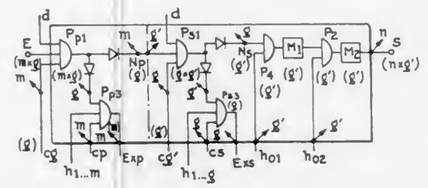


This invention relates to an originating register controlled switching system wherein the originating register is controlled by translated programmed information. The program operates on network status information to select an optimum route. The programmed information is continually updated by status information received from other nodal points in the network. Under the control of the program, the selection of any but the preferred (optimum) route is inhibited.

3,525,815
ANALOG NETWORK TELEPHONE SWITCHING SYSTEM

Jean-Jacques René Paul de Buck, Vence, and Jean-Michel Montcouquiol, Paris, France, assignors to International Standard Electric Corporation, New York, N.Y.

Filed Feb. 4, 1966, Ser. No. 525,258
Claims priority, application France, Feb. 5, 1965, 4,538
Int. Cl. H04q *3/00*
U.S. Cl. 179—18 **8 Claims**

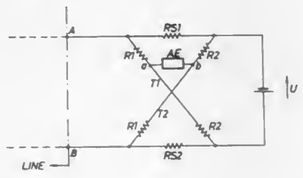


An electronic system is provided to control a telephone switching network which is formed of switching blocks each comprising two cross-connected half-stages (primary and secondary) of crossgrid switches (e.g., crossbar switches or crosspoint matrices, particularly, reed-relay crossgrids. By means of this system, a free path can be selected between marked stages through any number of switching stages.

3,525,816
LOOP SUPERVISION CIRCUITRY

Eberhard Herter, Stuttgart, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed June 7, 1966, Ser. No. 555,913
Claims priority, application Germany, June 19, 1965, St 24,001
Int. Cl. H04m *3/22*
U.S. Cl. 179—18 **5 Claims**

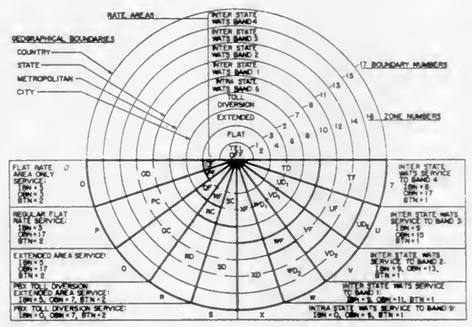


A loop supervision circuit for supervising loop conditions and for discerning loop resistances of telephone lines. The system is particularly useful in telephone lines using direct current signalling. The circuitry includes a linear symmetrical bridge connected to include the feeder resistors and further connected so that interfering noises on lines are cancelled out and thereby never reach the evaluating device. Similarly, battery voltage fluctuations are also kept from the evaluating device by the connection of the bridge.

3,525,817
COMMUNICATION SYSTEM CALL TREATMENT SELECTION METHOD AND APPARATUS

Philip C. Richards, Geneva, Ill., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

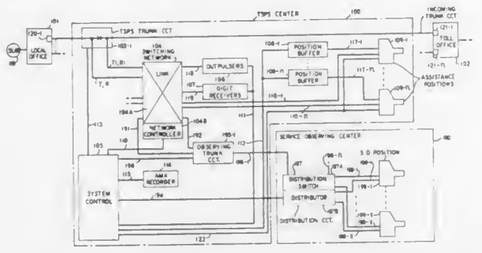
Filed June 25, 1968, Ser. No. 739,814
Int. Cl. H04m *3/38*
U.S. Cl. 179—18 **9 Claims**



Disclosed are a method and apparatus for the selection of routing and charging treatments to be given call requests by a communication switching office. Selection is made on the basis of a requested call destination and the class of service of the line initiating the request. All the information codes defining call destinations are organized into code sets according to basic categories of call treatment for various classes of service. These sets are numbered and each is assigned numbered boundaries. For each class of service, the code set boundaries which define divisions between the various categories of call treatment available for that class of service are defined with respect to the numbers of the appropriate information code sets. The numerical relationship between the call treatment category boundaries and the number of the code set including the

code defining the called destination is determined. This numerical relationship is then used to select the appropriate category of call treatment which should be accorded the particular call request.

3,525,818
SERVICE OBSERVING SYSTEM
Richard J. Jaeger, Jr., Colts Neck, and George E. Koch, New Monmouth, Middletown Township, Monmouth County, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed July 11, 1967, Ser. No. 652,476
Int. Cl. H04m *3/24*
U.S. Cl. 179—27 **31 Claims**

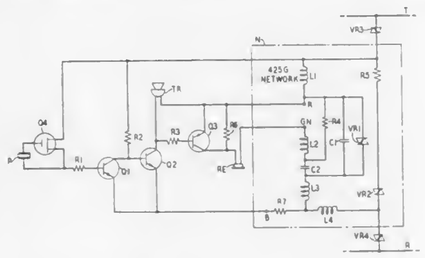


A service observing system is disclosed in which the switching network of an office is used to interconnect a calling trunk circuit:

(1) with other circuits within the office so that the call may be forwarded to the next office;
(2) with an assistance operator position so that person-to-person and other types of call assistance may be furnished to the calling party; and
(3) with a service observing position so that the quality of service provided by the assistance operator may be observed.

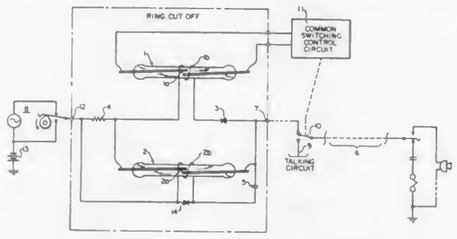
Facilities independent of the switching network and common to all observing positions are provided for transmitting call data from a system controller to the observing positions. The system controller may be selectively conditioned, by means of manually settable switches, to exclude any type of call from service observing.

3,525,819
ELECTRONIC COMMON SWITCH FOR A TELEPHONE SET
Raymond G. Jackson, West Lafayette, Ind., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Apr. 9, 1968, Ser. No. 719,898
Int. Cl. H04m *1/00, 1/50*
U.S. Cl. 179—84 **9 Claims**



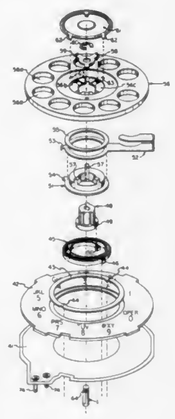
In a telephone set employing multifrequency dialing the common switch functions of disabling the transmitter and attenuating the receiver during dialing are performed by transistor circuitry, the operating state of which is controlled by the voltage generated by a piezoelectric circuit device that is subjected to mechanical stress during dialing.

3,525,820
RING CUT-OFF CIRCUIT USING REED RELAYS
Emiel Goossens, Aartselaar, and Herman Labedz, Rixensart, Belgium, assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Oct. 16, 1968, Ser. No. 768,129
Int. Cl. H01h *47/00;* **H04m** *1/26*
U.S. Cl. 179—84 **5 Claims**



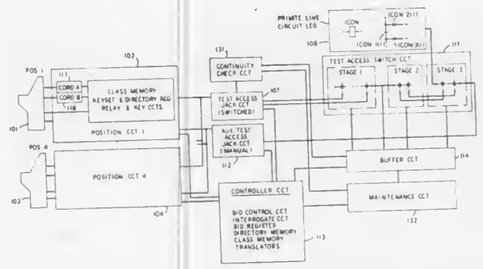
A reed relay of the type which is inherently fast operating has its operation delayed for use as a telephone ring cut-off relay. The required delay is provided by a diode connected in series with the winding of the cut-off relay, a low-impedance operating winding of an auxiliary relay connected in shunt with the operating circuit of the cut-off relay, and contacts of the auxiliary relay connected across the winding of the cut-off relay such that the latter winding is short-circuited while the contacts of the auxiliary relay are operated during those half-cycles of ringing current when the diode in series with the winding of the cut-off relay tends to be conductive.

3,525,821
MINIATURE ROTARY DIAL
Eduard J. Pulles, Elmhurst, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Dec. 30, 1968, Ser. No. 787,839
Int. Cl. H04m *1/28*
U.S. Cl. 179—90 **11 Claims**



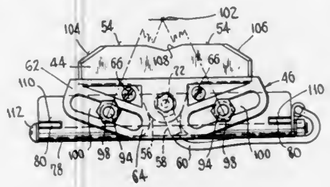
A telephone type rotary dial sufficiently reduced in size so as to easily enable mounting of the dial in the handset of a compact telephone instrument. In order to reduce the outside diameter of the finger wheel the finger holes are spaced around the entire periphery of the finger wheel and the spacing between all adjacent holes is approximately equal. In line with this, the dial includes a movable finger stop and coacting with a pawl-and-ratchet mechanism, a movable pawl stop for respectively providing the necessary interval between pulse trains and for allowing rotation of the finger wheel through an angle greater than 360° when the larger digits are dialed while, at the same time, rotation of the main dial gear during wind-up is prevented.

3,525,822
SWITCHED-ACCESS SYSTEM FOR TESTING CIRCUIT LEGS SUCH AS COMMUNICATION LINES
George A. Barbary, deceased, late of Asbury Park, N.J., by Helen K. Barbary, executrix, Cohasset, Mass., and Frederick M. Burelbach, Cranford, and William F. Frogge, Mahwah, N.J., Edward L. Long, Aiea, Hawaii, and Winnifred Riggen, Eatontown, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Jan. 17, 1968, Ser. No. 698,658
Int. Cl. H04b *3/46*
U.S. Cl. 179—175.3 **29 Claims**



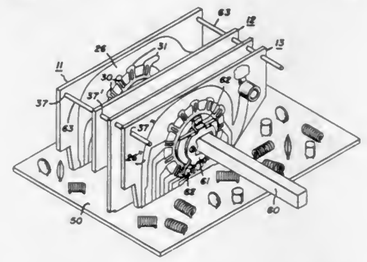
A switched-access testboard for performing standard tests on nonswitched private line circuit legs includes a crossbar switching system for connecting a relatively few test jacks to any selected one of a relatively large number of circuit legs. A number of memory units are utilized, one of which, the class memory, functions to automatically adjust characteristics of the test circuit in accord with characteristics of the selected circuit leg.

3,525,823
ELECTRICAL COLLECTOR FOR CONDUCTOR RAILS
Alleyne C. Howell, Jr., Fairfield, Conn. (% Howell Corporation, 470 Surf Ave., Stratford, Conn. 06497)
Filed May 14, 1968, Ser. No. 728,964
Int. Cl. B61l *5/40*
U.S. Cl. 191—59.1 **7 Claims**



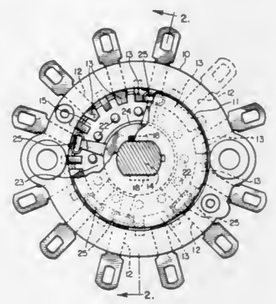
A collector comprising a shoe affixed to a holder which is movably mounted on a spring-urged carrier by means of spaced studs secured to the carrier. The holder has slots loosely receiving the studs, being held captive thereby. The slots are angularly disposed with respect to each other, and are angularly and symmetrically disposed with respect to the contacting edge portion of the shoe, enabling the latter and its holder to have a unique arcuate and also tilting movement by which greatly improved contact is maintained with the conductor rail under adverse conditions.

3,525,824
ISOLATION MEANS FOR A SWITCH TUNER WAFER
Eugene K. Von Fange and Sanjar Ghaem-maghami, Chesapeake, Va., assignors to General Electric Company, a corporation of New York
Filed Mar. 14, 1968, Ser. No. 713,046
Int. Cl. H01h *19/58;* **H05k** *1/16*
U.S. Cl. 200—11 **10 Claims**



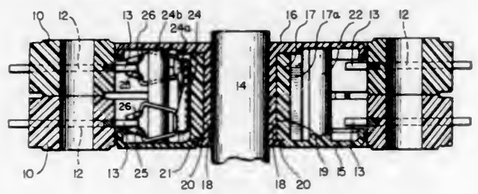
A copper coating overlays a planar dielectric member to form a wafer for a switch tuner. The copper coating forms a plurality of planar conductive elements having characteristic inductances at high frequencies and lying outside but connected to a circular contact area including contact elements comprising silver plate. The contact elements are positioned in a series array and separated by silver plated conductive islands.

3,525,825
ROTOR ASSEMBLY FOR ROTARY ELECTRIC SWITCH
Kenneth C. Allison, Crystal Lake, Ill., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York
Filed May 5, 1969, Ser. No. 821,823
Int. Cl. H01h *19/58*
U.S. Cl. 200—11 **5 Claims**



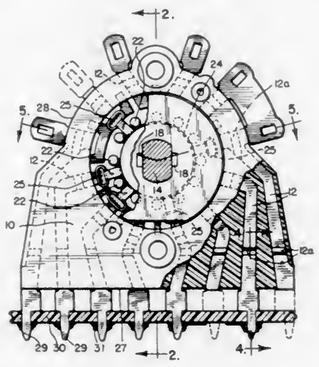
A rotary electric switch having a stator of insulating material provided with a rotor receiving opening into which stator contacts project in a common plane intermediate planes containing opposite faces of the stator bordering said rotor receiving opening, said rotor including a first section and a second section joined by self-contained coupling means at the hub portions thereof to provide a space between said sections for occupancy by said stator contacts and by rotor contacts sequentially engageable with said stator contacts, while said operatively assembled rotor sections are totally confined between said planes containing opposite faces of the stator bordering said rotor receiving opening.

3,525,826
MULTI-SECTION ROTARY SWITCH
Kenneth C. Allison, Crystal Lake, Ill., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York
Filed May 5, 1969, Ser. No. 821,824
Int. Cl. H01h *19/58*
U.S. Cl. 200—11 **11 Claims**



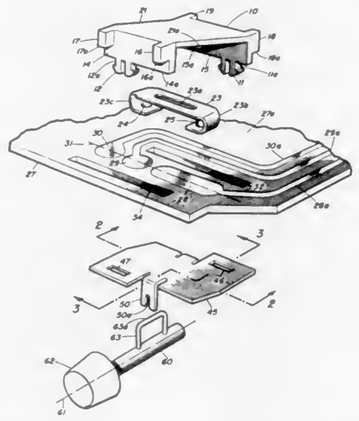
A multi-section rotary switch having a stator unit of insulating material with an opening intersecting opposite faces of the stator unit into which a first series of coplanar stator contacts project in a first plane intermediate said faces of the stator unit and spaced apart circumferentially of said opening and into which a second series of coplanar stator contacts project in a second plane intermediate said faces of the stator unit in spaced parallel relation to said first plane and spaced apart circumferentially of said opening, and a rotor unit having a hub portion with which a shaft has driving connection to establish rotation of said rotor unit about an axis centrally of said opening in the stator unit and perpendicular to the planes common to said stator contacts, said rotor unit being divided axially in radially extending relation to said hub portion to provide a space for occupancy by said first and second series of stator contacts and for occupancy by a rotor contact operable to electrically connect the stator contacts of said first series with the stator contacts of said second series according to the rotated position of said rotor unit, said rotor unit having an axial dimension conforming to the axial dimension of the stator unit.

3,525,827
PRINTED CIRCUIT ROTARY SWITCH
Kenneth C. Allison, Crystal Lake, Ill., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York
Filed May 5, 1969, Ser. No. 831,259
Int. Cl. H01h *19/58*
U.S. Cl. 200—11 **11 Claims**



A printed circuit rotary switch wherein an area of the stator unit bordering a segmental portion of the wall of the rotor receiving opening defines a base section having its outer peripheral wall contained in a first plane perpendicular to a second plane containing the axis of rotation of the rotor and conductor strips embedded in said stator throughout the distance between said rotor receiving opening and the outer peripheral wall of said base section have extensions exposed within the area of the rotor receiving opening to define stator contacts which occupy a common plane intermediate opposite faces of the stator unit bordering said rotor receiving opening and also have extensions projecting from said outer peripheral wall of the base section to define printed circuit lugs which occupy spaced apart positions parallel to the intersection of a plane common to said stator contacts and said second plane containing the axis of rotation of the rotor.

3,525,828
SLIDE SWITCH FOR USE WITH PRINTED CIRCUITS
Philip H. Eckhart and Thomas F. Gosnell, Sr., Baltimore, Md., assignors to The Bendix Corporation, a corporation of Delaware
Filed May 19, 1969, Ser. No. 825,603
Int. Cl. H01h *3/02, 15/04*
U.S. Cl. 200—16 **5 Claims**

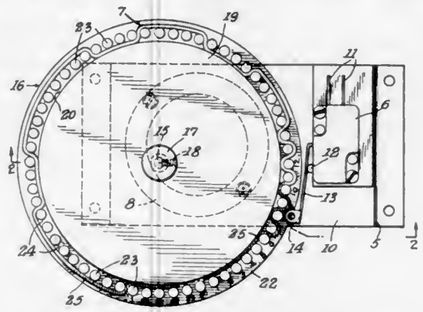


A slide switch integral within printed circuit board which is mounted perpendicular to a control panel includes a slide which carries the switch moving contacts and is constrained to move along the surface of the printed circuit board. The switch moving contacts are urged against the surface of the printed circuit board on which are laid conductive tracks comprising the switch fixed contacts. A shaft having a longitudinal axis parallel to the plane of the printed circuit board is rotatable from the control panel and carries a fixed radial link which engages a fork depending from the switch slide. Rotation of the shaft moves the slide across the surface of the printed circuit board.

3,525,829
CYCLE TIMER
Fredric S. Miller, 15 Mayfair Ave., Wayne, N.J. 07470
Filed Oct. 30, 1968, Ser. No. 771,715
Int. Cl. H01h *43/10*
U.S. Cl. 200—38 **6 Claims**

A continually rotating disc provided with a plurality of pins arranged circumferentially around the center of rotation of the disc, and a flexible strip interwoven around the pins and between the spaces therebetween so that spaced portions of the strip are trained over and

radially outward of the pins and the portions in between are radially inward, the outward strip portions, during rotation of the disc, being adapted to engage and actuate an electric switch which remains unactuated when the



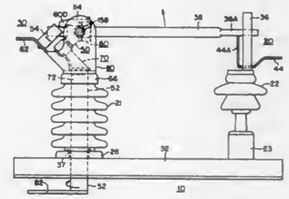
same is engaged with the inbetween pins of the disc. The duration of the periods of switch actuation depending on the regularity of the arrangement of the strip relative to the pins.

3,525,830
LOCK SWITCH DEVICES
Paul Maddison Hawkins, Jericho, N.Y., assignor to General Alarm Corporation, New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 568,546, July 28, 1966. This application Mar. 14, 1967, Ser. No. 623,023
Int. Cl. H01h *9/28;* **G08b** *13/08*
U.S. Cl. 200—44 **17 Claims**

Integrated locks and switches, the locks having sliding bolts which latch into projected position; the switches being arranged to operate when either the lock casing is forced or when a special strike-switch assembly is forced.

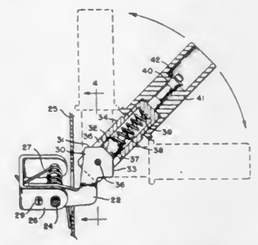
3,525,831
OPERATING MECHANISM FOR ELECTRIC SWITCH
Raymond J. Spisak, East Pittsburgh, and Robert A. Roach, Canonsburg, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 612,121, Jan. 27, 1967. This application July 3, 1968, Ser. No. 747,041
Int. Cl. H01h *31/00*
U.S. Cl. 200—48 **7 Claims**

This invention relates to disconnecting switches and, more particularly, to operating mechanisms for such switches. More specifically, this invention relates to a disconnecting switch construction in which a pair of stationary contacts are spaced from one another along a line which defines a first axis and mounted on only two insulator supports or stacks which are fixedly mounted on a common support base and which are disposed generally perpendicular to the first axis. A switch blade is provided which lies along the first axis and which engages both stationary contacts when the disconnecting switch is closed. To permit opening and closing of the switch, one of the stationary contacts is mounted on a supporting frame which, in turn, is mounted on one of the insulator supports and which rotatably supports a hinge member through which one end of the blade passes and which is rotatable about a second axis which intersects and is perpendicular to the first axis. To actuate the



blade, a connecting link is provided which includes a first portion that is secured to the end of the blade which passes through the hinge member and includes an arm which projects away from the first portion at an angle of 45° with respect to the first axis. To actuate the connecting link, a crank member is provided which is rotatable about a third axis that intersects the first and second axes and which includes a tubular bearing portion that rotatably receives the arm of the connecting link. The crank member, in turn, is secured to an electrically insulating operating rod or shaft which passes through a central opening in the insulator support on which the frame is mounted and includes a crank arm which may be driven by an external means to actuate the blade between open and closed positions.

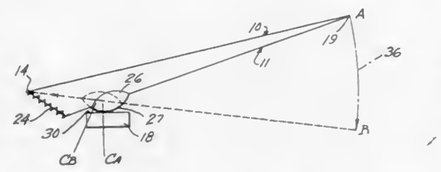
3,525,832
THREE POSITION TIGHT TAPE SWITCH
Richard E. Cragg, Winnetka, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Jan. 26, 1968, Ser. No. 700,834
Int. Cl. B65h *25/02*
U.S. Cl. 200—61.13 **12 Claims**



In a tape handling system of the type including a tape utilization device and means for supplying tape to the tape utilization device along two different, nonparallel paths, a combination tight-tape switch and tape guide is positioned at the intersection of the paths. The combination switch and guide comprises a support; a switch actuating lever pivotally mounted on the support; a switch positioned for actuation by the switch actuating member as a result of pivotal movement thereof on the support;

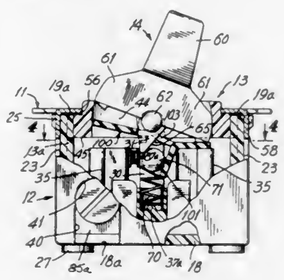
and a tape engaging roller mounted on the switch actuating lever for movement with respect thereto. The roller moves into a first tape sensing position wherein it is positioned for sensing tapes directed along one of the paths, into a second tape sensing position wherein it is positioned both for sensing tapes directed along the other of the paths and for guiding said tapes into said one of the paths for engagement with the tape utilization device and into a third non-tape sensing storage position. A detent mechanism is mounted between the switch actuating member and the tape engaging roller for alternately securing the roller in each of the three positions.

3,525,833
SNAP ACTION SWITCH HAVING LOW ACTUATION FORCE
Paul W. Schaff, Arlington Heights, and Lawrence A. Kolze, Bensenville, Ill., assignors to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed Sept. 19, 1966, Ser. No. 580,369
Int. Cl. H01h *13/36*
U.S. Cl. 200—67 **3 Claims**



A snap action switch having a snap lever fixedly mounted to a pivot and having a free outer end. A snap blade extends from the free outer end inwardly toward the mounting point of the snap lever and the free end of the snap blade is interconnected to the mounting point by means of an overcenter spring. An actuating member is located at the outer end of the snap lever and the contacts are mounted at the inner end of the snap blade between the mounting point of the snap lever and the actuation point thereof. In this way, low actuating force is achieved and a correspondingly high contact force is attained. Also, a shearing action is generated at the surface of the contacts to break in a welds which may have occurred during the contacting action.

3,525,834
QUIET SNAP ACTION ELECTRIC SWITCH
Ronald G. Munroe, Old Bridge, N.J., assignor to Eagle Electric Mfg. Co., Incorporated, Long Island City, N.Y., a corporation of New York
Filed June 6, 1968, Ser. No. 735,148
Int. Cl. H01h *21/40*
U.S. Cl. 200—68 **12 Claims**

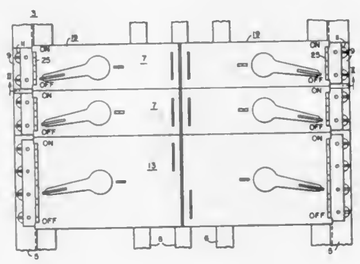


Single contact and double contact switches are disclosed using a ball at the top of a spring for obtaining the snap-action. In the single contact switch, a toggle lever, in one position, spaces the ball from the movable contact, and in another position causes the ball to press the movable contact arm against the stationary contact. These parts are mounted in an open top insulating casing which also contains the contact terminals therewithin. An insulating cover plate received within the open end of the casing, has a pair of downwardly facing half bearing grooves which are located above the top ends of pillars in the casing. The cover plate has a large slot to pass the handle of the toggle lever which has a pair of oppositely extending central, transverse trunnions received in said bearing grooves. A downwardly extending wedge in the toggle lever engages the spring mounted ball. A rubber pad is inserted under the cover plate and overlies a pair of abutment posts in the casing disposed in a plate perpendicular to said pillars and disposed therebetween. The ends of the rubber pad are adapted to be engaged alternately by outwardly extending arms on the toggle lever as the toggle lever is oscillated. Contact of these arms with the rubber pad is silenced because of the resiliency of the rubber pad. The rubber pad has a central hole through which the wedge on the toggle lever projects downwardly. The rubber pad is squeezed between the upper ends of the pillars and the trunnions to frictionally bind the toggle lever and prevent slop and eliminate noise of operation of the lever.

A tongue on the rubber pad projects down from one end of the opening in the pad, to lie between the side of the ball remote from the movable contact arm and the adjacent post to provide a noise reducing abutment for the ball to hit against when it moves away from the movable contact. This tongue is narrow enough to move between the two pillars and into the ball passage, and stops the ball so thtt it has less travel until it hits the movable contact in the "on" position. This reduction of travel reduces some of the momentum from the ball when flipped to the "on" position and further silences the switch.

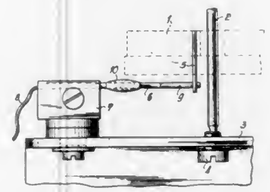
The double contact switch has two movable contacts disposed on opposite sides of the ball and incorporates a similar rubber band to squeeze between the trunnions and the upper ends of the pillars, and to be contacted by the arms of the toggle lever.

3,525,835
ELECTRIC SWITCHGEAR
Alexander R. Norden, New York, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 8, 1965, Ser. No. 462,361
Int. Cl. H01h *3/00*
U.S. Cl. 200—153 **5 Claims**



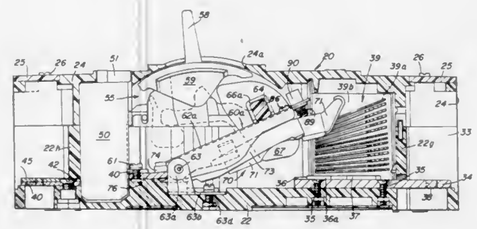
An improved switch device comprises an enclosure and a compactly constructed switch structure supported within the enclosure. The switch structure is constructed and arranged such that the position of the contacts can be readily determined by visual inspection from the front of the enclosure when the enclosure cover is in the open position.

3,525,836
CONTACT DEVICE FOR MINIATURE IMPULSE MOTORS
Wilhelm J. Hanhart, Schwenningen (Neckar), Germany
Filed July 5, 1961, Ser. No. 122,017
Int. Cl. H01h *3/60, 5/20*
U.S. Cl. 200—166 **9 Claims**



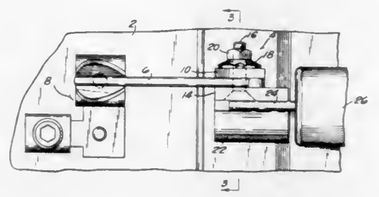
A contact device for miniature impulse oscillating motors. A contact pin is secured to the motor's armature. A contact spring is secured with one end to an insulating clamp mounted in the device's housing. The free end of the contact spring is disposed in the path of travel of the contact pin. The free end of the contact spring is covered with an insulating coating. The coating is so dimensioned, that it makes the contact closing between the contact spring and the contact pin only after a certain angle of deflection of the contact spring is reached.

3,525,837
MOVABLE CONTACT STRUCTURE FOR A MOLDED-CASE ELECTRIC CIRCUIT BREAKER
James H. Leonard, Cedar Rapids, Iowa, assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Nov. 18, 1968, Ser. No. 776,608
Int. Cl. H01h *1/22, 1/34*
U.S. Cl. 200—166 **22 Claims**



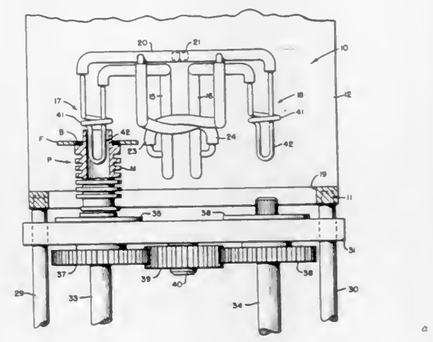
In a first embodiment, a pair of main movable contact arms and an arcing contact arm are electrically and mechanically connected to a terminal plate by a pivoted contact carrier. In a second embodiment, a single movable main contact arm is similarly connected to a terminal plate and carries a pivoted movable arcing contact arm. A U-shaped spring used to provide contact pressure in the second embodiment may be modified to serve also a contact carrier.

3,525,838
COMBINED FUSE CLIP AND SWITCH BLADE MOUNTING ASSEMBLY
James J. Rusenko, Milwaukee, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Dec. 16, 1968, Ser. No. 784,061
Int. Cl. H01h *1/42*
U.S. Cl. 200—166 **5 Claims**



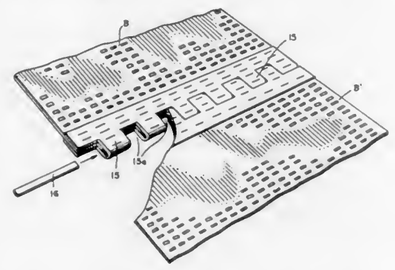
A knife switch blade is pivotally mounted between a first electrically conductive member and the vertical leg of an L-shaped bracket by a headed fastener. A spring washer is disposed about the fastener on the outer side of the bracket to bias the members into good electrically conductive engagement. The horizontal leg of the bracket and a similar leg of a fuse clip are secured to the switch base in stacked relation, the fuse clip further having an upwardly extending leg formed to engage the end of a fuse and bias it against the electrically conductive member.

3,525,839
INDUCTION HEATING DEVICE
Thomas G. Eannarino, Park Ridge, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Aug. 21, 1968, Ser. No. 754,438
Int. Cl. H05b *5/00, 9/02*
U.S. Cl. 219—10.49 **14 Claims**



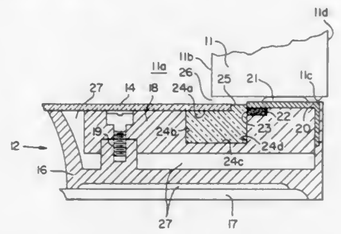
An induction heating device has a pair of tubular heating coils which define first and second heating stations. The coils are electrically connected in series and have a common inlet and a common outlet for a coolant. A tube electrically connecting the downstream end of the first coil with the upstream end of the second coil is blocked for separating coolant flow through said coils. A first duct connects the downstream ends of both coils and another duct connects the upstream ends of both coils for providing parallel coolant flow paths through said coils.

3,525,840
TAKE-APART BELT FOR MICROWAVE OVEN
George H. Dremann, Berkeley, Calif., assignor to Cryodry Corporation, San Ramon, Calif., a corporation of California
Filed Nov. 13, 1967, Ser. No. 682,211
Int. Cl. H05p *9/06, 5/00*
U.S. Cl. 219—10.55 **4 Claims**



A microwave oven is provided with a take-apart belt having leading and trailing endes united by loops of low dielectric loss material in interlocking relation and held together by a pin of low dielectric loss material, the belt, belt joint and lacing being free of metallic parts.

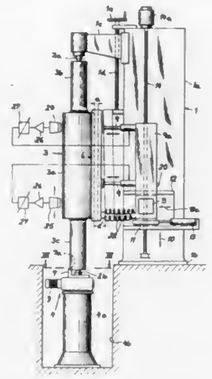
3,525,841
DOOR SEAL FOR MICROWAVE OVENS
Duane B. Haagensen, Edina, and Samuel G. Sweet, Hopkins, Minn., assignors to Litton Precision Products, Inc., Minneapolis, Minn., a corporation of Delaware
Filed Nov. 4, 1968, Ser. No. 772,982
Int. Cl. H05b *9/06*
U.S. Cl. 219—10.55 **8 Claims**



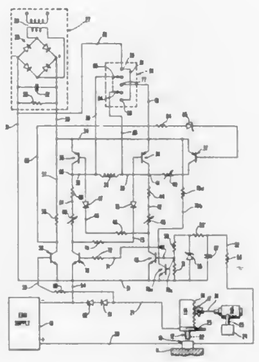
An improved door seal for microwave ovens wherein a plurality of spacers provides a port of entry for electromagnetic wave energy to enter a combination of an attenuating cavity and an absorption cavity which together provide a volumetric resonant cavity that presents high impedance to electromagnetic wave energy within the attenuating cavity and a terminating impedance to electromagnetic wave energy within the absorption cavity.

3,525,842
APPARATUS FOR THE HEAT-TREATMENT OF ROUND BODIES
Fritz Steinhoff, Sudturmweg 3, Bucholtwelmen, Germany, and Karl Steinhoff, Voerderstr. 121, Dinslaken, Germany
Filed Sept. 19, 1968, Ser. No. 760,915
Claims priority, application Germany, Sept. 23, 1967, 1,583,413
Int. Cl. H05b *5/00, 9/02*
U.S. Cl. 219—10.57 **9 Claims**

Apparatus for the hardening heat-treatment of rollers wherein the roller body is held at opposite ends rotatably in an upright position adjacent a support. At least one induction heating unit is mounted on this support and extends longitudinally along the roller while confronting only a limited segment of its periphery. The induction heating unit has longitudinally offset portions adapted to be spaced at different distances from said body by respective positioning servomotors interposed between each of the portions and the support.

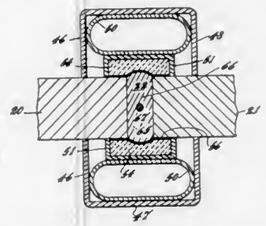


3,525,843
ELECTRICAL DISCHARGE MACHINING APPARATUS HAVING ELECTRODE FEEDRATE CONTROLLED BY GAP WIDTH
Russell F. Batterson, Fort Thomas, Ky., assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 26, 1967, Ser. No. 693,458
Int. Cl. B23p *1/14*
U.S. Cl. 219—69 **10 Claims**



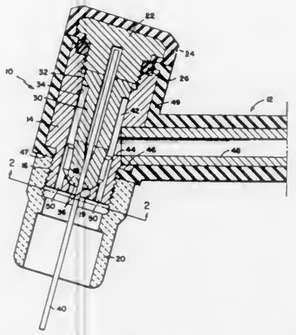
A control system includes first means responsive to a voltage exceeding a predetermined minimum value between a workpiece and a tool electrode of an electrical discharge machining apparatus and second means responsive to current flowing between the workpiece and the tool electrode. Activation of the first means causes the tool electrode to be fed toward the workpiece at a first feedrate. When the second means is activated and the voltage exceeds the predetermined minimum value whereby machining of the material is occurring due to spark discharges, the first feedrate is reduced. Furthermore, whenever there is a short circuit between the workpiece and the tool electrode, the tool electrode is moved away from the workpiece at a selected feedrate. The control system includes means to change each of the feedrates.

3,525,844
ELECTRIC WELDING BACKING
Wallace C. Johnson, St. Davids, Pa., assignor to Arcos Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 22, 1968, Ser. No. 715,418
Int. Cl. B23k *9/18, 25/00*
U.S. Cl. 219—73 **18 Claims**



The disclosure relates to a backing to retain a molten pool in electric welding using iron, nickel, chromium or cobalt base alloys or alloys whose base is any combination thereof, the backing being made of a ceramic preform which has a fluxing coating which will form a parting layer from the weld, made of manganous oxide, ferric oxide, or a mixture of zirconium silicate and wollastonite. Metallic particles will optionally be employed in the weld groove.

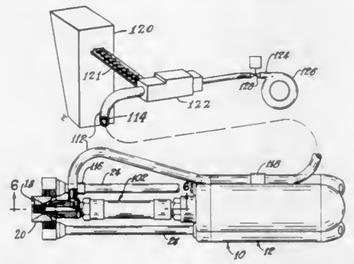
3,525,845
WELDING TORCH
John M. Sipos, Easton, Pa., assignor to Air Products and Chemicals, Inc., Allentown, Pa., a corporation of Delaware
Filed Feb. 18, 1969, Ser. No. 800,084
Int. Cl. B23k *9/16, 9/24, 35/38*
U.S. Cl. 219—75 **3 Claims**



A welding torch of the tungsten electrode and inert gas type having flow passages for the shielding gas which cause the gas to flow from the torch body to an annular chamber around the electrode holding collet in the torch head and from this chamber through a plurality of circumferentially spaced passages formed in a barrel member containing the collet whereby the gases are discharged into the nozzle of the torch head at locations surrounding the electrode.

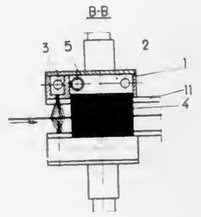
3,525,846
STUD WELDING TOOL AND STUD LOADING DEVICE THEREFOR
Steve Spisak, Elyria, Ohio, assignor, by mesne assignments, to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Apr. 10, 1964, Ser. No. 358,736
Int. Cl. B23k *11/04*
U.S. Cl. 219—98 **15 Claims**

1. In a stud welding tool for welding a stud to a workpiece by a drawn arc, end welding technique, said tool comprising a chuck including jaw means for holding a stud, a chuck leg connected with said chuck, means for retracting said chuck and said chuck leg together as a unit, means for supplying welding current to the stud through said chuck after movement of the stud to the retracted position, and means for plunging said chuck and said chuck leg as a unit toward the workpiece after movement of the stud to the retracted position, loading apparatus for loading studs in said chuck comprising a loading passage extending rearwardly through the chuck



from the jaw means, a stud inlet communicating with said passage for directing studs thereinto, a loading plunger extending into said passage and having a retracted position to the rear of said inlet and a forward position near said jaw means for supporting a stud partly protruding from said chuck during a welding operation, an air cylinder formed in said chuck leg and movable therewith, and a drive piston carried by said chuck leg in said air cylinder and movable with said chuck leg for moving said plunger between the forward and retracted positions.

3,525,847
BRUSH ELECTRODE
Jozef Dudek, Jan Goczal, Jan Golek, Leslaw Kus, and Kazimierz Markiewicz, Gliwice, Poland, assignors to Instytut Metalurgii Zeleza Im. Stanislawa Staszica, Gliwice, Poland, a corporation of Poland
Filed Dec. 20, 1967, Ser. No. 692,173
Claims priority, application Poland, Dec. 28, 1966, P 118,194
Int. Cl. C21d *9/62;* **H05b** *1/00*
U.S. Cl. 219—119 **2 Claims**

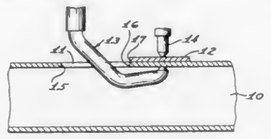


Flat brush electrode for direct heating the metal strips, provided with two chambers arranged inside a body, through which the coolant flows, in order to endow the strip with desired strength properties.

3,525,848
WEAR RESISTANT DEVICE FOR UTILIZATION IN A WELDING OPERATION AND A METHOD OF MAKING THE SAME
Leonard J. Bugaj, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 23, 1968, Ser. No. 769,785
Int. Cl. B23k *9/24*
U.S. Cl. 219—119 **4 Claims**

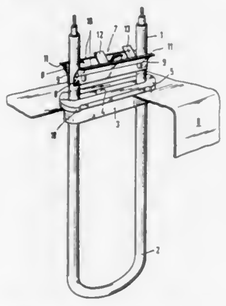
A wear resistant device for utilization in a welding operation comprises a metallic member, a layer of non-

conductive material on the outer surface of the metallic member, a thin conductive layer on the layer of nonconductive material, and a layer of electrodeposited mate-



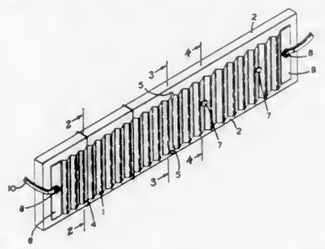
rial on the thin layer of conductive material. The electrodeposited layer is formed of a material which is highly resistant to scratching and marring when engaged by sharp edges of metal articles.

3,525,849
HEATING INSERTS
Richard Bleckmann, Imbergstrasse 24, Salzburg, Austria
Filed Dec. 19, 1968, Ser. No. 785,125
Claims priority, application Austria, Dec. 28, 1967, 11,716/67
Int. Cl. H05b *3/80*
U.S. Cl. 219—318 **20 Claims**



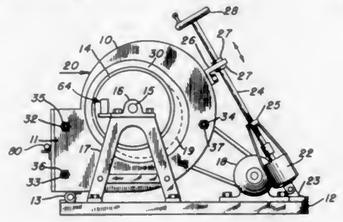
An improved electric appliance with a liquid tank, e.g., a washing machine, wherein the liquid can be heated by an electric heating insert. The heating insert has a sealing member of an elastic material, fitted over the legs of a tubular heating element, which may be U-shaped. Within the sealing element, there is a blind recess, containing plate-shaped parts arranged on both sides of the legs of the heating element and adapted to be spread apart so that the sealing element is pressed against the surrounding walls of the opening of the tank.

3,525,850
HIGH OUTPUT, QUICK RESPONSE, RADIANT HEATER
Nathaniel E. Hager, Jr., Lancaster, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Mar. 15, 1968, Ser. No. 713,509
Int. Cl. H05b *3/26*
U.S. Cl. 219—357 **5 Claims**



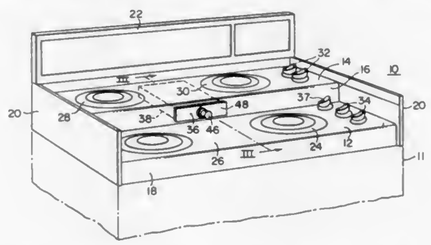
A high intensity, quick response, electrical resistance, foil radiant heater is described having a heating element in the form of a corrugated metallic foil ribbon adapted to be heated by electricity to a temperature in the range of about 1200°–1800° F. The heating element is backed by a thermally insulating backing preferably of a ceramic material, the backing having a thermal conductivity at 1500° F. in the range of about 0.07–0.15 B.t.u./hr.-ft.-° F. The backing may be made of an assemblage of blocks or rectangles to minimize warping or fracturing at the high temperatures of operation of the heater. Metallic mounting means are provided in the nature of heat resistant wires, nails, or pins which hold the heating element to the backing. These mounting means support the heating element and extend from the heating element to the back or reverse side of the backing. The mounting means are adapted to convey heat from the heating element to the back of the backing, and lose heat there.

3,525,851
ELECTRIC-CYCLONIC HOT AIR FURNACE
Richard W. Seabury, Jr., Old Lane, N.J., assignor to RFL Industries, Inc., Boonton, N.J., a corporation of New Jersey
Filed Dec. 28, 1967, Ser. No. 694,270
Int. Cl. F24h *3/02;* **H05b** *1/02*
U.S. Cl. 219—370 **9 Claims**



A stack of spaced heat transfer members is disposed within the annular housing of a centrifugal blower having an elongated axial inlet opening and a tangential outlet opening. The heat transfer members have peripheral contours corresponding to the inside contour of the housing and each member carries electrical resistance elements connectable to a source of voltage. A squirrel cage rotor, aligned with the housing inlet opening, extends through aligned, elongated openings formed in the heat transfer members and the housing is mounted for adjustment relative to the rotor, thereby to control recirculation of the cyclonic air stream in the housing.

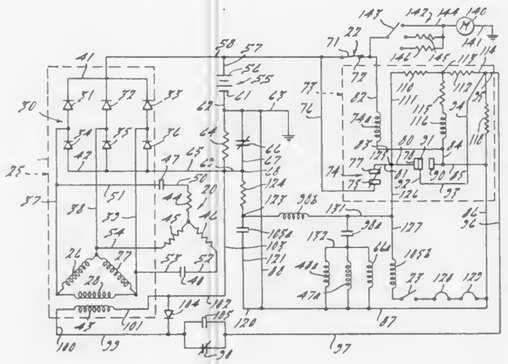
3,525,852
BI-LEVEL COOKING PLATFORM
Edmund H. Filipak, Lexington, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 22, 1968, Ser. No. 731,247
Int. Cl. H05b *3/68*
U.S. Cl. 219—444 **6 Claims**



Domestic electric cooking platform having bi-level surface heating units in which the space located between

the two levels contains an auxiliary heating device which may be extended from this space to an operating position over the lower level.

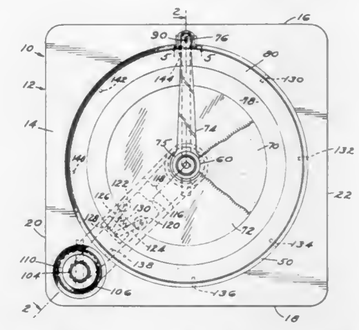
3,525,853
AUTOMOTIVE ELECTRIC QUICK HEAT SYSTEM
Ole K. Nilssen, Bensenville, Ill., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Aug. 16, 1968, Ser. No. 753,173
Int. Cl. H05b *1/02*
U.S. Cl. 219—482 **15 Claims**



An automotive quick heat system in which an electrical heater means is in communication with the passenger compartment of the vehicle and is capable of being energized from the alternating current output windings of the alternator. Means are employed for substantially increasing the alternating current output from these windings when the electrical heater means is connected to them over their output when the alternator is operated in its normal regulated mode. The alternator output windings are coupled to a rectifier to supply direct current to the electrical storage battery of the vehicle and to the other direct current operated loads normally employed in an automotive vehicle. Means are employed in the above described system for reducing or eliminating transients that may be developed when the electrical heater means is disconnected from the alternating current output windings and the alternator is switched into its regulated mode of operation. This means permits the alternator output to decay to a value approximately equal to the regulated voltage level of the alternator, when it is under the control of a voltage regulator or limiter, prior to the time that the alternator is returned to its regulated mode of operation and the heater means is decoupled from the alternator output windings.

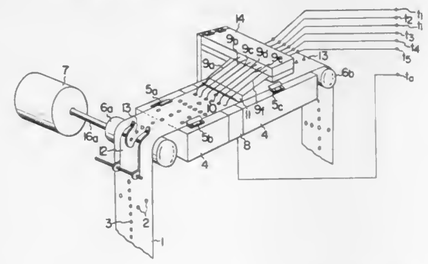
3,525,854
APPARATUS FOR DECODING RECORDED DATA
Roy D. Brousseau, 11313 Charest, Detroit, Mich. 48212, and Carl W. Kogstrom, Detroit, Mich.; said Kogstrom assignor to said Brousseau
Filed Aug. 8, 1966, Ser. No. 570,918
Int. Cl. G06g *1/08*
U.S. Cl. 235—61.6 **8 Claims**

A manually operated chart decoding apparatus comprising a rotary chart table adapted to receive and clamp the recorded disc of chart paper thereon, and a concentric, independently rotatable scale table which carries one or more scale rings, combined with a driving mechanism whereby both turntables are rotatable in one direction to line up a radial index hairline with successive dots so that the time span can be read and noted on a standard time study form. The scale table can be rotated in the opposite direction without moving the chart table to thereby



return the scale ring to zero after each reading to thus facilitate direct reading of the normalized time for each element.

3,525,855
APPARATUS FOR READING OUT INFORMATION PUNCHED INTO TAPES OR CARDS
Nobuhiro Azuma, Tokyo-to, Japan, assignor to Kokusai Denshin Denwa Kabushiki Kaisha, Tokyo-to, Japan
Filed Feb. 7, 1966, Ser. No. 525,415
Claims priority, application Japan, Feb. 8, 1965, 40/6,693
Int. Cl. G06k *7/00;* **G11b** *23/00*
U.S. Cl. 235—61.11 **1 Claim**

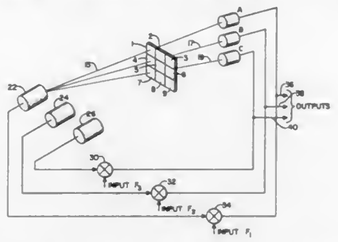


Apparatus for reading out information punched into a tape or card transported along a guide path passing between a common contactor and a plurality of row contacts, where the common contactor is a slightly resilient pad of carbon fibers and has a flat surface to uniformly contact the contact surface of the tape or card so that the information punched is reliably read out through contact circuits formed by the common contact and the row contacts, since the vibration energy of each of the arms of the row contacts is absorbed by the slight resiliency of the common contactor and a number of carbon fibers raised on the common contactor contact stably with the row contacts at each of the perforations punched on the tape or card.

3,525,856
CONTROL APPARATUS
Peter Mengert, Somerville, and Taffee T. Tanimoto, Newton, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Oct. 6, 1966, Ser. No. 584,783
Int. Cl. G02b *27/00;* **G06g** *9/00*
U.S. Cl. 235—150 **7 Claims**

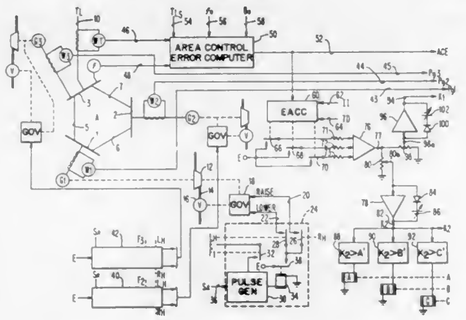
An optical computer in which a matrix of elements represented by a group of transparencies of different transmissivity transmits light from three sources representa-

tive of the elements of a vector. The amount of light which emerges is representative of the resultant vector



and this value is fed back to the three sources to complete the mathematical balance of the system.

3,525,857
LOAD-FREQUENCY CONTROL SYSTEM WITHOUT PROPORTIONAL WINDUP
Frederick B. Davis III, Drexel Hill, and Charles W. Ross, Hatboro, Pa., assignors to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 14, 1968, Ser. No. 713,124
Int. Cl. H02j *3/04*
U.S. Cl. 235—151.21 **5 Claims**

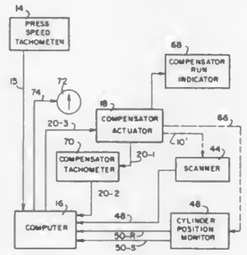


This load-frequency control system utilizes the area control error signal to indicate the amount of generation change necessary and to provide a plurality of adaptive signals when the area control error signal exceeds a predetermined value for a predetermined period of time. One of the adaptive signals modifies the area control error signal as it is utilized in the determination of a control signal for establishing the sense and magnitude of the changes to be made in the generation of the area under control while the other adaptive signal modifies the rate at which the generation change is made at each of the units as well as the number of units which participate in the control of generation.

Separate output pulses are provided for modifying the generation of the individual units. These pulses are provided at a rate and duration which relates to the desired change in generation and are in sense corresponding with the control signal. The desired change in generation is computed from the area control error signal, signals representative of the actual generation being produced and signals representative of the desired generation as long as the sign of the area control error signal corresponds with the sign of the control signal. On the other hand, the computation is made by substituting the control signal for the area control error signal when the signs of those signals are not the same.

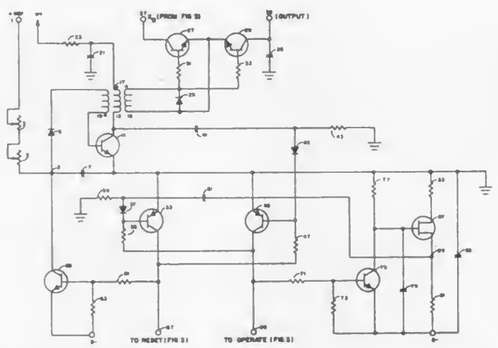
The control incorporates feedforward signals representing predictable changes in generation. These feedforward signals modify the control of the generation to anticipate the changes.

3,525,858
WEB REGISTER CONTROL APPARATUS RESPONSIVE TO WEB SPEED AND REGISTER ERROR
Paul W. Thiede and Charles H. Angell, Danville, Ill., assignors to Hurletron Incorporated, Danville, Ill., a corporation of Delaware
Filed May 9, 1967, Ser. No. 637,263
Int. Cl. G06g *7/12;* **B65h** *23/18*
U.S. Cl. 235—151.22 **17 Claims**



Apparatus having means for monitoring the registration of patterns sequentially applied to a continuously moving web subject to speed variation and for applying registration error indicative signals to a computer for regulation of the speed of web register correction provided by a registration compensator. The computer receives, via tachometers, the web speed and the speed of the compensator, multiplies these parameters together, preferably through a non-linear potentiometer, and applies the product to a differential amplifier having as its other input the registration error signals, such that the resultant output from the differential amplifier, which is fed back to the registration compensator, is the mathematic product of web speed and register error.

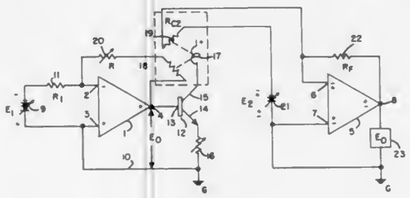
3,525,859
AUTOMATIC OPERATE-RESET CONTROL FOR ANALOG COMPUTER ELEMENTS
James R. Patmore, Neptune, N.J., assignor to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey
Filed Mar. 20, 1968, Ser. No. 721,130
Int. Cl. G06g *7/12*
U.S. Cl. 235—183 **2 Claims**



The specification discloses a method and apparatus for providing readout of the output of an analog computer element which enables the use of unstabilized amplifiers as the computing element including the sampling and

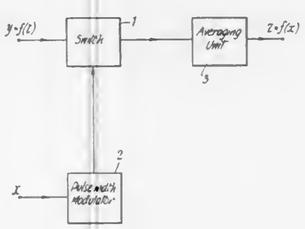
storage of the output of a particular computer element, and the continual switching of that computer element between its operate and reset modes; the sample being taken just prior to switching from operate to reset.

3,525,860
ANALOG MULTIPLYING/DIVIDING DEVICES USING PHOTOCONDUCTIVE MEANS
Alfred W. Barber, 50—16 232nd St., Bayside, N.Y. 11364
Continuation-in-part of application Ser. No. 548,683, May 9, 1966. This application Dec. 2, 1966, Ser. No. 598,738
Int. Cl. G06g *7/16, 9/00*
U.S. Cl. 235—195 **10 Claims**



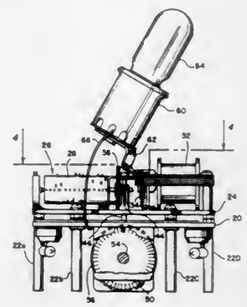
An operational amplifier is programmed by an input voltage and in turn drives an electro-luminescent device coupled to its output. Photo-conductive means optically coupled to the electro-luminescent device provides a programmed feedback resistance. Two to four additional operational amplifiers are used, of which one or more are connected to additional photo-conductive means optically coupled to the electro-luminescent device to perform various mathematical computations. Combinations are shown which multiply or divide in all four quadrants.

3,525,861
FUNCTION GENERATOR WITH PULSE-WIDTH MODULATOR FOR CONTROLLING A GATE IN ACCORDANCE WITH A TIME-VARYING FUNCTION
Alfred J. Alexander, London, England, asisgnor to Elliott Brothers (London) Limited, London, England, a company of Great Britain
Filed Jan. 22, 1968, Ser. No. 699,439
Claims priority, application Great Britain, Jan. 20, 1967, 3,201/67
Int. Cl. G06f *15/34*
U.S. Cl. 235—197 **11 Claims**



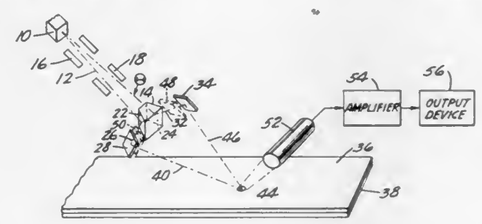
The following disclosure concerns a function generator operable to generate an electrical output signal as a function of one parameter which function is predetermined by a second parameter which is repetitively varying; according to the invention such a generator is provided by gate means operable to pass an input signal representing said second parameter for one or more intervals of time which are phase related to the input signal and determined by the one parameter. In a preferred form the gate means are controlled by a pulse-width modulator responsive to said one paramter.

3,525,862
CHILD'S NIGHTLIGHT AND MUSIC BOX
Glester S. Carter, Boulder, Colo., and Charles B. Case, 980 Marion St., Denver, Colo. 80218; said Carter assignor to said Case
Filed Aug. 10, 1967, Ser. No. 659,788
Int. Cl. F21v *33/00;* **H05b** *39/04*
U.S. Cl. 240—2 **3 Claims**



A child's nightlight and music box combination includes an electric motor for operating the music box and provides a timer for a rheostat which gradually dims the light to complete shutoff and then shortly thereafter to stop the motor and the music. The system in one form includes a solid state circuit for keeping the motor at full r.p.m. or gradually reducing the current to the lamp.

3,525,863
DIFFERENTIAL EMISSION X-RAY GAUGING APPARATUS AND METHOD USING TWO MONOCHROMATIC X-RAY BEAMS OF BALANCED INTENSITY
Nikiforos Constantine, St. Paul, Minn., and Robert C. Hill, Santa Clara, Calif., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Dec. 28, 1967, Ser. No. 694,238
Int. Cl. G01n *23/22*
U.S. Cl. 250—51.5 **22 Claims**



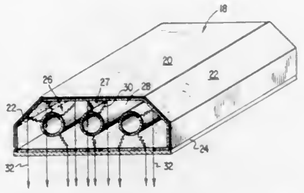
A differential emission X-ray gauging apparatus and method are shown wherein a dual X-ray beam source produces a first monochromatic X-ray beam having a wavelength which is slightly greater than the absorption edge of a selected element and a second monochromatic X-ray beam having a wavelength which is slightly less than the absorption edge of a selected element. Each of the X-ray beams is directed, for different periods, along a A detecting means positioned adjacent to and on the same localized area on a target containing the selected element.

A detecting means positioned adjacent to and on the same side of the target receives flourescent characteristic radiation from the selected element, fluorescent characteristic radiation from other elements in the target and backscattered radiation and produces a modulated output signal derived from the difference in radiation, which output signal represents concentration of the selected element on the target.

3,525,864
LIGHTING MEANS EXCITED BY ULTRA-VIOLET RADIATION

Sam L. Leach, Palos Verdes Peninsula, Calif., assignor to F. C. Griblin, Toronto, Ontario, Canada

Filed June 18, 1968, Ser. No. 738,018
Int. Cl. H01j *1/54*
U.S. Cl. 250—71 12 Claims

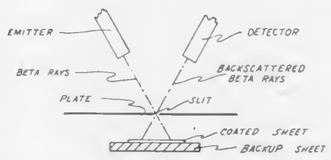


A novel concept in lighting, particularly in fluorescent lighting, is disclosed. The subject invention contemplates the provision of a fluorescent lighting means wherein the luminescent material is removed from its normal position on the inner surface of a gas-discharge tube, and is placed instead at an external, physically displaced location, such as on the surface of the actual lighting housing, for example. In accordance with the subject invention, the luminescent material itself is constructed in a novel fashion in the form of a thin-film sheet or web in which inorganic solid phosphors are suspended in the medium of an organically activated polymer carrier or film. Adhesive means are coated on one surface of the thin-film luminescent web or sheet such that the web or sheet will adhere to and can be placed on virtually any surface which would be subjected to ultra-violet radiation, thus converting the entire surface into a source of light. Lighting efficiency is accordingly greatly improved over prior art constructions and the versatility of lighting shapes is virtually unlimited, since the construction of the gas discharge tube no longer dictates the dimensions of the light producing area.

3,525,865
QUANTITATIVE METHOD FOR DETERMINING THE WEIGHT PER UNIT AREA OF COATINGS APPLIED TO PAPERS

Wyman C. Rutledge, Chillicothe, Ohio, assignor to The Mead Corporation, Dayton, Ohio, a corporation of Ohio

Filed Mar. 23, 1966, Ser. No. 536,893
Int. Cl. G01n *23/02;* G01t *1/17*
U.S. Cl. 250—83.3 4 Claims

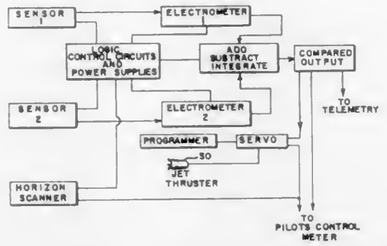


The present invention relates to a method of quantitatively measuring the weights of paper coatings by use of the "backscattering" effect of beta rays directed onto the coating applied on a cellulose base and under which is placed a backing sheet of infinite thickness. The difference between the count rate of backscattered beta rays for coated and uncoated paper of the same composition represents a measure of the weight of coating on the coated paper, when compared with calibration curves for each formulation of coating material.

3,525,866
ATTITUDE SENSING UTILIZING ENVIRONMENTAL POSITIVE IONS

Rita C. Sagalyn, 41 Peacock Farm Road, and Michael Smiddy, 144 Concord Ave., both of Lexington, Mass. 02173

Filed Feb. 26, 1968, Ser. No. 708,056
Int. Cl. G01t *1/16*
U.S. Cl. 250—83.3 12 Claims

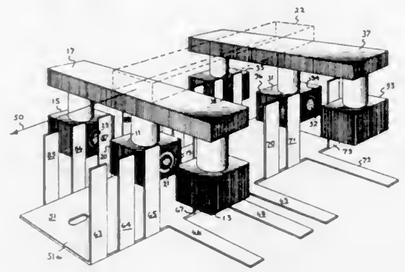


An attitude sensing system utilizing the properties of ambient positive ions by combining the outputs of two flat, planar electrostatic analyzers or probes with a sensor configuration mounted symmetrically at a predetermined angle about the appropriate axis directly to provide angles of pitch and yaw.

3,525,867
DESTINATION DESIGNATOR SYSTEM FOR MATERIAL HANDLING APPARATUS

Charles E. Konrad, Roanoke, Va., assignor to General Electric Company, a corporation of New York

Filed July 16, 1968, Ser. No. 745,289
Int. Cl. B65g *47/00;* G06m *1/272*
U.S. Cl. 250—209 5 Claims

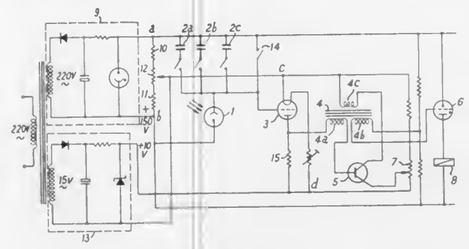


Apparatus for preselecting or identifying a storage location among a plurality of linearly accessible storage positions in a storage complex for the purpose of loading or unloading materials from storage including at each location an open channel member capable of being encoded via pre-cut projections or tabs defining the sides of the channel when coded, the uncoded tabs being retained in the plane of the channel base, or severed therefrom, and the tabs forming one side of the channel providing a timing means for a scanning transducer receiving its data from the coded tabs forming the other side of the channel, the transducer being a composite structure straddling both sides of the channel and having a photocell on the outside of each side of the channel and a common light source inside the channel scanning the aforesaid coded tabs of each side thereby interrupting the light source, and the transducer being carried by a vehicle transporting storage material.

3,525,868
EXPOSURE CONTROLLER HAVING PLURALITY OF CAPACITORS

Gottfried Konig, Dresden, Germany, assignor to VEB Pentacon Dresden Kamera- und Kinowerke, Dresden, Germany

Filed Dec. 27, 1966, Ser. No. 605,061
Int. Cl. H01j *39/12*
U.S. Cl. 250—214 5 Claims

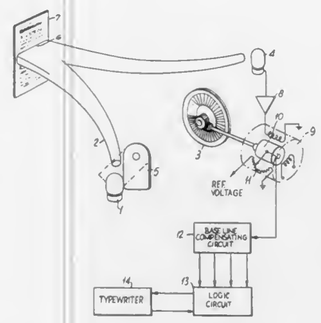


The photographic printing apparatus has a photo electric cell which may be connected to any one of a series of time constant capacitors so that the voltage function appearing across the selected capacitor is applied to an amplifier. The amplified signal is fed to a threshold switch which operates a relay controlling the printing apparatus lamp. In this manner the length of exposure is determined according to the level of illumination of the photographic paper being exposed.

3,525,869
AUTOMATIC BACKGROUND LEVEL COMPENSATION

Roland Werner Gubisch, Lexington, Mass., assignor to National Research Development Corporation, London, England, a corporation of Great Britain

Filed July 26, 1968, Ser. No. 747,995
Claims priority, application Great Britain, July 31, 1967, 35,130/67
Int. Cl. G01n *21/30, 21/06;* H01j *39/12*
U.S. Cl. 250—214 6 Claims

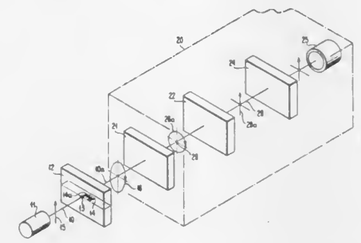


There is described an apparatus for analysing a signal consisting of excursions from a nominally constant background level, in which the occurrence of an excursion from the background level of the signal is detected by sensing a change greater than a given level, in a differential co-efficient of a function representing the signal, and the actual background level of the signal is measured at the commencement of each excursion in the signal from the nominal background level, and used to derive a true reference level for the measurement of that excursion in the signal.

3,525,870
MAGNETIC MEMORY HAVING POLARIZED STATE DETECTOR

Ronald E. MacDonald, San Jose, and Charles Denis Mee, Los Gatos, Calif., and Otto Voegeli, West Lafayette, Ind., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Nov. 9, 1967, Ser. No. 681,671
Int. Cl. G06k *7/10*
U.S. Cl. 250—219 7 Claims

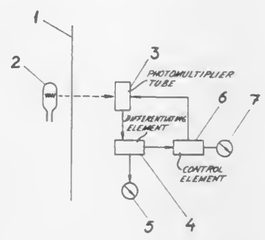


A detector for sensing the change in the state of a light beam caused by passage through a magneto optical memory element having discrete areas magnetized indicative of data desired to be stored.

3,525,871
METHOD AND DEVICE FOR DETERMINING NON-UNIFORM PAPER FORMATION

Antti Lehtinen, Jyvaskyla, Finland, assignor to Valmet Oy, Helsinki, Finland, a corporation of Finland

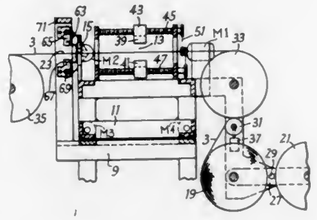
Filed Feb. 15, 1968, Ser. No. 705,683
Claims priority, application Finland, Oct. 31, 1967, 2,932/67
Int. Cl. G01n *21/30;* H01j *39/12*
U.S. Cl. 250—219 3 Claims



A method and a device used for measuring non-uniformity of paper formation are independent of the opacity of the paper. The measurements are carried out by passing a light beam through a moving paper web and causing the beam to strike a photomultiplier tube connected with a differentiating element dividing the anode voltage produced in the photomultiplier tube into a D.C. component and an A.C. component. The D.C. component is transmitted to a control element which so regulates by feedback the anode voltage of the multiplier

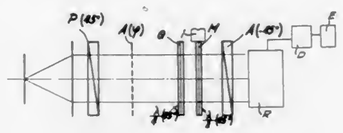
tube that the D.C. component remains constant. Then an instrument measuring the A.C. component will measure directly the paper formation.

3,525,872
RADIATION SENSITIVE CONTROL MEANS FOR A MOVING SHEET HAVING REGISTRATION MARKS
Jack M. Schneider, Purley, England, assignor to Calmec Extruform Limited, Redhill, Surrey, England
Filed Nov. 4, 1968, Ser. No. 773,160
Claims priority, application Great Britain, Nov. 3, 1967, 50,034/67
Int. Cl. B41f *1/10;* **G01n** *21/30*
U.S. Cl. 250—219 **20 Claims**



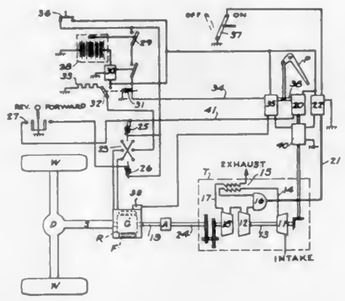
Control means for an apparatus for carrying out a printing or article-forming operation on each section of material driven along a predetermined path. A first lengthwise detector of the control means detects the arrival of a register mark on the material at a location in the path in advance of operating means of the apparatus and generates a first control signal which actuates the operating means. A second lengthwise detector, disposed near to the operating means, determines the position on the material at which the operation is effected by the operating means and, if this is not in register with a section, generates a second control signal for moving the position of the first lengthwise detector accordingly. Lateral and skew detectors are also provided.

3,525,873
VIBRATING SLIT PHOTOELECTRIC LOCATION DEVICE
Georges Nomarski, Bourg la Reine, and Gerard Roblin, Ivry-sur-Seine, France, assignors to Etablissement Public: Centre National de la Recherche Scientifique, Anatole, France, a corporation of France
Filed July 5, 1966, Ser. No. 562,724
Claims priority, application France, July 5, 1965, 23,497
Int. Cl. B41f *1/10;* **G01h** *21/30*
U.S. Cl. 250—235 **6 Claims**



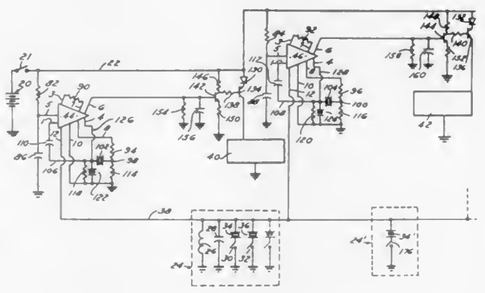
A periodic electric voltage is applied to a piezo-electric element on which is mounted a light control element, i.e. a slit or polarizer, which vibrates with the piezo-electric element. A surface with a discontinuity to be located is positioned on one side of the vibrating element. A photoelectric cell is positioned on the other side of the vibrating element. By comparing cell produced energy for each positive and negative movement of the slit, the discontinuity on the surface is precisely located.

3,525,874
TURBINE AND ELECTRIC POWERED VEHICLE
William W. Toy, Bloomfield Hills, Mich., assignor of fifty percent to Lewis G. Harmon, Birmingham, Mich.
Filed Apr. 22, 1968, Ser. No. 722,962
Int. Cl. B60l *11/12*
U.S. Cl. 290—14 **4 Claims**



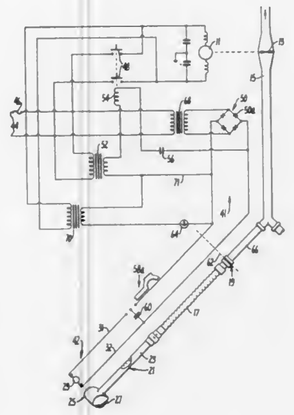
A combined turbine and electric drive for a vehicle which includes a turbine engine, a clutch driven by the turbine engine, and a motor-generator connected to the clutch and the vehicle wheels. The vehicle is driven by the turbine engine or is driven electrically by the motor-generator in the motor mode or by both.

3,525,875
SINGLE WIRE CONTROL SYSTEM
Joseph F. Ziomek, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Sept. 9, 1968, Ser. No. 758,362
Int. Cl. B60k *1/12*
U.S. Cl. 307—10 **16 Claims**



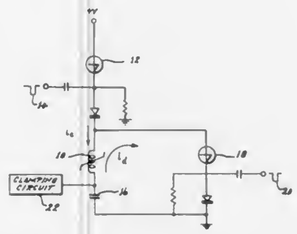
Integrated circuit amplifiers have their outputs connected to switches applying or interrupting electric power to a vehicle accessory. A feedback circuit connects the output of each amplifier to the base of the amplifier input transistor and each amplifier is preset to oscillate at some predetermined individual frequency. An output terminal of each input transistor is connected to a single wire that is connected to ground through a control module containing individual crystals capable of oscillating at the frequency of each corresponding amplifier oscillator. Switching one of the crystals in the control module into the circuit begins ocsillation of the oscillator having the corresponding frequency and the output of the oscillator actuates the appropriate switch.

3,525,876
ELECTRIC VACUUM CLEANING AND CLEANING TOOL CONTROL SYSTEM
John J. Breslin, Los Altos Hills, Calif., assignor to Beamco, Inc., Mountain View, Calif., a corporation of California
Filed Jan. 21, 1969, Ser. No. 792,497
Int. Cl. H02j *3/02*
U.S. Cl. 307—22 **7 Claims**



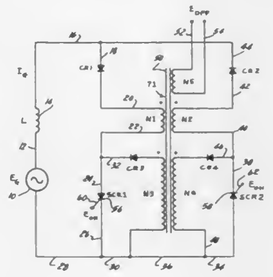
An electrical network for the selective energization of two devices, one responsive to alternating current, the other responsive to direct current, wherein the devices are located at opposite ends of a vacuum cleaning airway and only two electrical conductors communicate between these ends. The network is a superimposition of an A.C. network upon a D.C. network and incorporates A.C. or D.C. blocking elements in appropriate branches. Adapted particularly for use in a vacuum cleaning system, both power sources and the A.C. energized device are located at the vacuum producing end, and the D.C. energized device is located at the vacuum celaning nozzle with a control station located in the conduction path therebetween.

3,525,877
HIGH SPEED FERRITE CORE DRIVERS FOR PHASED ARRAY RADARS
David G. Jeter, Jr., Washington, D.C., and Robert A. Celentano, Huntington Station, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed July 16, 1968, Ser. No. 745,284
Int. Cl. H03k *3/53*
U.S. Cl. 307—88 **4 Claims**



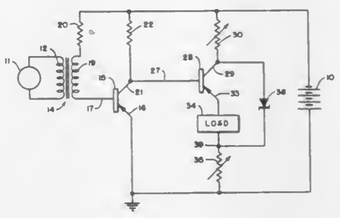
A circuit for driving high speed ferrite cores in phased array radars including the use of PNPN diodes which are turned on by means of a negative pulse which is coupled to the anode of a standard diode whereby the triggering source sees as an input impedance a large value resistor in parallel with a back bias diode thereby reducing power requirements and increasing the turn-off and recovery time.

3,525,878
SELF-BIASED SOLID STATE RF SWITCH
Robert C. Houlne, McLean, Va., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 14, 1968, Ser. No. 775,676
Int. Cl. H03k *17/74, 19/16*
U.S. Cl. 307—88 **6 Claims**



For use with a very low radio frequency circuit including an RF source and a load connected thereto, an improved full wave SCR switch means employing circuit load current passing through a saturable core transformer together with suitably arranged steering diodes to provide a self generated bias in the form of regeneration to maintain a pair of switching SCR's in "ON" condition and a control winding operable to saturate the transformer core to remove the "ON" bias effect and allow the SCR to commutate to "OFF" condition.

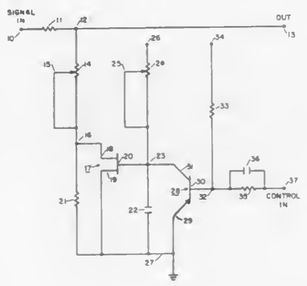
3,525,879
VARIABLE RANGE LIMITER CIRCUIT
Joseph E. Barbay, Jr., Skokie, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed June 13, 1966, Ser. No. 556,978
Int. Cl. H03k *5/08*
U.S. Cl. 307—237 **3 Claims**



A limiter circuit applies only a predetermined portion of an AC input signal to a load; and this portion may be shifted to any desired part of the input signal excursions by connecting a Zener diode in series between a pair of variable resistors, with the diode also being connected in parallel with the series-connected load and transistor output amplifier. The Zener diode determines

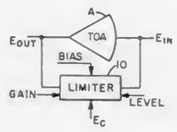
the portion of the signal applied to the load, and the relative values of the resistors determine from which part of the input signal excursions this portion is obtained.

3,525,880
STEP-GAIN SIGNAL CONDITIONING CIRCUIT
William F. Donnell and Herman E. Sheffield, Jr., Houston, Tex., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Oct. 3, 1966, Ser. No. 583,800
Int. Cl. H03k *5/08*
U.S. Cl. 307—237 **1 Claim**



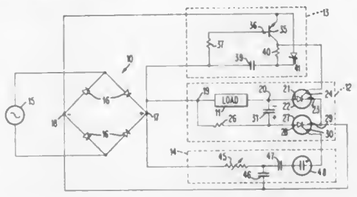
A field effect transistor is connected between a point intermediate an input terminal and an output terminal, and a common or grounded point. Another transistor is periodically driven to saturation to cause the field effect transistor to become fully conductive, after which the other transistor is released from saturation and a capacitor begins to charge, thus raising the voltage on the gate of the field effect transistor to which it is connected. At a certain point of the capacitor charge cycle, the field effect transistor begins to be "pinched-off," thus causing its impedance to vary as does the charging of the capacitor.

3,525,881
ABSOLUTE VALUE ADJUSTABLE LIMITER
Robert E. Hull, Amherst, and James K. Kroeger, Williamsville, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 16, 1967, Ser. No. 609,476
Int. Cl. H03k *5/08*
U.S. Cl. 307—237 **5 Claims**



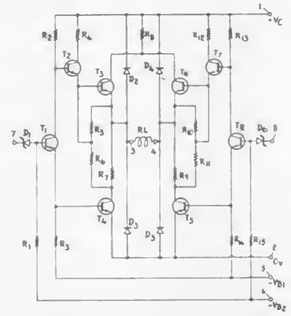
A limiter device for an operational amplifier which provides a symmetrical limit control of the amplifier positive and negative output voltages as a function ot an applied absolute limit control voltage. In addition, the limiter device provides wide range adjustments for parameters associated with the absolute limit control voltage which may substantially alter the positive and negative output voltages of the amplifier while still maintaining symmetry.

3,525,882
RECTIFIED POWER SUPPLY CIRCUIT PROVIDING VARIABLE TERMINATION DURING HALF CYCLE CONDUCTION USING ZERO CROSSING TURN ON AND COMMUTATION TURN OFF METHODS
Herbert R. Montague, 75 Clifton Blvd., Binghamton, N.Y. 13908
Filed May 25, 1967, Ser. No. 641,324
Int. Cl. H03k *17/00*
U.S. Cl. 307—252 **6 Claims**



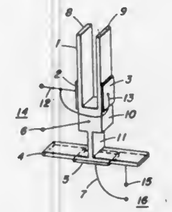
Phase-controlled power supply circuits employing semiconductor devices in which current conduction always commences at the start of a half cycle and is variably controlled to terminate conduction during that half cycle.

3,525,883
BRIDGE AMPLIFIER CIRCUIT
Demetre Iordanidis, Toronto, Ontario, Canada, assignor, by mesne assignments, to Dover Corporation, New York, N.Y., a corporation of Delaware
Filed July 28, 1967, Ser. No. 656,758
Int. Cl. H02p *5/36;* **H03k** *17/66*
U.S. Cl. 307—254 **7 Claims**



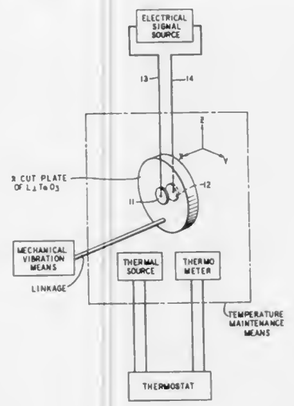
A bridge amplifier circuit for controlling the current through a load comprises four power transistors connected in the arms of a four-arm bridge, the bridge having a pair of supply terminals for connection to a D.C. supply source, and a pair of load terminals for connection to a load circuit. The transistors in the bridge arms are controlled alternately in pairs so that at any one time two diagonally opposite arms of bridge are conducting and the other two diagonally opposite arms are non-conducting, the load current flowing between the load terminals in a direction determined by which one of the pairs of bridge transistors is conducting. The bridge transistors are controlled by control transistors, whose collectors are connected respectively to the bases of one pair of bridge transistors and whose emitters are connected respectively to the bases of the other pair of bridge transistors. Preferably an amplifier stage is provided between each of the transistors of the first pair and its respective control transistor. By applying trains of control pulses to the bases of the control transistors, the trains of pulses being of variable pulse width and inverted with respect to one another, an infinite control of the load current can be obtained.

3,525,884
ELECTROMECHANICAL VIBRATING DEVICES
Morio Onoe and Takeshi Yano, Tokyo, Japan, assignors to Nippon Electric Company, Limited, Tokyo, Japan
Filed Dec. 23, 1968, Ser. No. 786,173
Claims priority, application Japan, Dec. 28, 1967, 43/84,478
Int. Cl. H01v *7/00*
U.S. Cl. 310—8.2 **21 Claims**



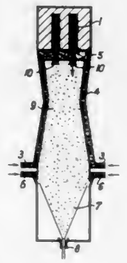
Electromechanical vibrating devices exhibiting the characteristics of a passive electrical circuit are provided in accordance with this invention wherein the coupling relationship maintained among various vibrating members therein is relied upon to provide a plurality of recognized circuit functions. In one embodiment of this invention, tuning fork means having a selected resonant frequency is coupled to flexuously vibrating means. The tuning fork means and the flexuously vibrating means are adapted to vibrate along axes which are mutually transverse and each may be independently driven into vibration by electrical signals transduced into mechanical forces or alternatively acts as output means for mechanical vibrations which are transduced into electrical signals. Accordingly, the embodiment of the present invention acts as a reversible four-terminal network.

3,525,885
LOW TEMPERATURE-FREQUENCY COEFFICIENT LITHIUM TANTALATE CUTS AND DEVICES UTILIZING SAME
Albert A. Ballman, Woodbridge, and Arthur W. Warner, Jr., Whippany, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed June 1, 1967, Ser. No. 642,835
Int. Cl. H01v *7/00*
U.S. Cl. 310—9.5 **5 Claims**



It has been discovered that the X-cut plates of lithium tantalate exhibit temperature-frequency coefficients which are substantially zero or at most 25 p.p.m. per ° C. over a 60° C. temperature range. Such values are obtained when vibration is near the resonance frequency in the thickness-shear mode, with integral electrodes. Lithium tantalate is unusual in that the temperature response of the frequency of vibration of these plates produces a curve having a single inversion point which is a minima point. The low temperature-frequency coefficients make practical the utilization of the reported high electromechanical coupling coefficients offered by lithium tantalate in such devices as crystal filters and transducers, for example.

3,525,886
THERMODYNAMIC DRIVE APPARATUS
Reinhart Radebold, Berlin, Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed Nov. 12, 1968, Ser. No. 774,667
Claims priority, application Germany, Nov. 10, 1967, 1,601,111
Int. Cl. H02n *4/02*
U.S. Cl. 310—11 **7 Claims**

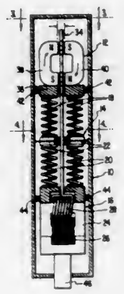


Thermodynamic drive apparatus provided with a heat source, cooled expansion nozzle connected to the heat source for receiving superheated liquid working medium therefrom, and condensation means connected to the expansion nozzle. Liquid working medium is preheated by working medium formed of vapor and droplets in the expansion nozzle just before being introduced into the heat source. The preheated working medium is brought to its evaporation temperature in the heat source and delivered therefrom, as a superheated liquid, into the disintegration and acceleration nozzle. The superheated liquid is then flashed into the form of vapor and droplets and is brought during the following expansion into heat exchange relationship with liquid working medium being delivered to the heat source. By this arrangement the liquid working medium in the heat source need only absorb that heat energy required for raising its temperature to evaporation temperature.

3,525,887
MOTOR WITH LINEAR RECIPROCATING OUTPUT
Benjamin B. D'Ewart, Jr., 3465 Warner Drive, Grand Island, N.Y. 14072
Filed Aug. 16, 1968, Ser. No. 753,291
Int. Cl. H02k *33/04*
U.S. Cl. 310—27 **6 Claims**

Three masses aligned in a casing and resiliently mounted therein form a linear motor. Work is taken from one or both of the end masses and conversion between electrical and mechanical energy is effected by providing one of the masses with a permanent magnet assembly producing a strong magnetic field, with another of the masses

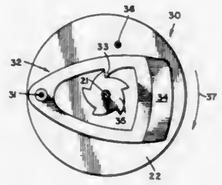
carrying a winding disposed within such field, the winding powered directly from line voltage or indirectly through a voltage control device and effective to cause reciprocation of the mass system with negligible vibration transmitted to the casing.



3,525,888
MAGNETIC UNIDIRECTIONAL SYSTEM FOR A MOTOR

Wallace L. Linn, Indianapolis, Ind., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

Continuation of application Ser. No. 660,090, Aug. 11, 1967. This application Oct. 27, 1969, Ser. No. 869,945
Int. Cl. H02k *7/10*
U.S. Cl. 310—41 **3 Claims**



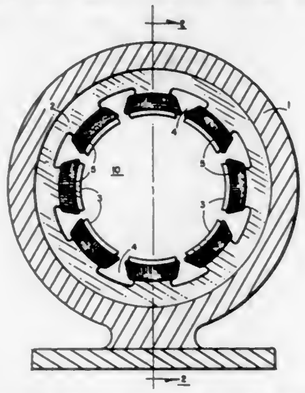
A magnetic directional drive control means is used to prevent rotation of a rotor of a synchronous motor in one direction while permitting rotation of the rotor in another or predetermined direction so that the motor may attain operating conditions with the least possible delay. The magnetic directional drive control means disengages the rotor of the motor when the rotor is displaced in a predetermined direction thereby substantially eliminating friction losses normally associated with drive control means which remain partially engaged with the rotor.

3,525,889
METHOD OF BONDING LAMINATES AND IMPREGNATING THE WINDING ON A STATOR CORE AND PRODUCT THEREOF

John F. Robinson, Newport Beach, and Anthony Squillace, Cypress, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed Feb. 10, 1967, Ser. No. 615,126
Int. Cl. C09g *3/00;* **H02k** *3/32, 15/12*
U.S. Cl. 310—45 **4 Claims**

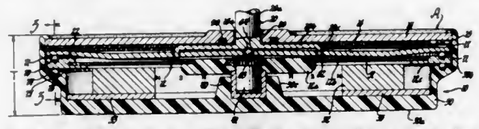
A method (and product thereof) for bonding and impregnating composite electromechanical structures such as a gyroscope motor stator laminations and windings by coating, stacking, and pressing the laminations, adding windings, then vacuum drawing and curing, using a very low modulus of elasticity polyamide resin-epoxy mixture devoid of filler material.



3,525,890
FACE PLANOCENTRIC SPEED REDUCTION UNIT AND MOTOR

Harry Charles Buchanan, Jr., Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 16, 1968, Ser. No. 705,966
Int. Cl. H02k *7/06*
U.S. Cl. 310—82 **9 Claims**

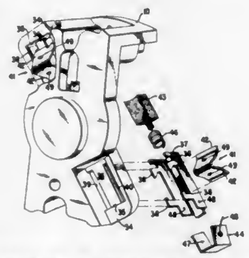


In a preferred form, this disclosure relates to a face planocentric speed reduction unit which comprises a relatively thin package. The speed reduction unit has a rotatable means for continuously wobbling a thin wobble face gear to continuously cause different portions thereof to engage another thin face gear. The number of teeth on the respective gears are different and one of the gears is held against rotation whereby the other of the gears is rotated relative to the one gear and relative to the rotatable means at a lesser rotative speed.

3,525,891
BRUSH MOUNTING ARRANGEMENT FOR DYNAMOELECTRIC MACHINES

Joseph J. Lukawich, Somerville, and Wolfgang Jaffe, Morristown, N.J., assignors to Singer Company, New York, N.Y., a corporation of New York

Filed Feb. 28, 1969, Ser. No. 803,318
Int. Cl. H01r *39/40*
U.S. Cl. 310—239 **3 Claims**

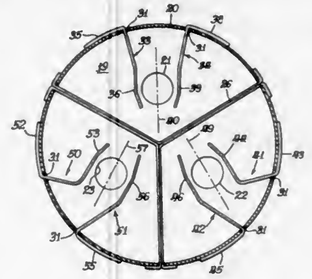


A brush mounting arrangement has an open-sided metallic brush holder mounted on an insulated bearing bracket of an electric motor. A seat formed in the bracket has a positioning rib defining a brush axis, which rib projects into the open side of the brush holder and forms with the brush holder a brush-guiding channel. Lateral extensions of the brush holder project through openings in the bracket on both sides of the rib and a spring clip retainer engages the extensions on the side of the rib remote from the brush holder to secure the brush holder to the bracket and in alignment with the rib.

3,525,892
ASYMMETRIC POLE PIECES FOR COLOR KINESCOPE CONVERGENCE CAGE

Laszlo Javorik, Chicago, George A. Rokos, Westchester, and Benjamin L. Gelfand, Chicago, Ill., assignors to National Video Corporation, Chicago, Ill., a corporation of Illinois

Filed Oct. 22, 1968, Ser. No. 769,513
Int. Cl. H01j *29/54, 29/72*
U.S. Cl. 313—77 **3 Claims**

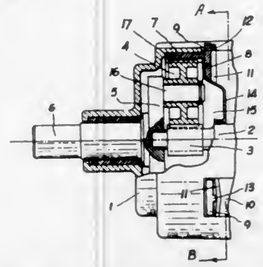


The two lower side pole pieces in the magnetic convergence cage of a three-beam gun for a color kinescope of the shadow mask type are modified to provide asymmetric deflection loci. The deflection loci for the two side beams are directed above the axis of the convergence cage and thus correct for errors in vertical displacement of the converged beams due to the unequal vertical location of the beams relative to the axis of the convergence cage.

3,525,893
ELECTRIC MOTOR CONSTRUCTION

Gernot Neumann, Lipperreihe, Germany, assignor to Hanning Elektro-Werke Robert Hanning, Bielefeld, Germany

Filed Feb. 23, 1968, Ser. No. 707,545
Claims priority, application Germany, Feb. 23, 1967, H 61,923
Int. Cl. H02k *7/10*
U.S. Cl. 310—83 **3 Claims**



An electric motor including within its housing an axially arranged planetary gearing, of which an outer, stationary toothed ring, made of a plastics material, is located by means of radially or axially extending projections which engage in corresponding recesses in the motor housing.

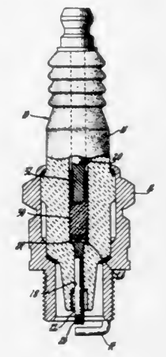
ERRATUM

For Class 313—77 see:
Patent No. 3,525,892

3,525,894
SPARK PLUG WITH A CONDUCTIVE GLASS SEAL ELECTRODE OF GLASS AND A METAL ALLOY

Jack F. Blum, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 26, 1968, Ser. No. 740,335
Int. Cl. H01b *1/02;* **H01t** *13/02*
U.S. Cl. 313—136 **9 Claims**

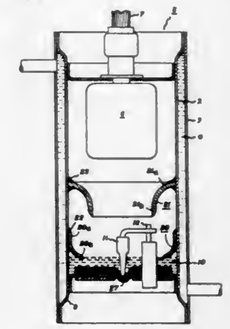


A hermetic ceramic-to-metal conductive glass seal for use in the centerbore of spark plug insulators and the like containing glass and either a tin alloy or an antimony alloy is disclosed. The tin alloy and the antimony alloy contain a metal taken from the group consisting of copper, iron, manganese and nickel. The glass seal contains 3 to 15 weight percent of either tin or antimony. A specific glass seal in accordance with this invention is formed from a composition which contains 40 weight percent glass powder, 8 weight percent tin powder and 52 weight percent copper powder.

3,525,895
LIQUID POOL CATHODE TYPE DISCHARGE DEVICE WITH COMPLEMENTARY BAFFLE MEANS

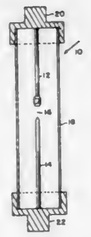
James L. Zehner and Robert P. Watson, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed Feb. 23, 1968, Ser. No. 707,510
Int. Cl. H01j *13/06, 13/22, 13/34*
U.S. Cl. 313—164 **5 Claims**



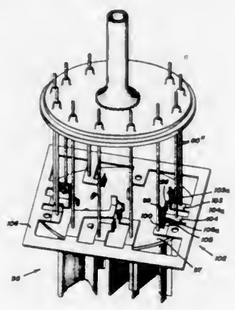
An ignitron for use in high vibration or shock environment including baffling means between the anode and the mercury pool cathode.

3,525,896
ARC LAMP ENVELOPES
William J. Soule, Brookline, Mass., and Martin L. De Poy II, Milford, N.H., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed July 25, 1968, Ser. No. 747,729
Int. Cl. H01j *17/16*
U.S. Cl. 313—221 **5 Claims**



A metallic halide envelope is provided for a high temperature alkaline vapor arc lamp whereby a reduction in the recombination time of dissociated molecules in the arc plasma is produced. This reduction further provides an improvement in the modulation index of such lamps.

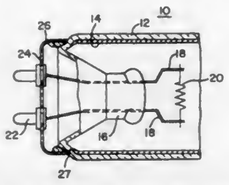
3,525,897
ELECTRON DISCHARGE DEVICE
Ernest T. Du Pre, Tell City, Ind., assignor to General Electric Company, a corporation of New York
Original application Aug. 31, 1964, Ser. No. 393,304, now Patent No. 3,375,343, dated Mar. 26, 1968. Divided and this application Oct. 11, 1967, Ser. No. 683,057
Int. Cl. H01j *5/00*
U.S. Cl. 313—317 **11 Claims**



An electron discharge device having an insulating stem carrying parallel stem-leads of predetermined length welded to transverse planar surfaces within the device. The planar surfaces may comprise the electrodes of the device or interconnecting plates which are in turn welded to respective portions of the electrodes transverse to the plates.

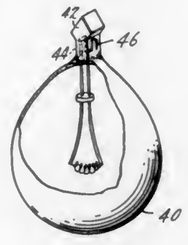
3,525,898
BASING CEMENT FOR ELECTRIC LAMPS AND SIMILAR DEVICES, AND STRESS-RELIEVING BASE STRUCTURE UTILIZING SUCH CEMENT
Walter A. Boyce, Glen Ridge, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 18, 1968, Ser. No. 776,680
Int. Cl. H01j *5/48, 5/50*
U.S. Cl. 313—318 **10 Claims**

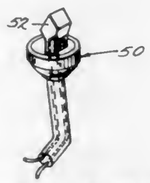
An improved cement for attaching plastic base members to the sealed end portions of the glass envelopes for fluorescent lamps and similar devices. The cement contains marble flour and a polyvinyl acetate homopolymer emulsion, and preferably includes wood rosin and denatured alcohol. In contrast to conventional shellac-containing cements, the improved cement does not polymerize



at the operating base temperatures encountered in high-output type fluorescent lamps and thus remains thermoplastic. Cracking of the stress-sensitive glass seals enclosed by the cemented bases is thus prevented.

3,525,899
CONTACT STEMS FOR BULBS, PLUGS AND THE LIKE
Carlos Roberto P. Bustamante, 4a C.P. 40, Santa Ana, El Salvador
Original application Oct. 28, 1964, Ser. No. 407,100. Divided and this application Feb. 17, 1967, Ser. No. 644,033
Int. Cl. H01j *5/48, 5/50*
U.S. Cl. 313—318 **4 Claims**



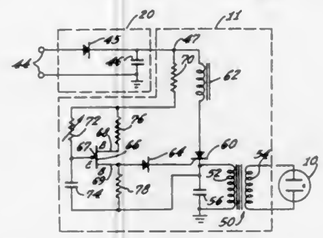


Bulbs, plugs or similar devices are provided with stems or prongs having outer wedge-shaped portions and flattened portions with contacts thereon intermediate the wedge-shaped portions and the envelope of the bulb or plug. The stems or prongs are received within longitudinal slots of flexible tubular sockets with the contacts of the devices engaging contacts on the opposing edges of the slots and the wedge-shaped portions retaining the devices in the slots.

3,525,900
FREQUENCY CONTROLLED ENHANCEMENT OF LIGHT EMISSION
Clifford D. Skirvin, Pomona, Jerome Zonis, Ontario, and John H. Ketola, Pomona, Calif., assignors to Microdot, Inc., Pasadena, Calif., a corporation of California
Continuation-in-part of application Ser. No. 198,325, May 28, 1962. This application Mar. 4, 1965, Ser. No. 437,127
Int. Cl. H05b *41/26, 41/30*
U.S. Cl. 315—98 **17 Claims**

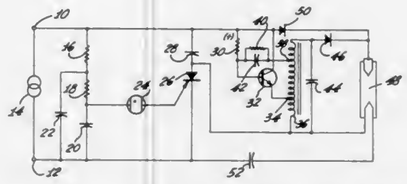
This invention relates to a system for illuminating a luminescent tube at a high level with a minimum amount

of energy for producing resonances of the gases in the tube. The system produces such illumination by introducing to the tube a signal having a fundamental frequency



and a considerable number of harmonics where the fundamental frequency is at a relatively high value in the order of thousands of cycles per second and where the amplitudes of the harmonics are relatively great.

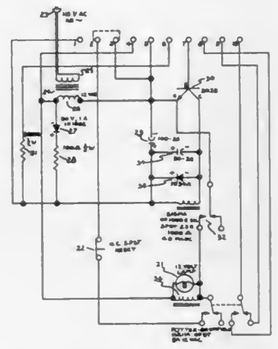
3,525,901
FLUORESCENT LAMP STARTING AND OPERATING CIRCUIT WITH A PULSE STARTER
John C. Sammis, West Covina, Calif., assignor to Microdot, Inc., South Pasadena, Calif., a corporation of California
Filed Feb. 13, 1968, Ser. No. 705,187
Int. Cl. H05b *41/23, 41/232*
U.S. Cl. 315—105 **14 Claims**



This invention relates to a system for energizing a fluorescent tube with a direct voltage and with a voltage for periodically initiating the energizing of the tube so that the direct voltage will be effective to energize the tube. The periodic energizing may occur from an alternating voltage of ultrasonic frequency. The direct voltage and the alternating voltage of ultrasonic frequency may be produced from a conventional power supply having a relatively low frequency such as approximately 60 cycles or from a direct voltage. Means may also be provided for constantly energizing the filament of the fluorescent tube from the power supply, so that thermionic emission can be controlled independently.

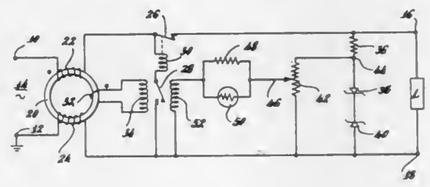
3,525,902
WATER SENSING SAFETY CONTROL FOR HIGH VOLTAGE ELECTRICAL EQUIPMENT
Frank A. Davidson, Fairborn, and Robert L. Prickett and Jack R. Schmermund, Dayton, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force
Filed Aug. 17, 1967, Ser. No. 661,481
Int. Cl. H02h *3/00*
U.S. Cl. 317—9 **3 Claims**

Safety apparatus for anticipating and preventing equipment damage and conditions hazardous to personnel due to the entry of water into an area containing high voltage equipment. Electrical water sensors, each in the form of a pair of interdigitated electrodes on an insulating substrate having very high interelectrode resistance when dry but relatively low resistance when the electrodes are bridged by water, are situated at points of likely water entry into the area. The sensors together with a source of direct current are connected in the base-emitter circuit of a transistor. Current flow from the direct current source through any sensor produces a relatively large



transistor collector current which is utilized in an appropriate circuit to deenergize the high voltage equipment by disconnecting it from its primary power source. The disconnection is maintained until the circuit is manually reset after the water hazard has been removed.

3,525,903
REED RELAY WITH ELECTROMAGNETIC BIASING
Alton R. Morris, Trumbull, and Thomas M. McDonald, Monroe, Conn., assignors to Harvey Hubbell Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed Oct. 18, 1967, Ser. No. 676,099
Int. Cl. H02h *3/28;* **H01h** *47/00*
U.S. Cl. 317—18 **14 Claims**

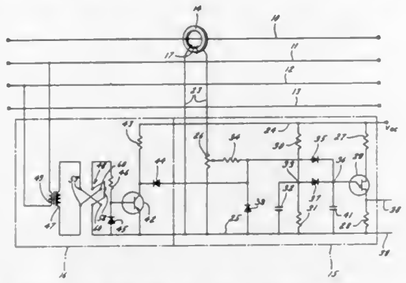


The differential transformer of a ground fault current interrupter has its secondary winding positioned to actuate a highly sensitive reed relay through an operating coil. The reed relay, in turn, operates a power relay which disconnects the load. The sensitivity of the reed relay is increased by means of a biasing coil which is energized from the power supply through a biasing circuit for sensitizing, but not closing, the reed relay. Upon occurrence of a ground fault, the current in the operating coil increases the total field acting upon the reed sufficiently to close the relay.

3,525,904
A.C. REVERSE CURRENT MONITOR
Ralph H. Ringstad, Whippany, N.J., assignor to Automatic Switch Company, a corporation of New York
Filed July 12, 1968, Ser. No. 744,579
Int. Cl. H02h *3/28, 5/00*
U.S. Cl. 317—43 **9 Claims**

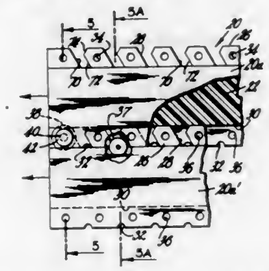
Monitor senses when current in a line becomes more than 90° out of phase with the voltage in the line. Means, such as a transformer, associated with line produces a pulse at a predetermined point during each cycle of current. Means arranged to conduct upon receiving each pulse, and thereby produce a signal, but a second means

is arranged to clamp the pulses during the voltage quarter cycles before and after the point of the voltage cycle



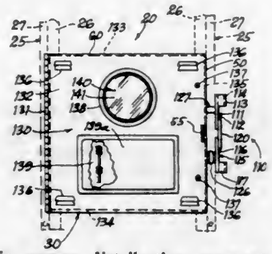
which would correspond to the predetermined point of the current cycle at unity power factor.

3,525,905
CHASSIS ASSEMBLY
George E. Chilton, 144 Valley Road, Haworth, N.J. 07641
Filed Dec. 20, 1967, Ser. No. 692,039
Int. Cl. H05k *7/04*
U.S. Cl. 317—101 **11 Claims**



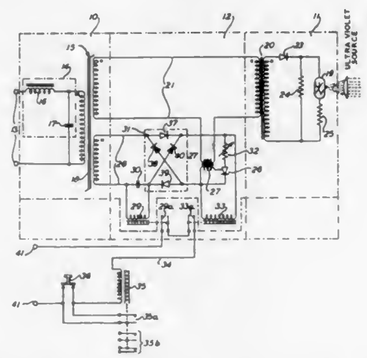
A printed circuit board is provided with a thin conductive layer on both surfaces in the form of a network. The two networks are interconnected by electrically conductive films in edge notches which are also utilized for mounting components. By interruption of selected paths an assembly of electronic components may be fabricated with interconnections and cross overs provided automatically.

3,525,906
ELECTRIC POWER DISTRIBUTION APPARATUS
Paul E. Schubert, Chicago, Ill., assignor to Cregier Electrical Mfg. Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 22, 1968, Ser. No. 778,045
Int. Cl. H02b *9/00*
U.S. Cl. 317—108 **12 Claims**



An electric power distribution apparatus comprising a cabinet defined by four side walls, at least two input terminals mounted in the cabinet to be coupled to an electric power source, at least two output terminals mounted in the cabinet to be coupled to a load, the primary windings of current meter transformers being respectively coupled between the input terminals and output terminals, a door hingedly mounted on the forward end of one of the walls, a receptacle carried by the door for mounting a kilowatt-hour meter, and a plurality of test switches mounted on the door interconnecting the receptacle and the secondaries of the current transformers. The cabinet and the door may have a square cross section to permit selection of the orientation of the cabinet with respect to the door. A neutral assembly may be mounted on one of the walls of the cabinet and used to couple a neutral conductor in the electric power source to the load.

3,525,907
FAIL-SAFE SYSTEM
Andre T. Abromaitis, Morris Township, Morris County, N.J., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Jan. 10, 1968, Ser. No. 696,842
Int. Cl. H01h *47/24*
U.S. Cl. 317—124 **7 Claims**



A flame safeguard system is provided which will fail-safe if any defect develops in the system. It has a voltage regulator comprising an input filter which is resonated with the primary winding of an input power transformer having a core of square loop magnetic material saturated by the resonate current. An ultraviolet detector tube operated through a half-wave rectifier is coupled through a gate-controlled rectifier and sensitivity-control resistor to feed pulsating direct current to operate a first control relay when the ultraviolet tube is fired and the circuit is operating properly. A second control relay is coupled to the power supply through a full-wave rectifier and in parallel with the gate-controlled rectifier and sensitivity-control resistor to cause the second relay to be operated when the sensitivity-control resistor and gate-controlled rectifier are functioning properly. A utilization circuit is rendered operative only when the first and second control relays are operated.

3,525,908
SPREADER-TYPE CURRENT TRANSFORMER
Karl Allmendinger, Goppingen, Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed Nov. 28, 1967, Ser. No. 686,257
Claims priority, application Germany, Nov. 29, 1966, L 55,153
Int. Cl. H01f *27/32*
U.S. Cl. 317—157.62 **14 Claims**

A spreader-type current transformer suitable for measuring current in a high-voltage line. The transformer includes an insulated head portion which contains the primary and secondary windings as well as the transformer

core, and an elongated base portion, supporting the head portion, which includes the secondary winding leads surrounded by a feed-through capacitor. The head portion and the base portion are designed to be separately manufactured. They have coupling means for attaching them-



selves together which include abutting surfaces, on the head portion insulation and the feed-through capacitor, that are conically shaped to provide a low dielectric stress between the head portion insulation and the feed-through capacitor.

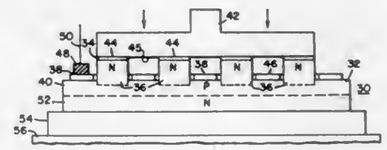
3,525,909
TRANSISTOR FOR USE IN AN EMITTER CIRCUIT WITH EXTENDED EMITTER ELECTRODE
Gunther Eberhard, Munich, and Richard Wiesner, Neukeferloh, near Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed Sept. 8, 1967, Ser. No. 666,357
Claims priority, application Germany, Sept. 12, 1966, S 105,814
Int. Cl. H01l *3/00, 5/00*
U.S. Cl. 317—234 **1 Claim**



The present invention relates to a semiconductor device with at least one transistor, operated in an emitter circuit, whose surface is coated, at least in a region bridging the base region, with an insulating protective layer, preferably comprised of SiO_2 or Si_3N_4. In accordance with the present invention, the emitter electrode extends beyond the collector region, in an electrode portion seated directly upon the insulating protective layer. The protective layer is usually a thin layer of an insulating material, preferably of SiO_2 or Si_3N_4.

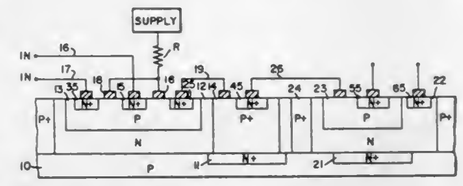
3,525,910
CONTACT SYSTEM FOR INTRICATE GEOMETRY DEVICES
John Philips, Monroeville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 31, 1968, Ser. No. 733,606
Int. Cl. H01l *3/00*
U.S. Cl. 317—234 **6 Claims**

This invention provides a compression bonded encapsulation device in which one or more flat current conducting contact plates are pressed against one or both faces of a semi-conductor device to make contact to selected device areas which lie on the same device plane, while at



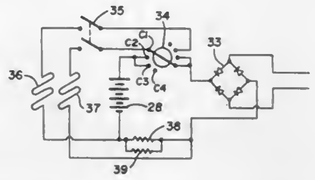
the same time not contacting other selected areas of the device which lay on a different plane.

3,525,911
SEMICONDUCTOR INTEGRATED CIRCUIT INCLUDING IMPROVED DIODE STRUCTURE
Olaf R. Ryerson, Laurel, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 6, 1968, Ser. No. 735,125
Int. Cl. H01l *19/00*
U.S. Cl. 317—235 **8 Claims**



Minimal chip area without sacrificing performance is achieved by providing all diode elements within a single isolated region with all the input diodes and one of the offset diodes comprising a plurality of "emitters" in a common "base" region and one or more other offset diodes being of the "stoppered" type. The segment of the structure having the input diodes and one offset diode is configured to avoid parasitic transistor action.

3,525,912
SELECTABLE POWER SOURCE FOR A MOTOR DRIVEN APPLIANCE
Gus W. Wallin, Chicago, Ill., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Continuation-in-part of application Ser. No. 537,918, Mar. 28, 1966. This application Nov. 22, 1966, Ser. No. 608,244
Int. Cl. H02k *7/14*
U.S. Cl. 318—17 **14 Claims**

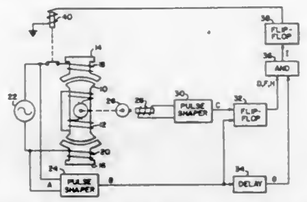


The appliance power source consists of a motor, the rotor of which is provided with two windings and two commutators. The appliance is thus operable at two significantly different voltage levels, e.g. battery and line, to provide more linear speed-torque characteristics. Circuits for appliances provide interlocks and selection circuits for specific characteristics.

3,525,913
PULLOUT PROTECTION FOR SYNCHRONOUS MACHINES

Colin Edward Huggett, West Seneca, and Herman Eisele and Frank Di Nicolantonio, Williamsville, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 29, 1968, Ser. No. 724,898
Int. Cl. H02h 7/08
U.S. Cl. 318—170 12 Claims

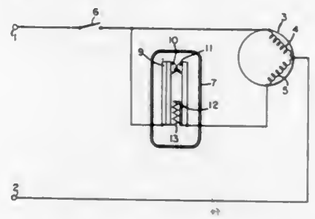


Described is a system for providing pullout protection for synchronous motor machines, when the maximum torque of the machine is exceeded by means of continuously measuring the load angle between the rotor and stator flux vectors, together with means for deenergizing the synchronous machine when the maximum permissible load angle is exceeded.

3,525,914
THERMALLY-RESPONSIVE BIMETALLIC STARTING SWITCH FOR MOTORS

Holger V. Vind, Nordborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a corporation of Denmark

Filed June 30, 1967, Ser. No. 650,447
Claims priority, application Denmark, July 6, 1966, 3,485/66
Int. Cl. H02p 1/44
U.S. Cl. 318—221 1 Claim

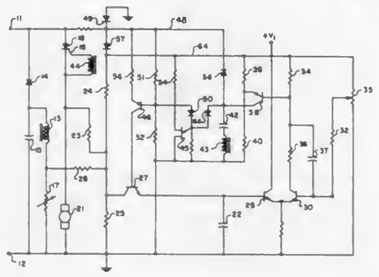


A compact, sensitive and highly positive acting and highly stable thermally-responsive starting switch for induction motors. A positive temperature coefficient of resistance resistor directly heats at least one of the contacts, which is a bimetallic strip contact, to maintain the open position of the contacts and prevent intermittent closing and opening thereof. The heating resistor shunts the contacts and has applied thereto the vectorial difference voltage between a voltage across a main winding of the motor and a voltage across a starting winding thereof. The vectorial voltage difference is substantially zero when the switch contacts are closed and the heat resistor is substantially not heated and functioning. The switch opens under control of current flowing through the bimetallic strip contact and the motor starting winding, which is in series with the contacts and the heating resistor. When the switch opens the vectorial voltage difference applied to the heating resistor will have a value such that a current flow therethrough is substantially more constant than the main winding current which is dependent on motor load and the mains voltage. the PTC-resistor has a large current flow when the switch opens and its resistance is relatively low which assists in a positive operation of the bimetallic elements; the resistance increases after opening of the contacts and a balance or stable condition is rapidly achieved and less current will flow through the starting winding. This reduced starting winding current has a fractional value of the current flow at the moment the switch opens.

3,525,915
SPEED CONTROL FOR D.C. MOTORS WITH COUNTER EMF SAMPLING CIRCUIT

Le Roy Barter, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed Aug. 26, 1968, Ser. No. 755,148
Int. Cl. H02f 7/28
U.S. Cl. 318—341 5 Claims

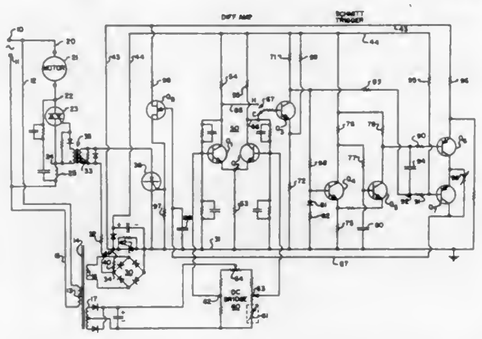


A D.C. motor control circuit is disclosed in which a full half-cycle is available for recovery of the armature transients. A pulse forming circuit biases a switch conductive at the beginning of half-waves of a common polarity to connect a voltage signal proportional to the counter-EMF of the armature to a differential amplifier. The output of the differential amplifier controls the rate of charging of a capacitor in accordance with the deviation of the motor speed from a desired value. When the capacitor voltage reaches a predetermined value a unijunction transistor is biased conductive to discharge the capacitor through the primary winding of a transformer. The resulting pulse in the secondary fires a SCR connected in series across the line with the motor armature. At the same time the unijunction transistor conducts the first mentioned switch is opened to end the sampling of the counter-EMF.

3,525,916
SOLID STATE MOTOR SPEED CONTROL

Eugene M. Chodash, Morton Grove, Ill., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed June 30, 1967, Ser. No. 650,376
Int. Cl. H02p 7/58
U.S. Cl. 318—345 4 Claims

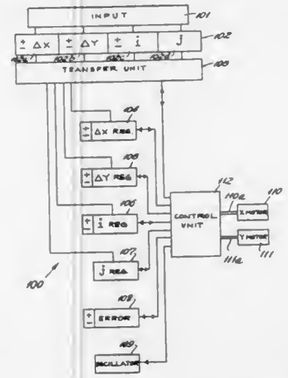


A solid-state motor speed control having the firing angle of a gate controlled bidirectional current conducting semiconductor means, such as a Triac, controlled in response to a condition. In order to control the motor speed over a range from 50 percent of rated speed a special trigger circuit starts the motor at full speed and then almost immediately allows motor speed to drop back to the control point.

3,525,917
METHOD AND APPARATUS FOR PRODUCING DIGITAL CONTOUR MOVEMENT FOR A PLURAL AXES STEPPING MOTOR DRIVE

Albert C. Leenhouts, Granby, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut

Filed Apr. 4, 1968, Ser. No. 718,725
Int. Cl. G05b 19/24
U.S. Cl. 318—570 5 Claims

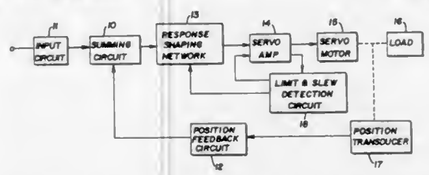


A method and apparatus for directing an element movable in two axes that are perpendicular to each other with each axis being operated independently by a stepping motor to produce a linear and/or arcuate desired path of movement of the element by determining the position of the element with respect to the path after each step, taking the next step on the axis which will produce after the step the least deviation from the desired path and continuing to determine and take one step at a time on the axis that will produce the least deviation for the complete extent of the desired path.

3,525,918
MOTOR DRIVE CIRCUIT WITH DISCHARGEABLE CAPACITIVE NETWORK

James A. Parnell, Houston, Tex., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed Nov. 1, 1968, Ser. No. 772,714
Int. Cl. G05b 5/01
U.S. Cl. 318—597 12 Claims

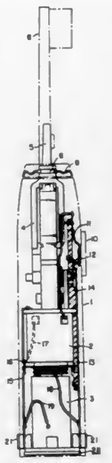


A circuit is disclosed for driving a motor with periodic current pulses that vary in duration. A response shaping capacitive network is included in the forward loop of the drive circuit. A detection circuit monitors the duration of the current pulses to determine when the motor is in a slew and/or limit condition to discharge the capacitive network.

3,525,919
TERMINAL STRUCTURE FOR A BATTERY-POWERED APPLIANCE

Robert A. Wise, Edison, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 13, 1968, Ser. No. 736,842
Int. Cl. H01m 45/04
U.S. Cl. 320—2 3 Claims

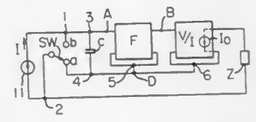


A battery-powered appliance, for example, a toothbrush, having casing structure with an open end for insertion of working components therein, and a closure structure for the open end. The closure structure includes a cap having resilient upstanding fingers which cooperate with battery charging contacts within the casing to effect retention thereof. The fingers frictionally engage end portions of the charging contacts which extend transversely through opposed wall portions of the casing structure to thereby position and retain the closure member and the working components in the casing structure.

3,525,920
DEVICE TO MULTIPLY INPUT CURRENT BY TIME RATIO

Shinichiro Ogawa and Toshiyuki Matsuda, Tokyo, Japan, assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Sept. 23, 1968, Ser. No. 761,623
Claims priority, application Japan, Sept. 22, 1967, 42/60,557
Int. Cl. H02j 7/00; H02m 7/00
U.S. Cl. 321—15 1 Claim

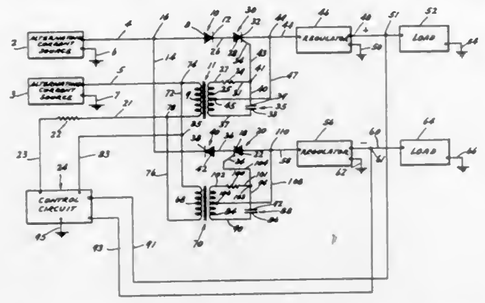


The movable contact of a change-over switch contacts with one and the other fixed contacts thereof to provide a time ratio. A differential electric charge detecting capacitor is charged only while the movable contact contacts with the one fixed contact to be charged in one direction. Means is provided to average the voltage across the electrode of the capacitor to obtain a DC voltage. A voltage-current converter converts the DC voltage into a direct current signal and forms a negative feedback circuit by connecting the capacitor through a load only while the movable contact contacts with the other fixed contact.

3,525,921
APPARATUS FOR CONVERTING AN ALTERNATING CURRENT SUPPLY VOLTAGE INTO A DIRECT CURRENT OUTPUT

Harry B. Wattson, Rutherford, N.J., assignor to The Bendix Corporation, a corporation of Delaware

Filed Dec. 15, 1966, Ser. No. 602,024
Int. Cl. H02m 7/00, 7/66
U.S. Cl. 321—18 4 Claims

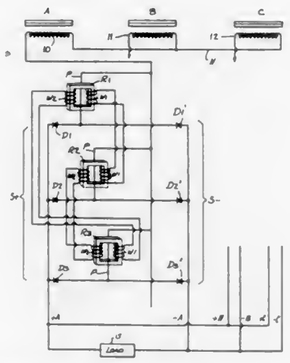


An electrical network for converting an alternating current supply voltage into a constant direct current output for driving a load. The supply voltage is applied to a semiconductor and the current flow through the semiconductor is controlled to provide a predetermined output. A regulator is responsive to the predetermined output from the semiconductor for providing the constant direct current output.

3,525,922
CURRENT-BALANCING SYSTEMS FOR PARALLEL DIODES

Harold G. Abbey, Detroit, Mich.
(130 Sunrise Ave., Palm Beach, Fla. 33480)

Filed Dec. 23, 1968, Ser. No. 786,147
Int. Cl. H02m 7/00
U.S. Cl. 321—27 6 Claims

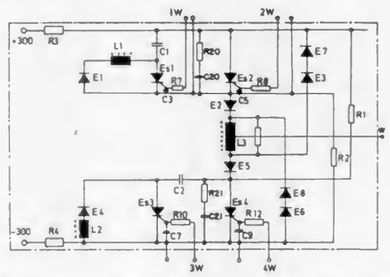


A current-balancing system for a rectifying circuit wherein alternating-current is supplied to two sets of parallel diodes, the diodes in one set effecting rectification in one current direction, and those in the other set effecting rectification in the reverse direction. Also provided is a series of reactors having at least one primary and two secondaries associated with a ring core of high permeability. The diodes in each set are connected to the respective primaries of the reactors, whereby in the course of an A-C cycle, magnetic flux generated by direct-current flow in one set is in a direction opposed to that generated by direct-current flow in the other set, thereby reversing the flux direction in each core and effectively eliminating residual magnetism therein. The secondaries of the reactors are interconnected in phase opposition in a closed inductive magnetic circuit, such that inequalities in the EMF's generated in the cores by reason of unequal current flow through the diodes, produce counter EMF's and impedance changes in the reactors tending to equalize the diode current flows.

3,525,923
CONVERTER WITH SINGLE QUENCHING

Arne Jensen, Havnbjerg, and Tom Kastrup Petersen, Nordborg, Denmark, assignors to Danfoss A/S, Nordborg, Denmark, a company of Denmark

Filed Aug. 28, 1968, Ser. No. 755,877
Claims priority, application Germany, Aug. 29, 1967, D 53,956
Int. Cl. H02m 7/44
U.S. Cl. 321—45 4 Claims

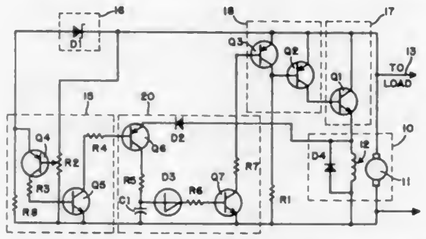


In a converter with single quenching, a pair of load rectifiers connected to opposite ends of an output choke each has a quenching rectifier and associated commutation capacitor. A resistor is connected from each load rectifier to the opposing quenching capacitor to insure that the capacitor is charged enough to quench its own load rectifier.

3,525,924
GENERATOR VOLTAGE REGULATOR UTILIZING TIME RATIO CONTROL

Lawrence E. Atterholt, Troy, Ohio, assignor to Hobart Brothers Company, Troy, Ohio, a corporation of Ohio

Filed Apr. 1, 1968, Ser. No. 717,670
Int. Cl. H02p 9/30
U.S. Cl. 322—28 8 Claims

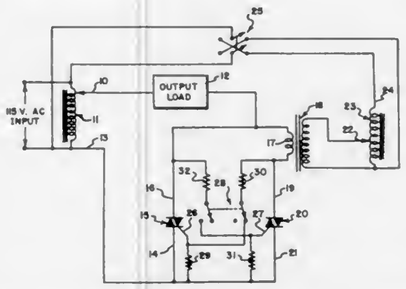


A regulator for controlling the voltage output from a generator includes a switching element in series with the field winding of the generator to control the current therethrough and thus the voltage output of the generator. A comparator circuit senses the difference between a reference voltage and the output from the generator to control a time ratio device having a fixed off time, which is short compared to the generator field circuit time constant, and an on time which is determined by the difference in voltages. An increase in the generator voltage output above a predetermined level will cause the on time of the switching element to decrease, thus changing the ratio between the on time and the off time of the current through the field winding, thereby returning the voltage output from the generator to the predetermined level.

3,525,925
TRIAC COMMUTATION CIRCUIT

Joseph S. Lord, Walpole, Mass., assignor to Kollmorgen Corporation, Garden City, N.Y., a corporation of New York

Filed July 22, 1968, Ser. No. 746,470
Int. Cl. G05f 1/30
U.S. Cl. 323—17 3 Claims

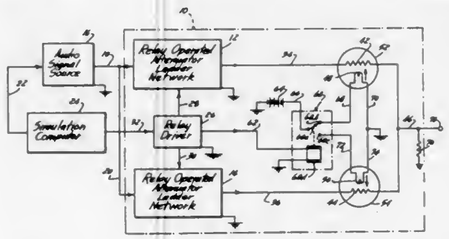


A circuit for instantaneously changing the voltage level supplied to a load. When a first triac in series with a first voltage source is triggered into conduction it supplies a first voltage level to the load. Similarly, a second triac in series with a second voltage source supplies a second voltage level to the load when it conducts. A two-position switch is provided so that in one position the gate electrode of the first triac is connected to a voltage proportional to the voltage appearing across the second triac, and in a second position of the switch the gate electrode of the second triac is connected to a voltage proportional to the voltage across the first triac. This interconnection permits switching load current between the two triacs and ensures that one of the triacs is not turned on until the other triac has turned off.

3,525,926
QUIET ATTENUATOR SYSTEM UTILIZING RELAY ACTIVATED PHOTOSENSITIVE RESISTORS

Frank W. Maczka, Rockville, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed May 3, 1968, Ser. No. 726,302
Int. Cl. G05f 5/00
U.S. Cl. 323—21 3 Claims

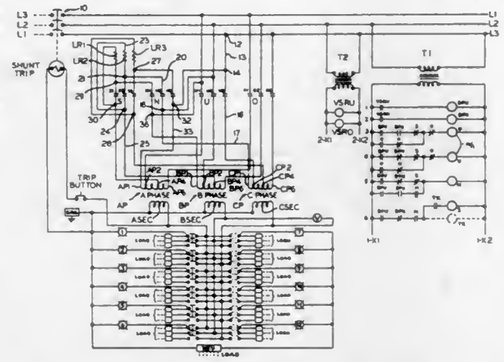


A quiet attenuator system wherein a plurality of relay operated attenuator ladder networks provide audio attenuation over a wide range with smooth transition switching between levels being accomplished by energizing and de-energizing incandescent lamps which operate photoresponsive resistive means connected between the networks and the output of the system.

3,525,927
CONSTANT VOLTAGE AC POWER SUPPLY

Paul E. Schubert, Chicago, Ill., assignor to Cregier Electrical Mfg. Co., Chicago, Ill., a corporation of Illinois

Filed Oct. 28, 1968, Ser. No. 771,232
Int. Cl. G05f 1/14
U.S. Cl. 323—43.5 4 Claims

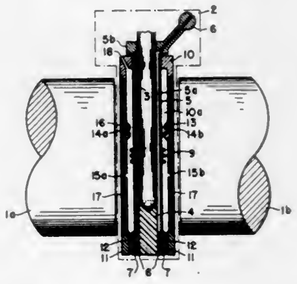


A three phase constant voltage power supply has individual transformers for the respective phases. A transformer has its primary winding tapped for voltage control to provide a predetermined constant output voltage over a range of primary input voltages. By switching tap connections, the output voltage of a transformer can be controlled. The corresponding taps on three primary windings are simultaneously switched and the switching is accomplished by the action of voltage sensing means operating from one phase. By means of various interlocking relay connections, the simultaneous switching in the three phases of various primary taps is attained to maintain a generally constant secondary output voltage. Load resistors are provided across certain contactors and such contactors are delayed during closing to prevent damaging arcs.

3,525,928
TEMPERATURE VARIABLE SAMPLE APPARATUS FOR NMR ANALYSIS

Kunihiko Nagao and Kazuo Nakagawa, Tokyo, Japan, assignors to Nihon Denshi Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed Nov. 21, 1968, Ser. No. 777,786
Claims priority, application Japan, Nov. 25, 1967, 42/98,957
Int. Cl. G01n 27/28
U.S. Cl. 324—.5 2 Claims



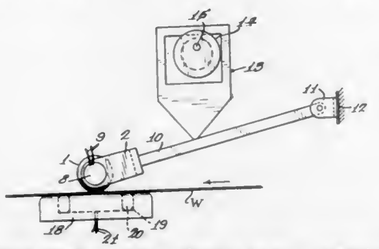
An apparatus for maintaining the temperature of a sample constant while undergoing NMR analysis and for maintaining the temperature of the apparatus itself and pole pieces constant which includes a sample holder surrounded by a first fluid chamber having an input and output. The first chamber is surrounded by a second fluid

chamber having an input-output and at least two sets of openings between the second chamber and a bypass chamber positioned between said second chamber and the outer periphery of the apparatus. One set of openings is characterized by having peripheral extension into the second chamber to cause fluid flow therein according to Bernoulli's Theorem.

3,525,929
ELECTROMAGNETIC GAUGE MEANS INCLUDING A MOTOR-DRIVEN ROLLER FOR MEASURING THE CALIPER OF A MOVING WEB

George Ralph Mounce, Willowdale, Ontario, Canada, assignor to Electronic Automation Systems, Inc., Grand Island, N.Y., a corporation of New York

Filed May 8, 1967, Ser. No. 636,791
Int. Cl. G01r 33/00
U.S. Cl. 324—34 6 Claims

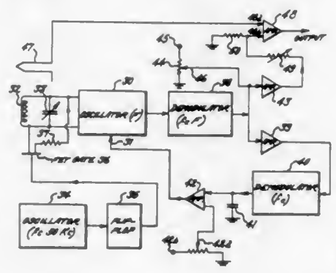


Electromagnetic reactor, reluctance gap measuring apparatus comprising magnetically permeable head and shoe members for engagement with opposite sides of a non-magnetic traveling web, such as a web of paper, a reactor coil in one of said members establishing a magnetic circuit between said members in which circuit the web constitutes the reluctance gap, means for determining the reluctance gap in the magnetic circuit whereby to measure the caliper or thickness of the web, means for engaging said members with the opposite sides of the web and moving the same across the web in the direction transverse to the direction of the web travel to obtain a caliper profile of the web; characterized in that one of said members is a roller equipped with a drive motor to expedite damage-free engagement of both of said members with the web.

3,525,931
RADIO FREQUENCY APPARATUS FOR MEASUREMENT OF PLASMA CONDUCTIVITY

Sol Aisenberg, Natick, Mass., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Oct. 25, 1968, Ser. No. 770,692
Int. Cl. G01r 33/12
U.S. Cl. 324—40 2 Claims

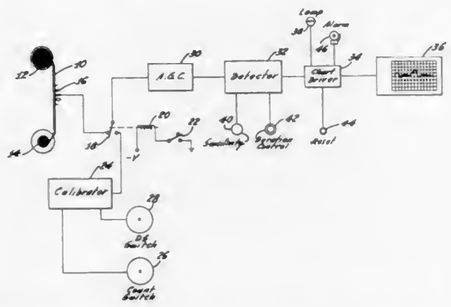


Apparatus for the measurement of plasma conductivity of reentry plasmas utilizing a marginal oscillator where slight changes of loss in the resonant circuit coil are converted into a larger relative change in the strength of oscillation. The AC output of the oscillator is demodulated thereby limiting error resulting from the drift of components. The zero of the conductivity voltage is suppressed.

3,525,930
DROPOUT COUNTER

Frederick J. Hodge, Camarillo, Calif., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn.

Filed Mar. 28, 1968, Ser. No. 716,783
Int Cl. G01r 33/00
U.S. Cl. 324—34 27 Claims

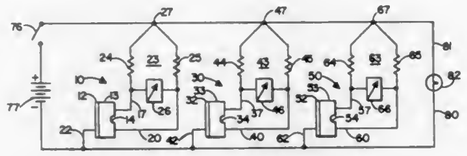


The present invention relates to a tape quality indicator for producing an output record of the quality of magnetic recording tape which is used for recording information such as video information. Specifically, the tape quality indicator provides for an instantaneous continuous record of the dropouts per minute reproduced along with the information on the tape and modifies this record of dropouts per minute by subjective factors relating to the learning time and forgetting time of the average viewer of the video information on the tape. The invention includes means for automatically resetting the instrument when the dropouts per minute exceed a predetermined value. The invention also includes means for calibrating the tape quality indicator to indicate tape quality of a particular value.

3,525,932
MAGNETOMETER UTILIZING A GROOVED REVERSE BIASED JUNCTION DIODE

John B. Flynn, Belmont, Mass., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Jan. 25, 1968, Ser. No. 700,434
Int. Cl. G01r 33/02
U.S. Cl. 324—43 2 Claims

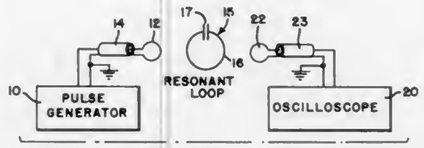


A magnetometer embodying no windings and no ferromagnetic materials in its sensors. A semiconductor diode is arranged for equal flow of carriers in two paths when in a given orientation with respect to a magnetic field: change in the orientation differentially varies the carrier flows in the two paths. The device may be replicated for use with respect to two or three mutually orthogonal axes, and may also sense variation in the strength of a selected component of a field of fixed direction.

3,525,933
METHOD FOR DETERMINING THE RESONANT FREQUENCY OF TUNED CIRCUITS BY USING A VARIABLE PULSE WIDTH GENERATOR

George H. Kramer, Dayton, Ohio, assignor to Dayton Electronic Products Company, Dayton, Ohio, a corporation of Ohio

Filed May 2, 1968, Ser. No. 726,030
Int. Cl. G01r 27/00; H03b 1/00
U.S. Cl. 324—57 4 Claims

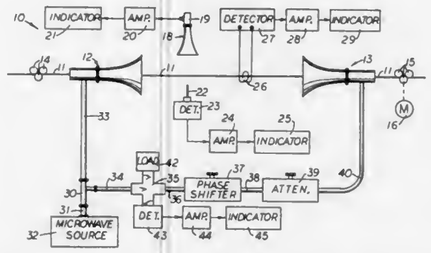


The resonant frequency of a tuned circuit is determined by measuring the time between two pulses of energy, the first pulse causing the circuit to begin oscillating and the second pulse causing the oscillations to cease. A pulse generator having a variable width square wave output supplies energy to a coil loosely coupled to the circuit undergoing test with the oscillations within the tuned circuit being observed on an oscilloscope having its vertical input connected to another coil, also loosely coupled to the tuned circuit.

3,525,934
NONDESTRUCTIVE MICROWAVE TESTING SYSTEM FOR WIRE

David W. Prine, Maywood, and John J. Flaherty, Elk Grove Village, Ill., assignor to Magnaflux Corporation, Chicago, Ill., a corporation of Delaware

Filed May 24, 1967, Ser. No. 640,966
Int. Cl. G01r 27/04
U.S. Cl. 324—58.5 20 Claims

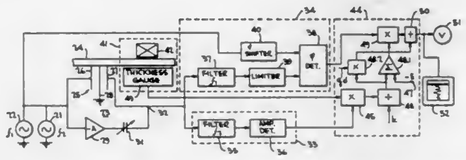


Nondestructive testing systems wherein variations in microwave energy propagated along a wire are detected to detect variations in the characteristics of the wire, or variations in the characteristics of a test piece such as a member of sheet material disposed adjacent the wire. In the wire testing systems, a short length of the wire is inspected at each instant of time and the wire is continuously movable through wave propagation means to permit inspection of a long length of wire. Important features relate to launching and receiving horns and coupling arrangements which permit propagation along a continuously moving wire. Further features relate to detection means of various forms including a horn, a probe or a loop arranged to detect scattered radiation, or a bridge arrangement by which received energy is compared with reference energy derived from the energizing source.

3,525,935
MOISTURE MEASURING SYSTEM AND METHOD FOR MATERIALS HAVING WET AND DRY LAYERS

Boong Y. Cho, Hilliard, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio

Filed Apr. 22, 1968, Ser. No. 722,939
Int. Cl. G01r 27/26
U.S. Cl. 324—61 20 Claims

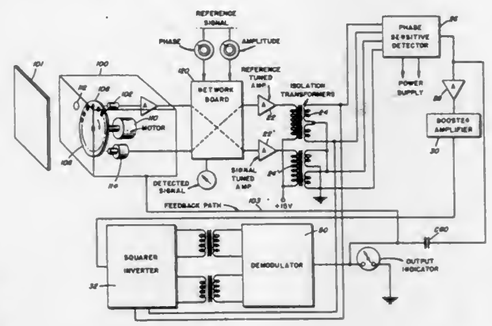


A system for measuring the average moisture content of sheet material formed with relatively moist and relatively dry layers includes a pair of A.C. sources, one of relatively high frequency and the other of relatively low frequency. Moisture in the material is determined by measuring the phase shift suffered by current from the high frequency source in being passed through the material, while the thickness of relatively dry layers is determined in response to the amplitude of the low frequency current passed through the material. The high and low frequency responses are combined with a measurement of the material total thickness, as determined from a radiation gauge, to derive an indication of average moisture throughout the total thickness of the material.

3,525,936
ELECTROSTATIC VOLTAGE FOLLOWER CIRCUIT FOR USE AS A VOLTMETER

Robert E. Vosteen, 5 Vernon St., Middleport, N.Y. 14105

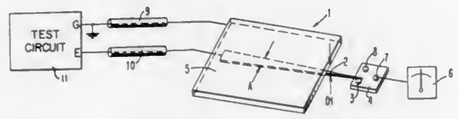
Filed July 26, 1966, Ser. No. 567,973
Int. Cl. G01r 31/00
U.S. Cl. 324—72 13 Claims



An electrostatic voltage follower to measure the electrostatic potential of a surface. A detector probe out of contact with the surface being measured is used and a reference signal is simultaneously produced with the modulated detected electrostatic signal to determine the polarity of the D.C. voltage difference between the detector probe and the surface being measured. Associated circuitry including tuned amplifiers that provide phase tracking between the detected and reference signals, and a phase sensitive detector are employed, the output of the latter being indicative of the amplitude and phase of the detected electrostatic signal. A high-level operational amplifier including a squarer-inverter circuit is employed

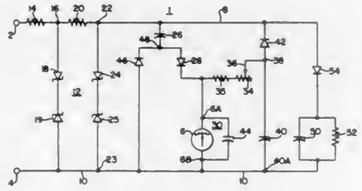
whose output drives the probe frame to the unknown potential. The fedback signal voltage is thus an accurate replica of the unknown surface voltage.

3,525,937
MATCHED IMPEDANCE TEST PROBE FIXTURE
Donald Thomas Mozer, Chelsea, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 19, 1967, Ser. No. 676,545
Int. Cl. G01r *31/02*
U.S. Cl. 324—72.5 **15 Claims**



A dynamically matched test probe fixture in which one or more cantilever mounted probes are mounted on a coextending and spaced ground plane which provides a predetermined impedance between itself and each probe.

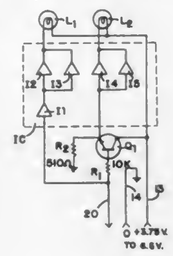
3,525,938
STATIC FREQUENCY METER
Uel L. Smith, Convent, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 31, 1966, Ser. No. 590,670
Int. Cl. G01r *23/02*
U.S. Cl. 324—78 **11 Claims**



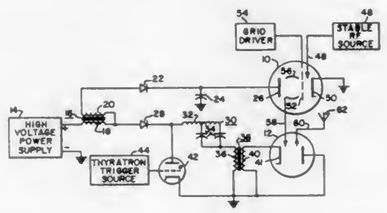
A frequency indicating apparatus for a source of alternating potential in which energy in a first polarity and of a magnitude proportional to the frequency of the source is supplied to an indicating instrument during one-half cycle and in which energy in an opposite polarity and of a magnitude which is independent of the source of frequency is supplied to the indicating instrument during the other half cycle and in which such energy is supplied from a pair of buses energized from the source with a potential which is independent of changes in the magnitude of the source of potential.

3,525,939
HAND HELD INSTRUMENT HAVING A PAIR OF INDICATOR LAMPS FOR INDICATING VOLTAGE LEVELS IN ELECTRICAL CIRCUITS
Robert L. Cartmell, Xenia, Ohio, assignor to Kurz-Kasch, Inc., Dayton, Ohio, a corporation of Ohio
Filed Aug. 1, 1968, Ser. No. 749,503
Int. Cl. G01r *19/16*
U.S. Cl. 324—133 **8 Claims**

A hand held instrument having an electrically conductive probe at one end and a display screen containing two lights at the other end is used to sense the logic condition of a component part in a high density packaged circuit. Three conditions may be indicated by two lights within the display screen. A first condition, where the input is at logic 1 (where the input voltage exceeds a first predetermined value), is indicated by the first light, and a second condition, where the input is a logic zero (where the input voltage is less than a second predetermined value), is indicated by the second light, and a third condition, where the input is floating or where the input voltage lies somewhere between the first and second predetermined voltages, is indicated by neither light being energized.



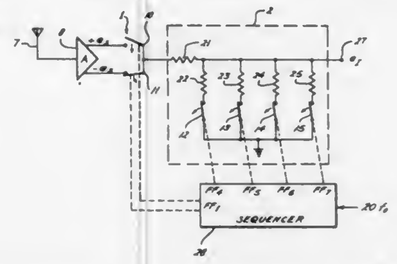
3,525,940
RADAR TRANSMITTER
Arden L. Quesinberry, Towson, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 18, 1967, Ser. No. 654,259
Int. Cl. H04b *1/04*
U.S. Cl. 325—120 **9 Claims**



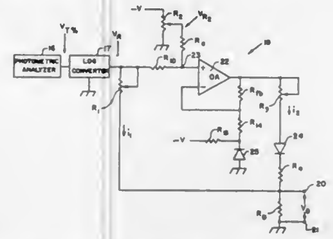
The present disclosure relates to radar transmitters for supplying a pulse of energy for radiation wherein a cross field amplifier is driven by a traveling wave tube with RF energy being applied to the traveling wave tube for amplification therein. A single power supply is provided to supply operating potential via a supply circuit to the traveling wave tube to supply a pulse of energy generated in a pulse circuit to the cross field amplifier in a timed relationship to the turning on of the traveling wave tube. The operating potential supplied to the traveling wave tube is replenished after the extraction of energy from the transmitter.

3,525,941
STEPWAVE CONVERTER
Spurgeon E. Smith, Austin, Tex., assignor to Tracor, Inc., Austin, Tex., a corporation of Texas
Filed June 28, 1967, Ser. No. 649,561
Int. Cl. H04b *1/26*
U.S. Cl. 325—442 **5 Claims**

A method and frequency converter for use in a superheterodyne radio receiver wherein an IF signal with suppressed harmonics is produced. The input RF signal is multiplied by a step-approximation sine wave in the converter. The converter includes a square wave mixer or phase inverting switch and a cyclically variable attenuator.



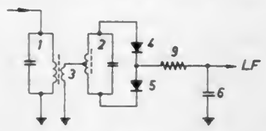
3,525,942
CALIBRATION CIRCUIT FOR PHOTOMETRIC ANALYZERS
Attila D. Boronkay, La Habra, Gerald T. Keahl, Fullerton, and Gottfried Riess, Santa Ana, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Feb. 19, 1968, Ser. No. 706,279
Int. Cl. G06g *7/12*
U.S. Cl. 328—142 **7 Claims**



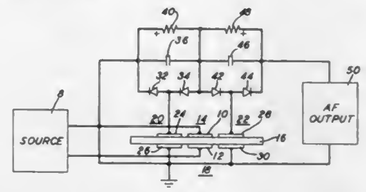
There is described a calibration circuit for use with photometric analyzers which provides a straight line approximation of the calibration curve of samples which exhibit limited departure from the Lambert-Beer law. The output of a photometric analyzer passes a log converter to provide an electrical signal proportional to the absorbance of the sample. This signal is applied across a potential divider to satisfy the equation $V_0=k_1V_A$, a variable potentiometer allowing adjustment of k_1. An operational amplifier is connected to receive the algebraic sum of V_A and a negative potential and has its output connected through a second potentiometer and a diode to the output impedance such that, when the output signal V_A reaches a predetermined limit, the signal across the output impedance is $V_0=k_2V_A$. In this way the calibration curve may be approximated by a pair of linear equations.

3,525,943
DEMODULATOR WITH LIMITING PROPERTIES FOR FREQUENCY MODULATED OSCILLATIONS
Heinz Rinderle, Heilbronn, Germany, assignor to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany
Filed Sept. 12, 1967, Ser. No. 667,174
Claims priority, application Germany, Oct. 7, 1966, T 32,222
Int. Cl. H03d *3/10, 3/24*
U.S. Cl. 329—130 **4 Claims**

A demodulator with limiting properties for frequency-modulated oscillations in which two synchronous diodes are connected directly together in series so as to conduct in the same direction. This pair of diodes is connected in parallel to one of two coupled-together resonant circuits. The middle point of this resonant circuit and the connection point between the two diodes are connected in series between a high-frequency input and a low frequency output. Between the low frequency output and the high frequency input, and usually between the low frequency output and the diodes, a resistor is inserted in series; this resistor is so dimensioned that the low frequency voltage is practically independent of the level of the input voltage. The resonant resistance of the circuit to which the diodes are connected is dimensioned so as to be so small that no special diodes need be required, but so that diodes with normal inherent capacitance can be used.

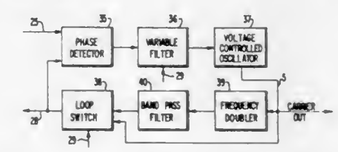


3,525,944
FREQUENCY DISCRIMINATOR CIRCUIT
Warren L. Smith, Allentown, Pa., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Continuation of application Ser. No. 658,443, Aug. 4, 1967. This application July 25, 1969, Ser. No. 849,239
Int. Cl. H03d *3/26;* **H01v** *7/00*
U.S. Cl. 329—140 **13 Claims**



Three pairs of opposing electrodes mounted on a single crystal form a central input resonator coupled to two output resonators. The electrode pairs are sufficiently massive for energy trapping and hence for decreasing the coupling from the input resonator to each output resonator enough to form with each output resonator a low impedance passband. Detector means combine the outputs of the output resonators subtractively to produce a frequency-demodulated output.

3,525,945
SYSTEM FOR RECONSTITUTING A CARRIER REFERENCE SIGNAL USING A SWITCHABLE PHASE LOCK LOOP
John G. Puente, Rockville, Md., assignor to Communications Satellite Corporation, Washington, D.C.
Filed Aug. 14, 1968, Ser. No. 752,646
Int. Cl. H04l *27/22;* **H03d** *3/18*
U.S. Cl. 329—50 **5 Claims**



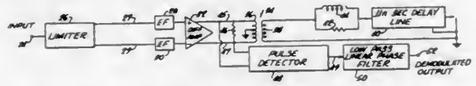
A system for reconstituting a carrier reference signal from a received phase shift key (PSK) modulated carrier

signal burst. The burst has a relatively short interval of unmodulated carrier followed by a longer interval of PSK modulated carrier. The system locks in phase during the unmodulated interval before switching to a frequency doubling mode for generating a reconstituted carrier signal from the modulated signal.

3,525,946
SINGLE DELAY LINE DEMODULATOR SYSTEM FOR ANGLE MODULATED SIGNAL

Alan G. Grace, San Carlos, Calif., assignor to Westel Company, San Mateo, Calif., a copartnership composed of Westel Incorporated, Westel Associates, and Westel California Investors, all of San Mateo, Calif., all corporations of California

Filed June 19, 1968, Ser. No. 738,307
Int. Cl. H03d *3/02*
U.S. Cl. 329—110 **10 Claims**

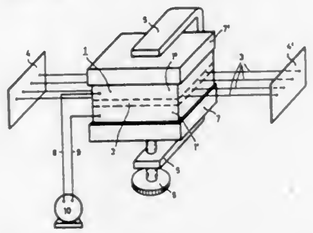


A limiter limits an angle modulated input to produce a first square wave output in phase with the input and a second square wave output 180° out of phase. These square waves are amplified by a differential amplifier and applied across the primary winding of a transformer. The secondary winding of the transformer is coupled to a shorted delay line. A predetermined period of time after a pulse is applied to the primary winding of the transformer, a reflected pulse from the delay line will appear in the primary winding to cancel the input pulse. A detector means is coupled across the primary winding and will produce a pulse train having pulses which are initiated each time the primary winding of the transformer is pulsed and terminated when the reflected wave from the delay line is sensed in the primary winding. The pulse train produced by the detection means then has a frequency twice the instantaneous frequency of the modulated input to the system and has a duty cycle twice the delay time provided by the delay line. A low pass filter is connected to the output of the detecting means to reproduce the signal which modulated the input.

3,525,947
MASER DEVICE WITH ENERGY LEVELS IN ACCORDANCE WITH MECHANICAL STRAIN

Günter Winstel, Munich, and Dietrich Bartels, Deisenhofen, near Munich, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed Feb. 18, 1964, Ser. No. 345,658
Claims priority, application Germany, Feb. 21, 1963, S 83,828
Int. Cl. H01s *1/02, 3/18*
U.S. Cl. 330—4 **8 Claims**

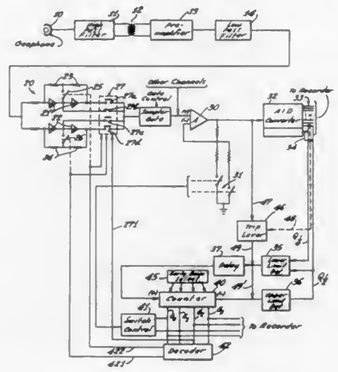


The amplification characteristics of a maser amplifier for electromagnetic radiation are altered by the application of mechanical strain to the maser crystal.

3,525,948
SEISMIC AMPLIFIERS

Paul Sherer, West Covina, and Phillip C. Halverson, Fullerton, Calif., assignors to SDS Data Systems, Inc., Santa Monica, Calif., a corporation of California

Filed Mar. 25, 1966, Ser. No. 537,386
Int. Cl. H03f *1/36, 3/68*
U.S. Cl. 330—51 **15 Claims**

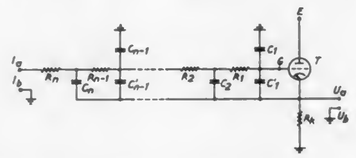


An amplifier system is disclosed in which an amplifier having adjustable gain in relatively small steps can be selectively cascaded with one of two amplifiers having coarse gain adjustment. Coarse gain is adjusted in the off line amplifier.

3,525,949
ACTIVE RC-FILTER OF A DESIRED DEGREE

Tore Torstensson Fjällbrant, Staborg Fjaras, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed Apr. 22, 1968, Ser. No. 723,094
Claims priority, application Sweden, May 31, 1967, 7,621/67
Int. Cl. H03f *1/36*
U.S. Cl. 330—107 **6 Claims**



An active RC-filter includes a ladder network connected to a signal amplifier. The longitudinal elements of the network which can be either capacitors or resistors connect an input terminal of the filter to the input of the signal amplifier with output of the amplifier being the output of the filter. The transverse elements of the network which can be either resistors or capacitors are connected to a resistor in the output circuit of the amplifier.

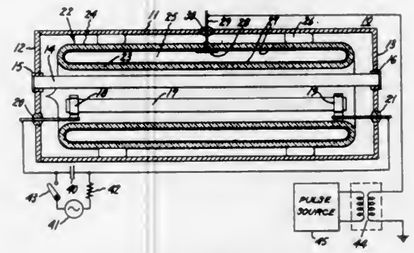
3,525,950
LASER APPARATUS HAVING HIGH EFFICIENCY PUMPING ARRANGEMENT

Joseph P. Chernoch, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Filed Aug. 7, 1967, Ser. No. 658,882
Int. Cl. H01s *3/09*
U.S. Cl. 331—94.5 **6 Claims**

Improved pumping of laser rods is achieved in a laser structure utilizing an atmospherically isolated silver reflecting surface which laterally surrounds the laser rod and

pumping lamp. Silver is the best obtainable reflector and is prevented from tarnishing by being sealed in a light transmissive envelope which contains no chemically reactive

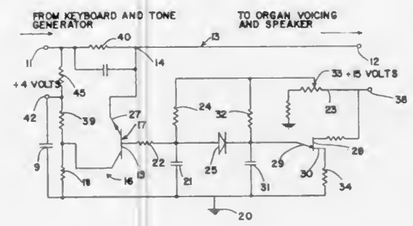


atmosphere. Such a nonreactive atmosphere may be obtained by evacuating the envelope or filling the same with an inert or noble gas.

3,525,951
ELECTRICAL ORGAN CIRCUIT

Bradley J. Plunkett, Van Nuys, Calif., assignor to Warwick Electronics Inc., Chicago, Ill., a corporation of Delaware

Original application Apr. 28, 1965, Ser. No. 451,376. Divided and this application Jan. 10, 1969, Ser. No. 790,328
Int. Cl. G10h *1/04*
U.S. Cl. 331—111 **6 Claims**



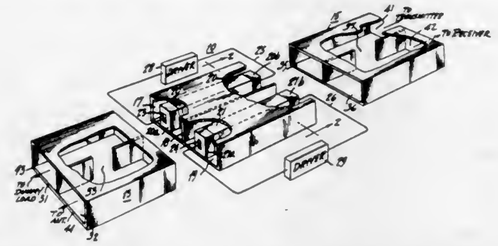
A percussion envelope is applied to a tone signal by selectively shunting tone signal away from the output circuit. Shunting is accomplished by a shunt-connected variable impedance, such as a transistor, the control electrode of which has applied thereto a repetitive voltage pulse which abruptly increases the shunt impedance and then gradually decreases the impedance to create a correspondingly shaped percussive envelope. The pulse is created by a pair of RC circuits, one of which controls the shape of the envelope, the other of which controls the repetition frequency of the pulses.

3,525,952
DUPLEXER HAVING TWO NON-RECIPROCAL PHASE SHIFTING MEANS

Wieslaw W. Siekanowicz, Trenton, Donald J. Blattner, Princeton, and Thomas E. Walsh, Kearny, N.J., assignors to RCA Corporation, a corporation of Delaware

Filed Sept. 30, 1968, Ser. No. 763,774
Int. Cl. H01p *1/32, 5/14*
U.S. Cl. 333—1.1 **10 Claims**

A duplexer includes a center dual waveguide section. A ferrite toroid is placed along the length of one waveguide section, and a fixed 180° differential phase shift is provided along the length of the second waveguide section. A first and a second short-slot hybrid coupler respectively terminates each end of the center duel waveguide section. A latching wire is passed through the ferrite toroid in the first section and coupled to a current driver. Upon the application of a pulse from the driver in one direction, an additional 180° relative phase shift is provided for signals traveling in a first direction along

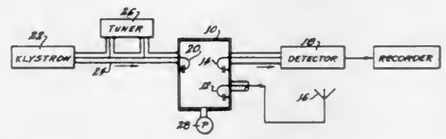


the length of the first waveguide section than for signals traveling in the opposite or second direction through the waveguide section. Upon the application of a pulse from the driver in the opposite direction, an additional 180° relative phase shift is provided for signals traveling in the second or opposite direction through the first waveguide section than for signals traveling in the first direction through the section.

3,525,953
PLASMA TUNING MEANS WHEREIN THE RESONANT FREQUENCY OF A CAVITY RESONATOR TRACKS THE FREQUENCY OF AN IONIZING CONTROL FREQUENCY

Steven L. Halverson, Chicago Heights, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Nov. 7, 1967, Ser. No. 681,199
Int. Cl. H03h *7/10;* **H01p** *7/06*
U.S. Cl. 333—73 **5 Claims**



A variable-frequency signal generator is electrically coupled to a resonant cavity containing an ionized gas. The resonant frequency of the cavity may be changed by varying the frequency of the electrically coupled signal.

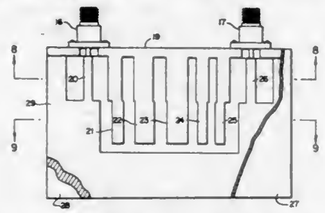
3,525,954
STEPPED DIGITAL FILTER

John David Rhodes, Natick, Mass., assignor to Microwave Development Laboratories, Inc., a corporation of Massachusetts

Filed July 29, 1968, Ser. No. 748,318
Int. Cl. H03h *7/08;* **H01p** *3/08*
U.S. Cl. 333—73 **5 Claims**

A band-pass, elliptic function, microwave filter is disclosed having a pair of digital networks connected in parallel. Each network is formed of parallel digits disposed between ground planes, the spacing between digits being approximately the same in both networks. All the digits in each network are of equal length and each is one-eighth wavelength long at the mid-band frequency of the filter. Corresponding digits of the two networks are substantially in alignment and have their ends joined to form one-quarter wavelength long digits. The digits of one

network terminate in short circuits, the digits of the other network terminate in open circuits, and the impedances of the digits in one network are different from



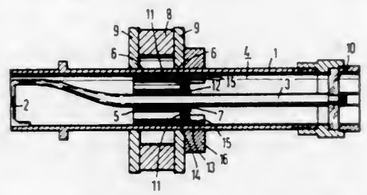
the impedances of the digits in the other network whereby the one-quarter wavelength digits are stepped in impedance at their midpoints.

3,525,955

TUNING AND COUPLING DEVICE FOR A FREQUENCY-MODULATION TUBE WITH A DELAY LINE OPERATING AS A LINE RESONATOR

Franz Gross, Munich, Germany, assignor to Siemens Aktiengesellschaft, Erlangen, Germany, a corporation of Germany

Filed July 5, 1967, Ser No. 651,266
Claims priority, application Germany, July 27, 1966, S 105,026
Int. Cl. H01j 7/41; H01p 1/00
U.S. Cl. 333—98 **2 Claims**



A tuning and coupling device for a frequency-modulation tube with a delay line operating as a line resonator, in which the coupling means comprises a tuning slide at least partially of a ferromagnetic material disposed in a tubular coupling conductor of non-magnetic material, which slide is magnetically coupled to a magnet arrangement exteriorly of the tubular conductor and movable therealong as such arrangement is moved along the exterior of the conductor, the slide also being provided with slits therein for the passage of high frequency, the size of which is adjustable by varying the position of a movable disk carried by the slide, such disk being provided with ferromagnetic parts cooperable with further magnetic means disposed exteriorly of the tubular conductor, whereby movement of the latter means is operative to adjustably move such disk.

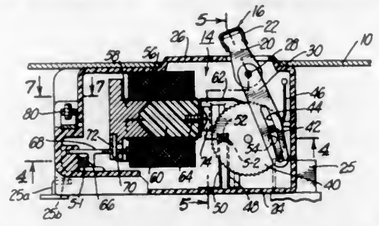
3,525,956

CONTROL APPARATUS FOR ELECTRICAL CIRCUIT BREAKER

William M. Poschman II, 1409 Dogwood, North Las Vegas, Nev. 89030

Filed Sept. 9, 1968, Ser. No. 758,229
Int. Cl. H01h 51/08
U.S. Cl. 335—74 **13 Claims**

Control apparatus for an electrical switch particularly adapted for use in an electrical distribution box alongside of or adjacent the end of conventional electrical circuit breaker units, including a control wheel rotatably mounted in a housing and connected through a cam and control arm to an activating arm of an electrical switch, drive means for rotating the control wheel, circuit means for energizing the drive means, and stop means for deenergizing the drive means when the activating arm of the electrical switch has moved from one position to another.



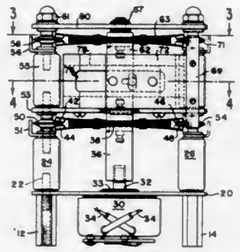
An external switch member is provided as part of the circuit means to activate the drive means and initiate rotation of the control wheel.

3,525,957

HIGH VOLTAGE RELAY

Richard H Lonergan, Brockton, Mass., assignor to Joseph Pollak Corporation, Boston, Mass., a corporation of Massachusetts

Filed May 17, 1968, Ser. No. 730,014
Int. Cl. H01h 67/06
U.S. Cl. 335—125 **1 Claim**



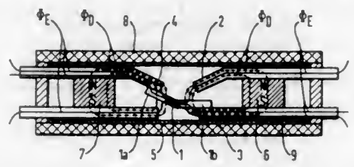
A relay for use at extremely high voltage in which a rotary solenoid causes relative motion between pairs of opposed contacts and a single contact. The relative motion of the contacts continues after an initial closure and the tapered configuration of the single contact causes increasing contact pressure and eliminates possible contact bounce and contact welding. Upon reversal of operation, the moving contact or contacts gain momentum before they pass over areas where pitting may exist and possible welding may occur. A shorting bar also actuated by the rotary solenoid prevents undesired output from the relay.

3,525,958

POLED MINIATURE RELAY WITH TWO-BLADED PIVOTED ARMATURE

Ulf Rauterberg, Munich, Germany, assignor to Siemens Aktiengesellschaft, Erlangen, Germany, a corporation of Germany

Filed Nov. 29, 1968, Ser. No. 779,895
Claims priority, application Germany, Dec. 4, 1967, 1,614,672
Int. Cl. H01h 51/24
U.S. Cl. 335—153 **4 Claims**



A miniature relay having two pairs of contacts, the cooperating contacts being diagonally disposed in relation

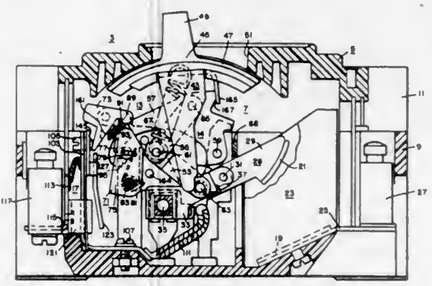
to one another and contacted by a V-shaped combination armature and contact which has no physical support or pivot point.

3,525,959

CIRCUIT BREAKER WITH IMPROVED LATCH RESET

James P. Ellsworth, Beaver, and John Majcher, Beaver Falls, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 5, 1968, Ser. No. 781,514
Int. Cl. H01h 77/00
U.S. Cl. 335—166 **10 Claims**



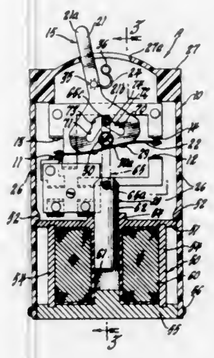
A circuit breaker comprises improved means for resetting the latch and trip means following a tripping operation. The latch and trip means will not reset following release thereof if the contacts are welded closed, and the operating handle cannot be put in a maintained open position when the contacts are welded closed.

3,525,960

ELECTROMECHANICALLY AND MANUALLY OPERABLE SWITCH MECHANISM

Samuel B. Robbins, Rochester, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 28, 1969, Ser. No. 794,502
Int. Cl. H01h 3/00
U.S. Cl. 335—185 **2 Claims**



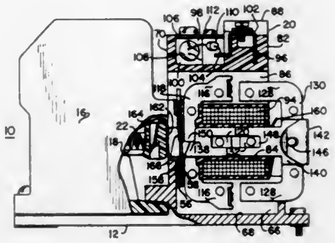
The switch mechanism includes a manually manipulatable actuator pivotally supported within a switch housing for movement in opposite directions between first and second positions. The actuator carries mobile contact means which are movable into engagement with respective ones of stationary contacts carried by the switch housing to effect first and second switching functions when the actuator is moved to its first and second positions, respectively. The switch mechanism also includes an electromechanical means operatively connected with the actuator for moving the same between its positions, the connection therebetween being such that the actuator can be manually manipulated without disturbing the normal operational position of the electromechanical means.

3,525,961

COIL AND MAGNET MOUNTING STRUCTURE FOR AN ELECTROMAGNETICALLY OPERATED DEVICE

Kenneth J. Marien, Wauwatosa, Wis., assignor to Square D Company, Park Ridge, Mich., a corporation of Michigan

Filed Sept. 12, 1968, Ser. No. 759,351
Int. Cl. H01h 45/02
U.S. Cl. 335—202 **10 Claims**



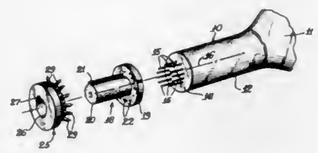
An electromagnet mounting structure wherein the coil, magnet armature and stationary magnet pole are maintained assembled when detached from a mounting base for an electromgnetically operated device by a shock absorbing means which provides a movable connection between the armature and base when the electromagnet is mounted on the base and wherein the coil includes a cavity closed by a transparent cover so an indicating lamp which is illuminated when the coil winding is energized will be visible from the front of the device.

3,525,962

MAGNETIC CAP FOR COLOR KINESCOPE

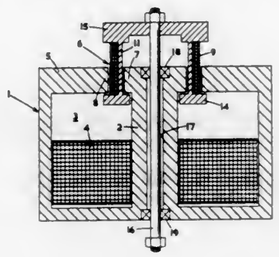
Laszlo Javorik, Chicago, Ill, assignor to National Video Corporation, Chicago, Ill., a corporation of Illinois

Filed Oct. 22, 1968, Ser. No. 769,633
Int. Cl. H01f 7/00
U.S. Cl. 335—210 **4 Claims**



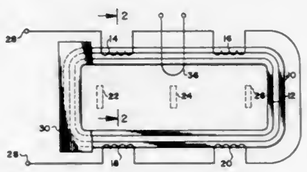
The cap at the base of the constricted neck of the envelope of a color kinescope is modified to incorporate a magnetic material which will generate a magnetic field to correct for displacement errors of beam landing as a result of rotation of the beams as is caused, for example, by the earth's magnetic field.

3,525,963
ELECTRO-MAGNETIC ACTUATOR WITH ARMATURE ASSEMBLY SLIDABLE BETWEEN TWO LIMIT POSITIONS
Edward Raymond Burdett, Stafford, England, assignor to The English Electric Company Limited, London, England, a British company
Filed July 25, 1968, Ser No. 747,678
Int. Cl. H01f *7/08*
U.S. Cl. 335—254 **10 Claims**



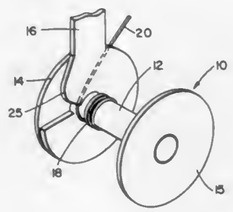
An electro-magnetic actuator has an armature assembly which is suitable for actuated travel distances of the order of 1 inch, and which comprises a flux-diverting coil wound upon a cylindrical former, the latter carrying latching poles at each of its ends. The armature assembly is slidably mounted via a rod in a central shaft of a cylindrical casing and the flux-diverting coil is disposed within an annular air gap formed in one end wall of the casing. An electromagnet is contained within the casing for providing a radial magnetic flux path across the air gap. The armature assembly is slidable between two limit positions which are each defined by the respective latching pole bridging the air gap and latching the armature assembly to the casing, the main flux path being diverted through the bridging latching pole. Energisation of the flux-diverting coil with a suitable D.C. pulse, when the armature is in one of its limit positions, produces magnetic flux which opposes the diverted main flux path through the bridging pole to unlatch it from the casing and which reacts with the main flux path in the air gap to produce a thrust urging the armature assembly towards the other limit position.

3,525,964
ZERO-PHASE-SEQUENCE TRANSFORMER
Robert A. Stevenson, Toronto, Ontario, Canada, assignor to Federal Pacific Electric Company, a corporation of Delaware
Continuation of application Ser. No. 642,909, June 1, 1967. This application Aug. 15, 1968, Ser. No. 755,021
Int. Cl. H01f *15/04*
U.S. Cl. 336—84 **12 Claims**



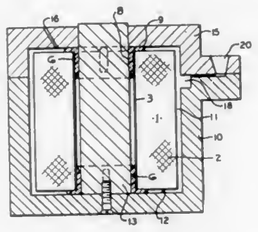
A zero-phase sequence transformer has the conductors to a load extending through a running magnetic core on which there is a zero-phase-sequence-current output winding. Magnetic shielding is included for minimum spurious output. The magnetic shielding includes a shielding core that covers the portion of the output winding which faces the load conductors, and the magnetic shielding also includes lateral portions extending across the sides of the running core and the output winding.

3,525,965
ELECTRICAL COIL
Arthur J. Sparling, Manhattan Beach, Calif., assignor to Teledyne, Inc., Hawthorne, Calif., a corporation of Delaware
Filed Aug. 16, 1968, Ser. No. 753,154
Int. Cl. H01f *27/30*
U.S. Cl. 336—198 **8 Claims**



An electrical coil in which an insulated pouch for the start wire is formed in the bobbin by providing an insulator tab bonded over only part of its area to the inner side of one flange of the bobbin.

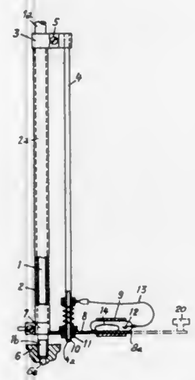
3,525,966
ENCAPSULATED COIL AND METHOD OF MAKING SAME AND SPACER FOR USE DURING ENCAPSULATION
Jerome P. Wierzbinski, Fort Wayne, Ind., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed July 24, 1968, Ser. No. 747,374
Int. Cl. H01j *27/02, 27/30*
U.S. Cl. 336—205 **9 Claims**



The spacer comprises a thin wall annulus which is adapted to fit snugly within the central passage of an electric coil in coaxial relation to the central passage. The annulus has radially inwardly extending circumferentially spaced ribs or protuberances adapted to engage the core of an encapsulating mold and position the spacer and thereby the coil with the exterior and interior peripheral walls in proper spaced relation to the corresponding walls of the mold during encapsulation. Each spacer has radial fingers at one end which engage the end of the coil and space its end wall properly from the end wall of the mold. One spacer is inserted in each end of the coil.

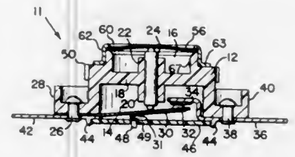
The coil is then disposed in the mold held by the spacers in proper position. While held in this position, flowable encapsulating material is poured into the mold, and flows past the spacers so that it also fills all of the space between the coil, and the core and wall of the mold, completely embedding and incorporating the spacers.

3,525,967
SAFETY SWITCH ARRANGEMENT FOR ELECTRICAL RESISTANCE HEATERS
Siegfried Stauber, Huttenkopfstrasse 32, Zurich, Switzerland
Filed July 25, 1968, Ser. No. 747,659
Claims priority, application Switzerland, July 28, 1967, 10,732/67
Int. Cl. H01h *37/48, 37/72*
U.S. Cl. 337—141 **8 Claims**



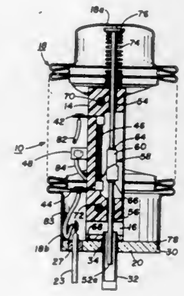
A safety switch arrangement for electrical resistance heaters comprising tube means, the length of which varies as a function of temperature. A heat generating element is arranged at one side of the tube means and a heat absorbing medium is disposed at the other side thereof. Further, means are provided for fixedly retaining one end of the tube means. A member, such as a switch or transducer or the like, actuated in response to changes in the absolute length of said tube means is operably associated with the other free end of such tube means. The changes in the absolute length of the tube means constitute a measure for the generation of heat and the transmission of heat. Transmission means cooperate with the tube means and the actuated member, said transmission means and said actuated member being situated at the same side of said heat generating element.

3,525,968
THERMOSTAT
Charles John Hire, Pittsford, N.Y., assignor to Fasco Industries, Inc., Rochester, N.Y., a corporation of New York
Filed Mar. 21, 1968, Ser. No. 714,854
Int. Cl. H01h *37/54, 37/70, 37/72*
U.S. Cl. 337—348 **1 Claim**



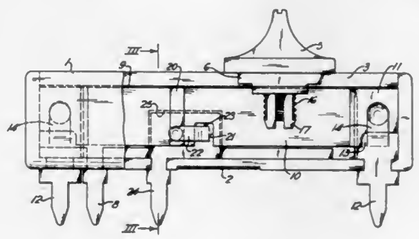
Opposite ends of a reciprocable bumper pin engage, respectively, a bimetallic disc, and a flexible switch arm. The switch arm is fixed at one end to a first terminal, and has a free end normally engaged with a second terminal so that the switch is normally closed. A reset button is manually operable to push the switch arm in a direction to return the bumper pin and bimetallic disc to their normal positions, but this reset button is positioned so that when it is depressed it acts as a fulcrum to open the switch so that the bumper pin and disc must return to their normal positions before the switch can be closed. Thus, the switch can be closed only when the temperature of the disc is below a predetermined amount.

3,525,969
PRESSURE ALTIMETER FOR WEATHER BALLOONS
James L. Newman, 1321 Glen Cove, Richardson, Tex. 75080
Filed June 21, 1968, Ser. No. 739,050
Int. Cl. G01l *9/02*
U.S. Cl. 338—41 **15 Claims**



A pressure transducer in which a potentiometer is hermetically sealed in an evacuated chamber formed by a support and a metal bellows. The potentiometer includes an elongated resistance coil, a plunger rod extending parallel to the coil and slidably supported in two bearing sleeves at the ends of the coil, and a wiper mounted on the center of the plunger which slides over the coil. The potentiometer may be mounted on a header and disposed wholly within the bellows, or primarily within a hermetically sealed housing to provide minimum size and weight. In either form, a tube extending through the header receives one end of the plunger rod and provides a means for either evacuating the chamber or for supplying fluid to the interior of the chamber so as to measure the pressure of the fluid.

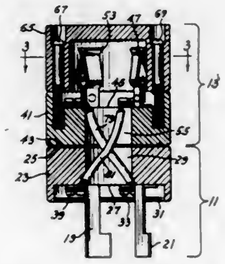
3,525,970
POTENTIOMETER WITH TAP
David A. Olson, Ridgway, Earl A. Pfeufer, St. Marys, and Mogens W. Bang, Ridgway, Pa., assignors to Stackpole Carbon Company, St. Marys, Pa., a corporation of Pennsylvania
Filed Feb. 19, 1969, Ser. No. 800,573
Int. Cl. H01c *9/04*
U.S. Cl. 338—183 **10 Claims**



A straight resistance strip in a linear motion potentiometer case is provided with a tap close to the back of the case. A portion of the rear edge of the strip beside the

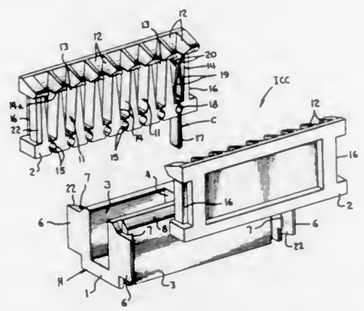
tap is located farther forward than the rear end of the tap to provide the tap with a side edge. A terminal has a flat portion between the tap and the side wall of the case provided with a spring tongue extending inwardly across said side edge and then lengthwise of the case across the tap to press it against the flat portion.

3,525,971
ELECTRIC PLUG ADAPTER FOR CONNECTING IN A THREE PHASE POWER CIRCUIT
Aaron Glassman, Scranton, Pa, assignor to Pennsylvania Sewing Research Corporation, a corporation of Pennsylvania
Filed July 22, 1968, Ser. No. 746,614
Int. Cl. H01r *3/06*
U.S. Cl. 339—14 **3 Claims**



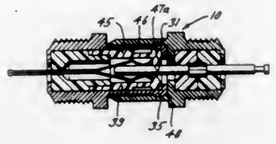
An electric plug adapter comprised of (A) a male three phase power cable connector, (B) a female three phase power cable connector, (C) means for holding said male and female connectors in back-to-back relationship, and (D) means connecting the prongs of the male connector with the sockets of the female connector and providing opposite electrical rotation in the male and female connectors. Preferably, the holding means (C) are also the connecting means (D).

3,525,972
INTEGRATED CIRCUIT CONNECTOR
John Carl Asick, Harrisburg, and Robert John Kinkaid, New Cumberland, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Oct. 17, 1968, Ser. No. 768,264
Int. Cl. H01r *5/04, 13/62, 33/76*
U.S. Cl. 339—64 **12 Claims**



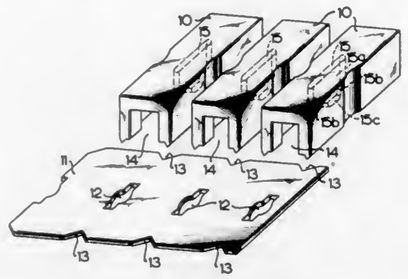
An integrated circuit connector comprises a base onto sides of which are latchably secured contact-carrying members having contacts disposed in cavities spaced therealong, the entrances to the cavities having tapered surfaces facilitating guiding contact members of an integrated circuit into the cavities into electrical engagement with the contacts therein.

3,525,973
ELECTRICAL CONNECTORS
Hyman J. Kipnes, 200 S. Middle Neck Road, Great Neck, N.Y. 10021
Filed June 17, 1968, Ser. No. 737,726
Int. Cl. H01r *17/18*
U.S. Cl. 339—177 **4 Claims**



An electrical connector with two complementary separable components having two pairs of mating conductor elements. Male and female components contain axially disposed mutually engageable contact pins insulated from outer mutually engageable contact members, the male component having a hollow body portion with an annular enlarged contact locking head, the female component having a cavity proportioned to slidably receive therein said body portion and also having an enlarged contact locking recess proportioned to accommodate therein said contact locking head, and a resilient sleeve within said male component's body portion yieldably urging portions of said contact locking head into yieldable engagement with said contact locking recess.

3,525,974
TERMINAL HOUSING
Dieter Henrici and Friedrich Schaefer, Neheim-Husten, Germany, assignors to Brokelmann Jaegar & Busse K.G., Neheim-Husten, Germany, a corporation of Germany
Filed Jan. 7, 1969, Ser. No. 789,483
Claims priority, application Germany, Jan. 20, 1968, 1,277,402
Int. Cl. H01r *9/00*
U.S. Cl. 339—198 **2 Claims**



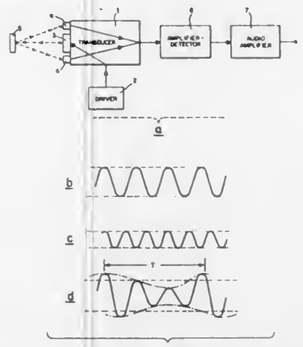
A terminal housing which comprises at least one cup-shaped upper part defining a single receiving chamber and adapted for receiving screwless, contact elements equipped with contact spring tongues; a bottom is welded to the upper part and comprises a continuous, flexible band of synthetic material having securing breakthroughs disposed spaced apart from each other. Individual of the upper parts of the terminal housing are secured to the bottom in regular longitudinal spacings between the securing breakthroughs, and at least one web projection originates from the top of the receiving chamber and extends in the direction towards the band of the bottom for a clamping hold of the contact elements.

3,525,975
PLUG AND SOLDERING BASE UTILIZING KNIFE CONTACTS
Herbert Krautwald and Erwin Muller, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Continuation of application Ser. No. 672,408, Aug. 22, 1967. This application May 12, 1969, Ser. No. 828,420
Int. Cl. H01r *13/42;* **H01h** *45/00*
U.S. Cl. 339—217 **1 Claim**



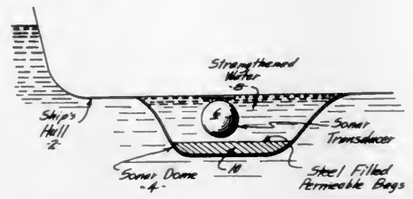
A plug or solder base utilizing a blade-like knife contact mounted in an elongated slot of a base plate of insulating material. The knife contact has a pair of spring shanks at one end, which is a terminal for soldering a circuit wire, defined by a longitudinal slot extending from the one end and terminating in a round opening adjacent the other end, which is the prong or male contact adapted for reception in the female socket. Each of the shanks are provided with a pair of shoulders for engaging the edge of the slot of the base plate after the contact has been assembled therein. The longitudinal slot has a width which is bridged by solder during the attachment of the circuit wire to the terminal to prevent the shank from being moved inwardly after the circuit wire has been attached to the terminal and therefore prevent the removal of the knife contact from the elongated slot of the base plate.

3,525,976
ULTRASONIC AMPLITUDE-DOPPLER DETECTOR
Martin H. Wilcox, Media, Pa., and Paul H. Egli, Collingswood, N.J., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
Filed Dec. 27, 1968, Ser. No. 787,397
Int. Cl. G01s *9/66*
U.S. Cl. 340—1 **9 Claims**



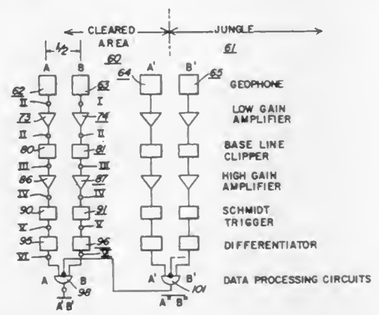
Apparatus suitable for detection of movement is disclosed wherein a transducer transmits ultrasonic energy and receives ultrasonic reflections encoded with both Doppler and amplitude information, said transducer receiver generating a low level electrical signal which is passed through several stages of amplification and detected solely by amplitude modulation direction means, and amplified at audio frequencies.

3,525,977
APPARATUS AND METHOD FOR CONTROLLING CAVITATION
Charles L. Darner, Orlando, Fla., assignor to the United States of America as represented by the Secretary of the Navy
Filed Dec. 21, 1967, Ser. No. 693,694
Int. Cl. H04p *1/46*
U.S. Cl. 340—8 **4 Claims**



The onset of cavitation in the water surrounding a sonar transducer is retarded by adding steel filled permeable bags to de-oxygenate the water.

3,525,978
DIRECTIONAL SEISMIC SENSING SYSTEM
William J. Heinecke, Sudbury, and Gunars Grabis, Arlington, Mass., assignors to Sensor Precision Industries, Inc.
Filed Nov. 13, 1967, Ser. No. 682,182
Int. Cl. G01s *3/00*
U.S. Cl. 340—16 **2 Claims**

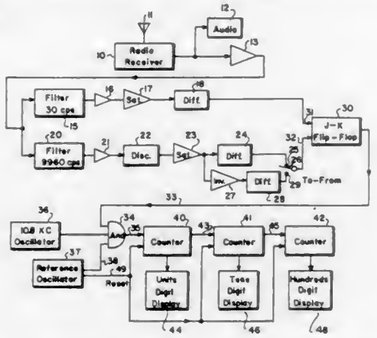


Geophones are placed a half-wave length apart along a base line, the wave length being an earth motion which is characteristic of the predetermined source of motion in a monitored area. When earth motion occurs at this selected wave length, the geophones experience the motion at about the same time. Thus, by detecting the signals of the adjacent geophones within a fixed time period, it is possible to select those sources which produce earth motion of the selected wave length. The signals from the geophone are converted into digital signals so that data processing equipment may analyze them to logically interpret the probable source of the detected motion.

3,525,979
DIGITAL SIGNAL PROCESSING AND DISPLAY FOR AERIAL NAVIGATION SYSTEM
James W. Kunkel, 1507 Marlee Lane, Arlington, Tex. 76010, and Daniel F. Thomas, 1844 N. Highway 77, 12, Carrollton, Tex. 75006
Filed Nov. 15, 1966, Ser. No. 594,494
Int. Cl. G01c *21/00*
U.S. Cl. 340—27 **10 Claims**

Airborne apparatus for processing Omni navigation signals and displaying to the pilot of an aircraft the

bearing of the aircraft. The bearing information is displayed on the aircraft instrument panel in a digital manner by processing the 30-cycle variable phase signal and the reference signal derived from the 9960-cycle subcarrier of the omnidirectional signals.

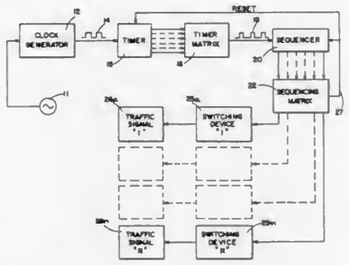


3,525,980

FIXED TIMING TRAFFIC CONTROL SYSTEM

Jack W. Schmidt, Fullerton, and Vernor B. Cress, Jr., Rowland Heights, Calif., assignors to Tamar Electronics Industries, Inc., Los Angeles, Calif., a corporation of Delaware

Filed Aug. 16, 1966, Ser. No. 572,761
Int. Cl. G08g *1/07*
U.S. Cl. 340—41 **14 Claims**



A clock generator is synchronized to the AC power line and has a selection matrix for generating timing pulses at any one of a number of timing rates. The output of the clock generator is utilized to drive a timer unit which includes a timer matrix which enables the selection of timing signals representing various percentages of a total timing cycle. The signals from the timer matrix are utilized to drive a sequencer unit as each timing interval is completed, a selection matrix being provided in the sequencer to enable the selection of any of the sequence signals to control particular traffic control switching operation.

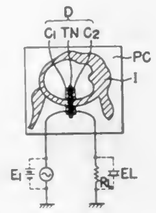
3,525,981

METHOD AND SYSTEM FOR DETECTION OF PATTERN FEATURES

Hideyasu Majima, Hachioji-shi, Tokyo-to, Japan, assignor to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan

Filed July 29, 1965, Ser No. 475,662
Claims priority, application Japan, July 31, 1964, 39/42,939; Apr. 26, 1965, 40/24,310
Int. Cl. G06k *9/12*
U.S. Cl. 340—146.3 **7 Claims**

A pattern feature detection system has an electrically continuous region, means to form patterns on that region, electrical connecting means provided in that region, a load connected to at least one of the electrical connecting means, and means to produce at least one output when a pattern image is formed on said region in a form to interconnect a space interval defined by at least two points on that region.

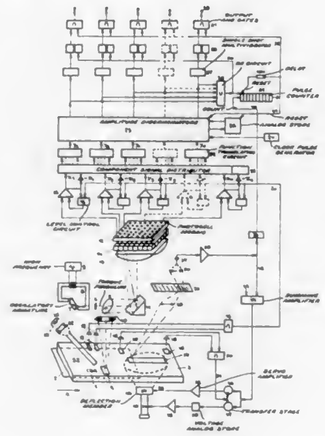


3,525,982

SYSTEM FOR AUTOMATICALLY IDENTIFYING GRAPHICAL SYMBOLS SUCH AS ALPHABETICAL AND/OR NUMERICAL CHARACTERS

Charles Cooreman and Jean Heinisch, Colombes, France, assignors, by mesne assignments, to Compagnie Internationale pour l'Informatique, Louveciennes, France, a corporation of France

Filed Mar. 29, 1966, Ser. No. 538,357
Claims priority, application France, Mar. 30, 1965, 11,263; Mar. 15, 1966, 53,393
Int. Cl. G06k *5/00*
U.S. Cl. 340—146.3 **17 Claims**



A system for identifying graphical symbols which are driven in continuous fashion past the read-out window of a photocell reader including a mosaic of photocells. Individual photocell outputs are applied to identification function translating devices that include an OR output of time variable voltages. The OR output is applied to an analog voltage store which retains the maximum voltage value applied to the store. The stored voltage is read out and compared with all voltage values at the outputs of the identification function translating devices such that an identity between the stored voltage and the output of a translating device is effective to energize a temporary store associated with the identification function translating device. The temporary store is connected on its output

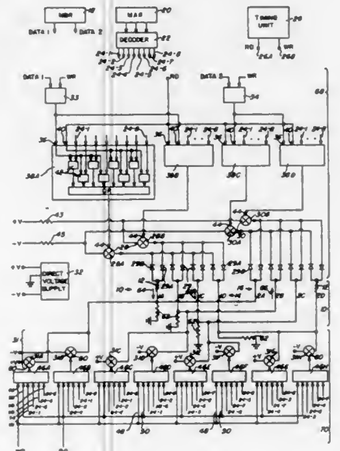
to a particular symbol output channel. Preferably, several successive read-outs of the analog store are made and the original identification is preserved if no further identity signal appears within a given interval after the first identification.

3,525,983

COMPRESSED SELECTION MATRIX

Royce W. Fletcher, South Natick, Mass., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Aug. 24, 1967, Ser. No. 663,114
Int. Cl. H04q *9/00*
U.S. Cl. 340—166 **11 Claims**



Electronic selection apparatus of the type used to operate selected magentic cores in ferrite core coincident current memories is arranged to actuate pairs of core-threading conductors, or other circuit elements, simultaneously with oppositely-directed currents. The result is a substantial saving in circuit components and equipment size compared to prior apparatus.

The selection apparatus includes a first bank of switches connected with a first group of conductors, a second bank of switches connected with a second group of conductors, and a third switch bank connected with the other ends of both conductor groups. Logic circuits operate the three switch banks to activate a single conductor in each group.

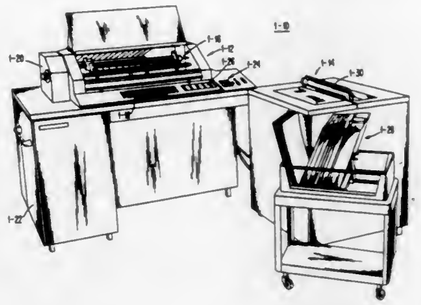
3,525,984

ELECTRONIC COMPUTING BUSINESS MACHINE

Everett C. Clay, Peter J. De George, Wilson I. Lockett, and William L. McDonald, Lexington, Ky., and Joseph R. Stewart, Rockville, Md., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Original application Dec. 28, 1962, Ser. No. 248,110. Divided and this application Sept. 18, 1967, Ser. No. 668,413
Int. Cl. G06f *15/04, 15/24*
U.S. Cl. 340—172.5 **5 Claims**

A business machine having an electronic data processing unit including storage and calculator units for the preparation of a primary document on a primary printer having a keyboard and for updating a secondary source document on a ledger card printer a magnetic ledger card unit for recording and reading information on and from a magnetic stripe on the secondary document and a pluggable probram unit responsive to the coordinate position of the primary document with respect to the primary printer and to the ledger card unit for sequencing the following operations: entering information into the storage unit from the ledger card unit and keyboard unit, specifying the operation to be performed by the calculator unit, and outputting of information to the magnetic ledger card unit, primary printer, and ledger card printer.

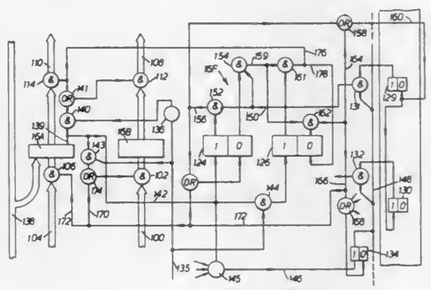


3,525,985

DATA HANDLING ARRANGEMENTS

Peter M. Melliar-Smith, London, England, assignor to English Electric Computers Limited, London, England, a British company

Filed May 2, 1968, Ser. No. 726,136
Claims priority, application Great Britain, May 4, 1967, 20,675/67
Int. Cl. G06f *7/00*
U.S. Cl. 340—172.5 **3 Claims**



A data storage arrangement includes a slow store, a fast store and a control unit. When data is required which is contained in one of the stores the control unit first searches the fast store for the data and if the data is not found in the fast store it searches the slow store and when it finds the data transfers it to the fast store where it is read out. The data which is stored in the fast store is the data which is most in demand.

3,525,986

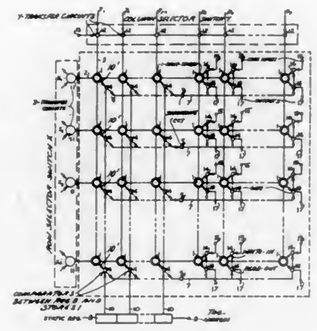
ELECTRIC DIGITAL COMPUTERS

Francois Henri Raymond, Saint-Germain-en-Laye, France, assignor, by mesne assignments, to Compagnie Internationale pour l'Informatique, Louveciennes, France, a corporation of France

Continuation of application Ser. No. 662,260, May 28, 1957. This application Oct. 14, 1968, Ser. No. 768,217
Claims priority, application France, July 5, 1956, 718,058
Int. Cl. G11c *15/00*
U.S. Cl. 340—172.5 **14 Claims**

A general purpose computer has a fast access storage matrix which includes means for selecting a storage line

on the basis of information stored in the line of the matrix. The matrix arrangements may also include means

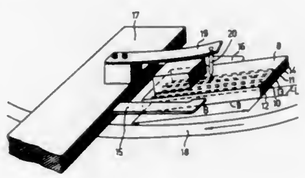


for selecting the storage location on the basis of its address.

3,525,987
FLOATING SHOE FOR ONE OR MORE RECORDING HEADS

Everhardus Albertus Muijderman, Johannes Mattheus Visscher, and Jan van der Hilst, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed June 5, 1968, Ser. No. 734,732
Claims priority, application Netherlands, Oct. 25, 1967, 6714454
Int. Cl. G11b *5/60, 21/20*
U.S. Cl. 340—174.1 **3 Claims**



A floating shoe for a magnetic head wherein the characteristic number (G) as defined by

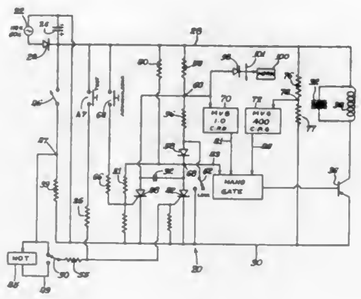
$$G=\frac{6\eta UB}{P_s h_{min.}^2}$$

is equal to or greater than fifty. The width of the bearing surface is at least three times the length.

3,525,988
ELECTRONIC ANNUNCIATOR CIRCUIT

Kenneth C. Linder, Arlington Heights, Ill., assignor to The Scam Instrument Corporation, Skokie, Ill., a corporation of Illinois

Filed Sept. 5, 1967, Ser. No. 665,433
Int. Cl. G08b *23/00*
U.S. Cl. 340—213.1 **12 Claims**

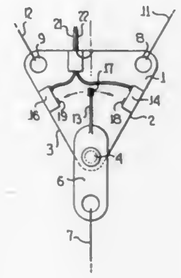


A compact, self-contained, low power annunciator circuit operable directly on 120 volt line current and capable of energizing an electroluminescent annunciator panel upon receipt of an alarm signal. This circuit responds to an alarm with a flashing visual signal and to alarm acknowledgement with a steady visual signal. The simple circuit comprises an electroluminescent annunciator panel, a ringing coil and switching transistor for energizing the electroluminescent panel, a silicon controlled rectifier logic-memory circuit, a flash frequency multivibrator, an electroluminescent panel driving multivibrator, and an A.C. to D.C. power converter.

3,525,989
SLALOM SIMULATOR HAVING ROPE ACTUATED SWITCH

Burton B. Fagan, 2515 N. Quebec St., Arlington, Va. 22207

Filed June 27, 1968, Ser. No. 740,652
Int. Cl. G08b *21/00*
U.S. Cl. 340—286 **11 Claims**



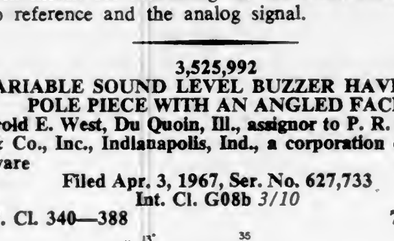
A slalom simulator provides means for practicing slalom runs on water skis without requiring positioning buoys to establish a slalom course. The simulator provides means for measuring the angle between a ski tow rope, extending between a skier and the tow boat, and the centerline of the slalom course. When the skier has deviated from the course centerline by a distance sufficient for the skier to pass around a buoy, if one were present, the simulator activates an alarm indicating obtainment of the required deviation.

3,525,990
MAGNETIC TRANSLATOR

Friedrich Ulrich, Stuttgart-Bad Cannstatt, Germany, assignor to International Standard Electric Corporation

Filed July 2, 1965, Ser No. 469,173
Int. Cl. H03k *13/247, 17/80*
U.S. Cl. 340—347 **6 Claims**

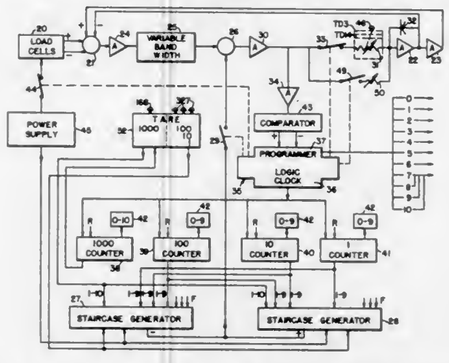
A magnetic core translator is provided as a translator for the sequence-operating circuit arrangement, in which one group of input-crosspoint-elements is connected with one group of output-crosspoint-elements through nonlinear electric loops. By this means the crosspoint-elements also perform a storing function for the sequence-operating circuit arrangement.



3,525,991
CONVERTER

Robert D. Kohler, Temperance, Mich. (% Toledo Scale Corporation, P.O. Box 6757, Toledo, Ohio 43612)

Filed June 15, 1966, Ser. No. 557,708
Int. Cl. H03k *13/02, 13/14*
U.S. Cl. 340—347 **18 Claims**

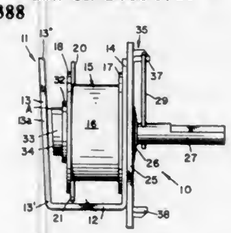


A system for measuring an analog signal including an analog signal source having an output consisting of a direct current analog signal and an unwanted direct current signal, a power supply for energizing the source, switch means for connecting the power supply to the source, means for canceling said unwanted signal establishing a zero reference, and means responsive to the switch means for measuring the difference between the zero reference and the analog signal.

3,525,992
VARIABLE SOUND LEVEL BUZZER HAVING A POLE PIECE WITH AN ANGLED FACE

Harold E. West, Du Quoin, Ill., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

Filed Apr. 3, 1967, Ser. No. 627,733
Int. Cl. G08b *3/10*
U.S. Cl. 340—388 **7 Claims**

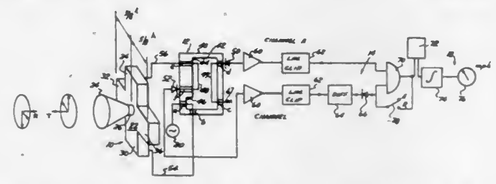


A rotatable pole piece for the armature of a variable buzzer has a surface cut at an angle to the axis of the pole piece to give an elliptically shaped biasing surface for the vibration leaf of the armature. Stop means are provided to prevent excessive rotation of the pole piece.

3,525,993
DIRECTION RESPONSIVE VEHICLE SPEED MEASURING POLICE RADAR APPARATUS

George M. Peace, Oak Park, Julius Schiffman, Huntington Woods, and Zdzislaw I. Szewczyk, Warren, Mich., assignors to Chain Lakes Research Associates, Inc., Detroit, Mich., a corporation of Michigan

Filed May 3, 1968, Ser. No. 726,343
Int. Cl. G01s *9/50*
U.S. Cl. 343—8 **5 Claims**

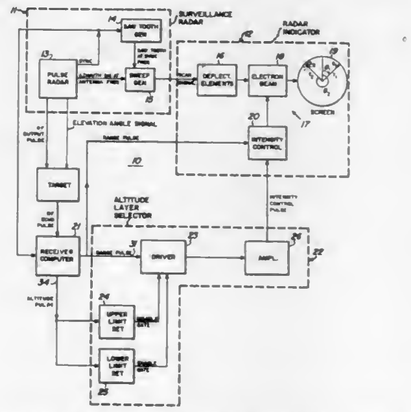


A directionally responsive vehicle speed measuring radar apparatus suitable for police or traffic enforcement purposes. The apparatus transmits and receives a high frequency beam of circularly polarized wave energy. A measuring station transmits to a target vehicle, which reflects and returns a portion of the beam energy transmitted, and derives from the returned energy a pair of low frequency signal components exhibiting different relative phase and variable frequency characteristics, which are related to the direction and to the speed of the target vehicle, the pair being used for selectively activating a phase responsive frequency measuring section of the apparatus.

3,525,994
RADAR SYSTEM INCLUDING ALTITUDE LAYER SELECTOR

Weldon E. Dobson, Westminster, Md., assignor to AAI Corporation, Cockeysville, Md., a corporation of Maryland

Continuation-in-part of application Ser. No. 428,927, Jan. 29, 1965. This application Aug. 28, 1967, Ser. No. 663,804
Int. Cl. G01s *9/06, 7/12;* **H01l** *29/52*
U.S. Cl. 343—11 **16 Claims**



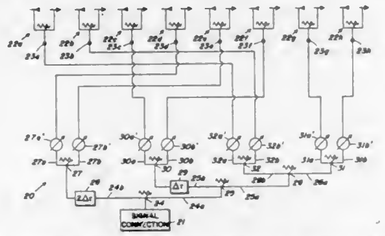
A surveillance radar system is disclosed which produces range, azimuth and analog altitude signals having values representative of the positions of the targets in the area under surveillance and displays the range and azimuth positions of the targets on a conventional PPI screen of a

single color cathode roy tube as spots having a common fixed degree of intensity, size and duration. Apparatus responsive to the amplitude of the analog altitude signals is provided to enable an air traffic controller to determine which targets are within the upper and lower altitude limits of a selected altitude layer by causing the spots displayed on the PPI screen and representative of targets within the selected altitude layer to be increased by a fixed amount in intensity, size and duration to distinguish them from the spots having a common fixed degree of intensity, size and duration and representing targets above and below the upper and lower altitude limits of the selected altitude layer.

ERRATA

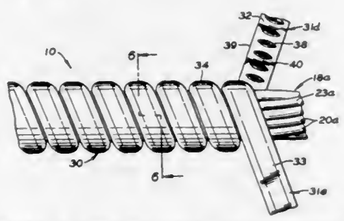
For Classes 74—501 thru 307—252 see:
Patent Nos. 3,525,996 thru 3,526,003

3,525,995
AMPLITUDE TAPERING, NONSYMMETRICAL BINARY FEED NETWORKS FOR HIGH-POWER HF PHASED ARRAYS
Klaus G. Schroeder, Dallas, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Mar. 14, 1967, Ser. No. 623,051
Int. Cl. H01q *13/00, 3/26*
U.S. Cl. 343—777 **7 Claims**



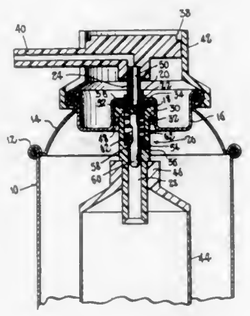
An amplitude tapering nonsymmetrical binary feed network for high-power HF phased array antenna systems of either uniformly or nonuniformly spaced elements with a plurality of power dividers employed on different cascaded power level tiers, and with some signal paths from a single feed network connection through the feed network having more signal power division steps than at least one other signal path through the feed network. A high degree of reflected signal isolation is provided at divided signal connections of dividers with feed networks employing hybrid circuits as the signal dividers.

3,525,996
CORE FOR A PUSH-PULL CABLE
Bruce H. Moore, Hudson, Ohio, assignor, by mesne assignments, to North American Rockwell Corporation, Pittsburgh, Pa., a corporation of Delaware
Filed July 5, 1968, Ser. No. 742,787
Int. Cl. F16c *1/10*
U.S. Cl. 74—501 **7 Claims**



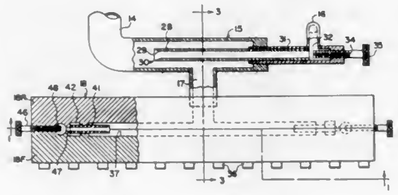
A core for a push-pull cable. The core has a flexible inner member and an outer wrap formed from one or more metallic ribbons wound helically about the inner member. Each ribbon of the outer wrap has a D-shaped cross section—i.e., at least a portion of the outer wall thereof is curvilinear.

3,525,997
HAND-HELD DISPENSER WITH DUAL VALVE
William R. O'Donnell, Trumbull, Conn., assignor to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware
Filed Dec. 22, 1967, Ser. No. 692,757
Int. Cl. K65d *23/14*
U.S. Cl. 222—95 **1 Claim**



A dispenser with dual valve and multiple compartments, comprising a tubular valve housing having two annular seats, and a valve stem longitudinally movable in the housing and having valve portions for simultaneously closing and opening the seats. The housing has a side passage, and is at one end carried in the neck of a pressurized container in which there is also a flexible bag connected to the other housing end. Different liquids in the container and bag are mixed and discharged when the valve stem is shifted to open the valve seats.

3,525,998
NOZZLE FOR COATING AN ARTICLE WITH A LIQUID SUBSTANTIALLY FREE FROM DISCRETE IMMISCIBLE MATTER REMOVED BY VELOCITY GRADIENT SEPARATION
Dean B. Chenoweth, Minneapolis, and Richard L. Barnard, Wayzata, Minn., assignors, by mesne assignments, to Eastman Kodak Company
Application Jan. 16, 1967, Ser. No. 627,279, which is a division of application Ser. No. 259,707, Feb. 19, 1963, now Patent No. 3,299,195, dated Jan. 17, 1967, which in turn is a continuation-in-part of application Ser. No. 178,128, Mar. 7, 1962. Divided and this application May 27, 1969, Ser. No. 828,400
Int. Cl. B05b *1/04*
U.S. Cl. 239—597 **3 Claims**

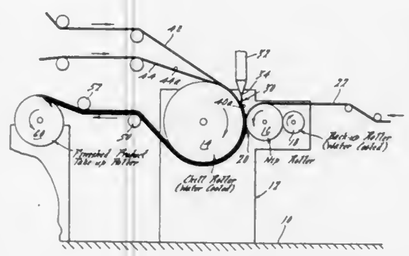


Apparatus and method for curtain coating and also an article coated with a composition free of contaminating particles and/or bubbles. The apparatus includes means for removing contaminants and means, such as a nozzle, for projecting a falling curtain of a viscous liquid coating composition and may include as additional elements a conveying means for an article to be coated, a catch basin for that portion of the falling curtain not used for coating, a reservoir, and a pump. Contaminating particles and/or bubbles are removed from the coating composition while it is in the form of a viscous liquid by propelling the contaminated liquid in laminar flow through an outer conduit in which a smaller concentric inner conduit is located having an open end facing the flow of liquid whereby contaminating particles in the contaminated liquid move as a result of velocity gradient separation toward the center of the flowing liquid and are removed through the inner conduit. Preferably, the capacity of the inner conduit is in the range of from 1/36 to 9/16 the capacity of the outer conduit and extends through the wall of the outer conduit at a point downstream from the inner opening of the inner conduit, the capacity of the downstream portion of the outer conduit together with the capacity of the inner conduit being substantially equal.

3,525,999
CARBIDE ALLOYS
Friedrich Benesovsky, Tirol, and Richard Kieffer, Vienna, Austria, assignors to Ugine-Carbone, Paris, France, a corporation of France
No Drawing. Filed Dec. 24, 1968, Ser. No. 786,745
Int. Cl. C22c *29/00*
U.S. Cl. 29—182.7 **6 Claims**

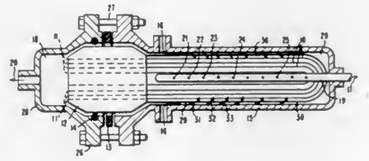
A carbide alloy consisting essentially of WC, TiC, TaC, HfC and Co. Up to 25% by weight of TaC may be associated NbC. The TaC, associated NbC, and HfC total between 3 and 25% by weight of the alloy. The weignt ratio of the TaC and associated NbC to the HfC must be between 2:1 and 1:4.

3,526,000
METHOD OF PREPARING A LAMINATED PRODUCT OF AT LEAST THREE PLIES
Robert J. Williams, Birmingham, Mich., assignor to Cadillac Products, Inc., Warren, Mich., a corporation of Michigan
Filed Nov. 18, 1968, Ser. No. 776,488
Int. Cl. B32b *7/00*
U.S. Cl. 156—82 **25 Claims**



A process for preparing a heat sealed laminated product of at least three or more plies which generally comprises bringing the first ply or substrate layer into firm contact with a second layer or ply formed of a hot extruded film forming plastic material (such as extruded polyethylene), between a pair of oppositely rotating surfaces formed by a chill roller and a nip roller; essentially simultaneously bringing a third ply layer into firm contact, between said rotating surfaces with the extruded film forming plastic material, whereby said extruded material effectively bonds the first ply to the third ply; essentially simultaneously bringing a fourth ply of plastic material into firm contact, between said rotating surfaces, such that an electronic or flame-treated surface of the plastic material is in contact with the third ply, and whereby there is effectively produced a heat sealed bond between the third and fourth ply substantially due to heat generated from the hot extruded plastic material; and, collecting the laminated product. Another process embodiment herein involves the preparation of a heat sealed dry laminated product of at least three plies comprising a ply of an extruded film forming plastic material, a ply of a material layer dissimilar from the film forming plastic material, and a ply of a surface treated plastic material, wherein said process comprises bringing the hot extruded film forming plastic material into contact with said material layer whereby the heat generated by the hot extruded material is sufficient to cause a heat sealed bond to occur between the other side of said material layer and the surface treated side of the plastic material, with all three plies being laminated or bonded together during passage between a nip section formed by oppositely rotating surfaces.

3,526,001
PERMEATION SEPARATION DEVICE FOR SEPARATING FLUIDS AND PROCESS RELATING THERETO
William G. Smith, Pennsville, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 26, 1968, Ser. No. 779,006
Int. Cl. B01d *13/00*
U.S. Cl. 210—23 **10 Claims**

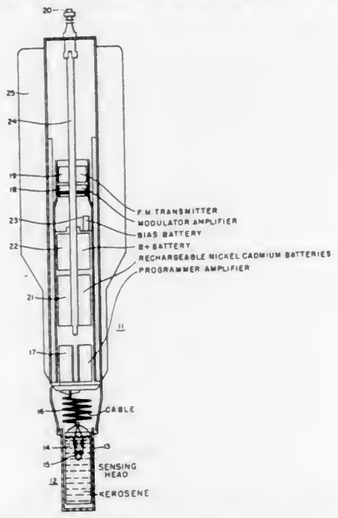


A permeation separation apparatus which comprises an elongated jacket containing therein a plurality of long, thin, hollow, selectively permeable fibers which extend substantially the length of said jacket and which form a U-shaped loop at one end of said jacket so that both ends of each fiber extend through the opposite end of the jacket into a receiving chamber. The fibers form a bundle that is positioned such that the outer-most portion of the bundle are spaced away from the interior wall of the jacket. A perforated tube extends through at least one end of said jacket and is positioned within the fiber bundle along the approximate center axis of the bundle for substantially the length of the bundle. The perforations of the tube are spaced around its circumference and along the length of the portion of the tube within the bundle. The jacket and the chamber each contain fluid conduit means.

3,526,002
MAGNEBUOY
Ramond C. Waddel, Washington, D.C. (4207 Yarnell Court, Bowie, Md. 20715)
Filed Mar. 31, 1960, Ser. No. 19,127
Int. Cl. G01c *19/30;* **G01r** *33/02*
U.S. Cl. 340—4 **2 Claims**

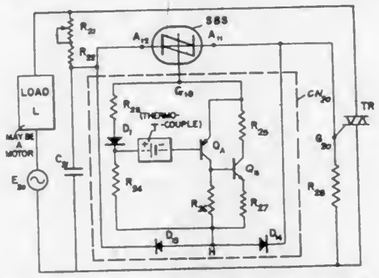
A submarine detector including a free precession magnetometer in a watertight buoyant housing. External ra-

diation from the sensing coil is suppressed by a second coil energized in antiphase relationship to the sensing



coil, and detected signals are transmitted by cable or radio waves to a remote station.

3,526,003
CONTROL NETWORK FOR A BILATERAL THYRISTOR
George J. Granieri, Piscataway, N.J., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 14, 1967, Ser. No. 690,619
Int. Cl. H03k *17/00*
U.S. Cl. 307—252 **10 Claims**

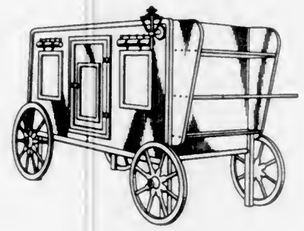


This circuit employs a bilateral control network which may include a bilateral device, such as a thyristor switch, and a pair of steering diodes, all arranged to control the operation of a load, such as a motor. Such a control network may be arranged to vary the amount of power delivered to an AC load in accordance with a DC signal or a slowly varying AC signal; or it may be arranged to "make" or "break" the delivery of AC power to the load.

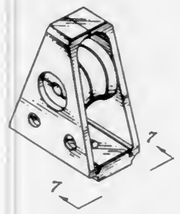
DESIGNS

AUGUST 25, 1970

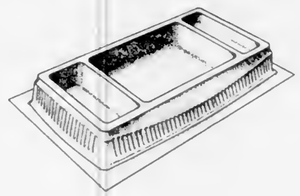
218,512
BUNK BED UNIT OR SIMILAR ARTICLE
George L. Wyatt and Ralph T. Hicks, both of 9936 O'Melveny St., Pacoima, Calif. 91331
Filed Apr. 18, 1969, Ser. No. 16,808
Term of patent 7 years
Int. Cl. D6— *01*
U.S. Cl. D5—4



218,513
PULLEY
Ellis I. Toder, 9225 Grace Lane, Philadelphia, Pa. 19115
Filed Mar. 28, 1969, Ser. No. 16,495
Term of patent 14 years
Int. Cl. D8— *03*
U.S. Cl. D8—216



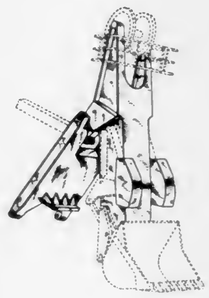
218,514
SHRIMP TRAY
Gregory F. Fossella, Marshfield, and Charles W. Kellstedt, Sudbury, Mass., assignors to Brilliant Seafood, Inc., Boston, Mass., a corporation of Massachusetts
Filed Oct. 29, 1969, Ser. No. 19,834
Term of patent 14 years
Int. Cl. D9— *04*
U.S. Cl. D9—189



218,515
BAG SEALER
Theodore J. Tomaiuolo, 44 Fairfield Ave., Hartford, Conn. 06141
Filed May 1, 1969, Ser. No. 16,974
Term of patent 14 years
Int. Cl. D9— *08*
U.S. Cl. D9—252



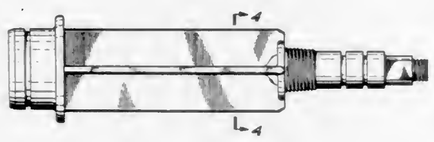
218,516
EXCAVATOR BOOM AND DIPPER HANDLE UNIT
Gerald F. Lesniewski, Robert J. Rupert, and Irwin C. Smith, South Milwaukee, and William H. Smith, Greendale, Wis., assignors to Bucyrus-Erie Company, Milwaukee, Wis., a corporation of Delaware
Filed Jan. 8, 1969, Ser. No. 15,248
Term of patent 14 years
Int. Cl. D12— *14*
U.S. Cl. D14—3



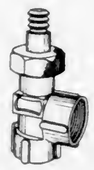
218,517
ARCHERY BOW HANDLE
Robert M. Gray, South Bend, Ind., assignor to Plas-Steel Products, Inc., Walkerton, Ind., a corporation of Indiana
Filed Aug. 15, 1969, Ser. No. 18,700
Term of patent 14 years
Int. Cl. D22—*02*
U.S. Cl. D22—5



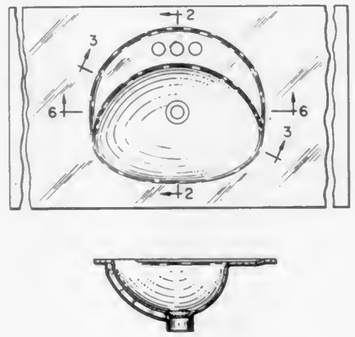
218,518
UNITARY MANIFOLD FOR WATER FILTRATION SYSTEMS
William A. Oden, Temple City, Calif., assignor to Doughboy Industries, Inc., New Richmond, Wis., a corporation of Wisconsin
Filed May 1, 1969, Ser. No. 16,980
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—19



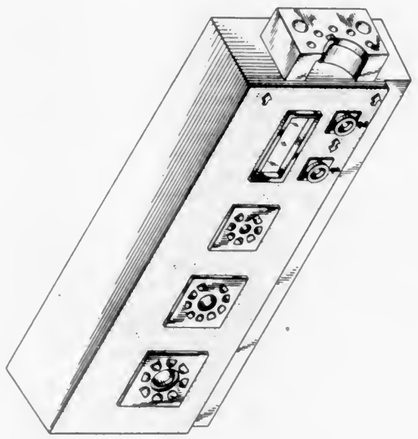
218,519
NEEDLE VALVE
Hisayoshi Mese, Higashi Osaka-shi, Japan, assignor to Fuji Kinzoku Kosaku Kabushiki Kaisha, also known as Fuji Metal Mfg. Co., Ltd., Osaka-shi, Osaka-fu, Japan
Filed July 7, 1969, Ser. No. 18,097
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—19



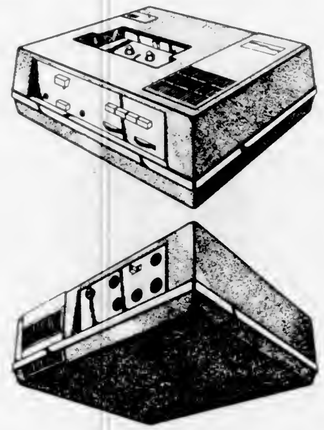
218,520
LAVATORY OR THE LIKE
Pietro M. Audino, Woodcliff Lake, N.J., and Lewis L. Bognar, Painted Post, and Humphrey Chang, New York, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed June 23, 1969, Ser. No. 17,825
Term of patent 14 years
Int. Cl. D23—*02*
U.S. Cl. D23—58



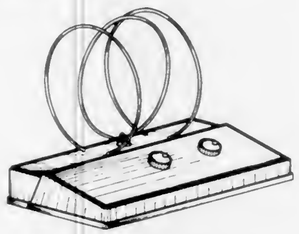
218,521
TUBE AND APPLIANCE TESTER
Robert D. Kahn, Rockville Centre, N.Y., assignor to Fedtro, Inc., Rockville Centre, N.Y., a corporation of New York
Filed July 15, 1969, Ser. No. 18,210
Term of patent 14 years
Int. Cl. D10—*10, 11*
U.S. Cl. D26—1



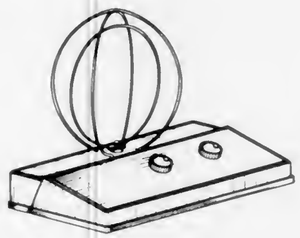
218,522
DICTATING MACHINE
Edgard R. Wiklund, 1681 Kingsdown Circle NE., Dunwoody, Ga. 30338, and Robert N. Fink, 2600 Laurel Ridge Drive, Decatur, Ga. 30033
Filed July 31, 1969, Ser. No. 18,495
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D26—14



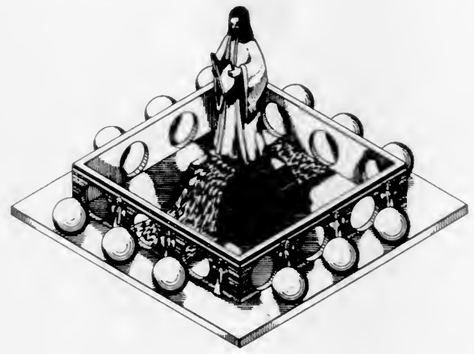
218,523
TELEVISION ANTENNA FOR INDOOR USE
Marvin P. Middlemark, 96 Store Hill Road, Old Westbury, N.Y. 11568
Filed Dec. 3, 1969, Ser. No. 20,344
Term of patent 14 years
Int. Cl. D14—*03*
U.S. Cl. D26—14



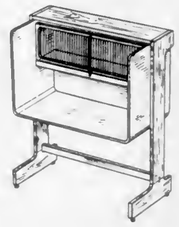
218,524
TELEVISION ANTENNA FOR INDOOR USE
Marvin P. Middlemark, 96 Store Hill Road, Old Westbury, N.Y. 11568
Filed Dec. 2, 1969, Ser. No. 20,468
Term of patent 14 years
Int. Cl. D14—*03*
U.S. Cl. D26—14



218,525
RELIGIOUS ORNAMENT OR THE LIKE
Lewis J. Bragg, Montezuma, Ga. (2208 Marshallville Road, Perry, Ga. 31069); Paul B. Grimes, Crawford, Ga. 30630; and Betty F. Jones, % Jones Grocery, Montezuma, Ga. 31063
Filed Mar. 14, 1969, Ser. No. 16,242
Term of patent 14 years
Int. Cl. D11—*99*
U.S. Cl. D29—23



218,526
LIBRARY CARREL
Donald W. MacDuff, Toronto, Ontario, Canada, assignor to J. & J. Brook Limited, Toronto, Ontario, Canada, a corporation of Ontario
Filed Sept. 2, 1969, Ser. No. 18,939
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—7



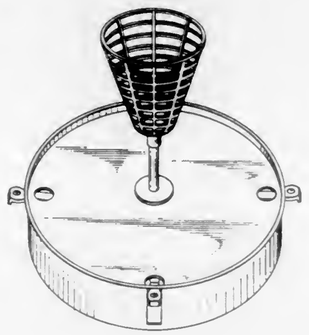
218,527
GIRL DOLL
Judith L. Schneider, Swatz Creek, Mich., assignor to Loomis Enterprises, Chicago, Ill., a partnership
Filed Aug. 18, 1969, Ser. No. 18,747
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—4



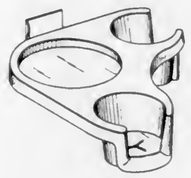
218,528
BOY DOLL
Judith L. Schneider, Swatz Creek, Mich., assignor to Loomis Enterprises, Chicago, Ill., a partnership
Filed Aug. 18, 1969, Ser. No. 18,748
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—4



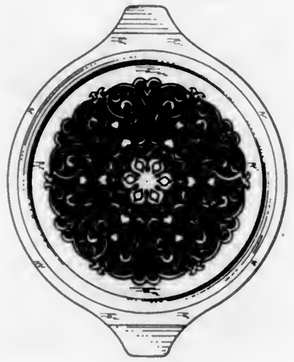
218,529
TARGET GAME BOARD
Taketora Maeda, Tokyo, Japan, assignor to Epoch Company, Ltd., Tokyo, Japan
Filed July 23, 1969, Ser. No. 18,355
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



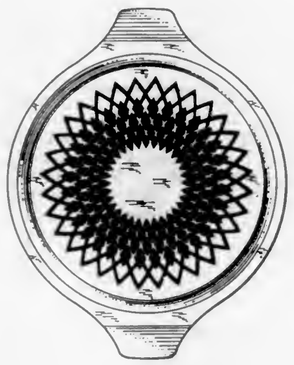
218,530
COMBINED COASTER AND ASHTRAY
Marshall D. Payn, 7112 Lundeen Drive, St. Joseph, Mo. 64505
Filed Sept. 19, 1969, Ser. No. 19,218
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D44—10



218,531
COVER FOR A CASSEROLE OR THE LIKE
Robert R. Gibson, Horseheads, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Sept. 12, 1969, Ser. No. 19,120
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—15



218,532
CASSEROLE COVER
Robert R. Gibson, Horseheads, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Sept. 12. 1969, Ser. No. 19,122
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—15



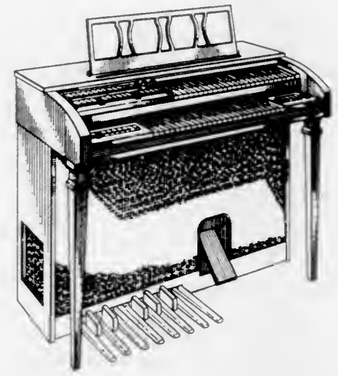
218,533
SIGNAL LIGHT HOUSING
Charles L. Craddock, Burbank, Calif., assignor to Michael Research Company, Inc., Burbank, Calif., a corporation of California
Original design application Aug. 3, 1966, Ser. No. 3,325, now Patent No. 209,537, dated Dec. 12, 1967. Divided and this application Apr. 26, 1967, Ser. No. 7,962
Term of patent 14 years
Int. Cl. D26—*04*
U.S. Cl. D48—24



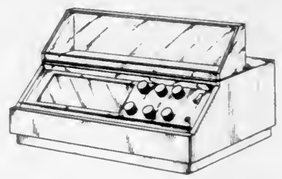
218,534
LANTERN
Robert R. Deines and Wilbur J. Townsend, Wichita, Kans., assignors to The Coleman Company, Inc., Wichita, Kans., a corporation of Kansas
Filed July 7, 1969, Ser. No. 18,059
Term of patent 14 years
Int. Cl. D26—*04*
U.S. Cl. D48—24



218,535
ORGAN CONSOLE
Winsor D. White, Jr., Blowing Rock, N.C., assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio
Filed May 9, 1969, Ser. No. 17,104
Term of patent 14 years
Int. Cl. D17—*01*
U.S. Cl. D56—2



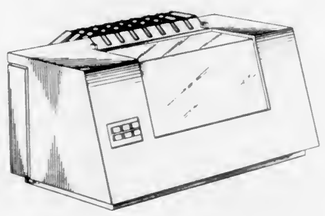
218,536
RADIO TUNER
Lawrence Levow, Huntington, N.Y., assignor to Harman-Kardon, Incorporated, Long Island City, N.Y., a corporation of Delaware
Filed Oct. 15, 1969, Ser. No. 19,576
Term of patent 14 years
Int. Cl. D14—*03*
U.S. Cl. D56—4



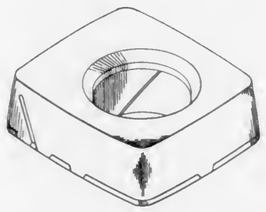
218,537
MAGNIFYING GLASS
Richard J. Bushon, 1033 E. Las Palmaritas Drive, Phoenix, Ariz. 85020
Filed Sept. 12, 1969, Ser. No. 19,123
Term of patent 14 years
Int. Cl. D16—*08*
U.S. Cl. D57—1



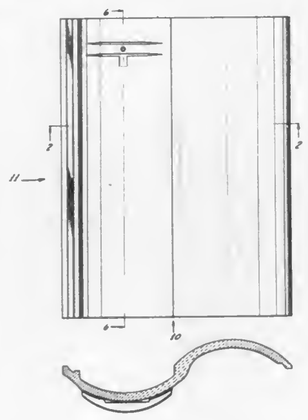
218,538
PRINTER
Loring C. Bixler and Edward R. Wiener, Vestal, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Feb. 24, 1969, Ser. No. 15,876
Term of patent 14 years
Int. Cl. D18—*02*
U.S. Cl. D64—11



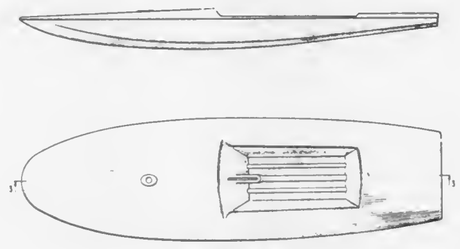
218,539
ENDLESS RIBBON CARTRIDGE FOR A PRINTING MACHINE
David W. Gould, Jr., Lexington, Ky., and Joe A. Moore and Royal K. Turley, Rochester, Minn., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 8, 1969, Ser. No. 18,106
Term of patent 14 years
Int. Cl. D18—*03*
U.S. Cl. D64—11



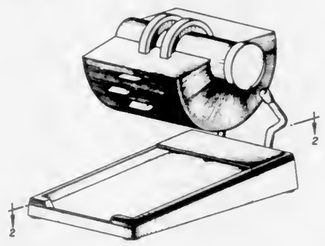
218,540
DOUBLE MISSION TILE
William Sydney Powel, Deepdene, Hawks Hill, Leatherhead, Surrey, England
Filed July 25, 1968, Ser. No. 12,904
Claims priority, application Great Britain Apr. 4, 1968
Term of patent 14 years
Int. Cl. D25—*01*
U.S. Cl. D68—1



218,541
BOAT HULL
Ian Proctor, Warsash, England, assignor to Richmond Marine Limited, Sheen Lane, London, England
Filed June 29, 1967, Ser. No. 7,647
Claims priority, application Great Britain Jan. 3, 1967
Term of patent 14 years
Int. Cl. D12—*06*
U.S. Cl. D71—1



218,542
COMBINED ROTARY INDEX AND MEMO SHEET HOLDER
Hildaur L. Neilsen, Metuchen, N.J., assignor to Zephyr American Corporation, Long Island City, N.Y., a corporation of New York
Filed May 8, 1969, Ser. No. 17,080
Term of patent 14 years
Int. Cl. D19—*99*
U.S. Cl. D74—2



218,543
HAIR DRYER
Dieter Rams, Koenigstein, Taunus, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany, a firm
Filed July 7, 1969, Ser. No. 18,085
Claims priority, application Germany Jan. 29, 1969
Term of patent 14 years
Int. Cl. D3—*03*
U.S. Cl. D86—10



218,544
RING TRAVELER
Derrel V. Myers, Lincoln, R.I., assignor of fifty percent to U.S. Ring Traveler Co., Cranston, R.I., a corporation of Rhode Island
Filed Mar. 10, 1969, Ser. No. 16,111
Term of patent 14 years
Int. Cl. D15—*08*
U.S. Cl. D92—15



218,545
MUSICAL RECORDER
George H. Frost, Kent, Ohio, assignor to Diemolding Corporation, Canastota, N.Y., a corporation of New York, and Frank H. Douglas, Shaker Heights, Ohio
Filed Aug. 20, 1969, Ser. No. 18,774
Term of patent 14 years
Int. Cl. D17—*02*
U.S. Cl. D56—1



LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 25TH DAY OF AUGUST, 1970

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

A'Costa, Anthony: *See—*
Marshall, Richard L., and A'Costa, Anthony 3,525,172.

AAI Corporation: *See—*
Dobson, Weldon E., 3,525,994.

AB Autokemi: *See—*
Jungner, Olof Gunnar Hugo, and Jungner, Bengt Gosta Ingmar, 3,525,591.

Abbey, Harold G. Current-balancing systems for parallel diodes. 3,525,922, Cl. 321-27.

Abbott Laboratories: *See—*
Lex, Charles George, 3,525,738.

Abbott, Roy W., to General Electric Company. Method of making a humidifier evaporating element. 3,525,138, Cl. 29-157.

Abromaitis, Andre T., to McGraw-Edison Company. Fail-safe system. 3,525,907, Cl. 317-124.

Adamovske strojirny, narodni podnik: *See—*
Jiruse, Jaroslav, 3,525,519.

Addressograph-Multigraph Corporation: *See—*
Toby, Dennis E., 3,525,517.

Adler, Alan John, to Itek Corporation. Microphone assembly for use in a stethoscope. 3,525,810, Cl. 179-1.

Agricultural Aviation Engineering Company: *See—*
Pickell, Phillip R., 3,525,473.

Agulnek, Harry, to Singer Company, The. Cam adjustment apparatus for a circular knitting machine. 3,525,239, Cl. 66-54.

Ahlen, Karl Gustav, to S.R.M. Hydromekanik AB. Hydrostatic brakes. 3,525,422, Cl. 188-92.

Ahrens, Gerhard W. Nonsugarbase compounded tablet or lozenge base material for use in the preparation of suckable, structurally sound and hard at room temperature, nonhygroscopic, noncariesforming tablets or lozenges. 3,525,791, Cl. 424-280.

A. I. M. Magnum Corporation, Court Decree: *See—*
Marshall, Richard L., and A'Costa, Anthony, 3,525,172.

Aincham, William H. Chip holder. 3,525,441, Cl. 211-49.

Air Products and Chemicals, Inc.: *See—*
Sipos, John M., 3,525,845.

Aisenberg, Sol, to United States of America, Air Force. Radio frequency apparatus for measurement of plasma conductivity. 3,525,931, Cl. 324-40.

Aktiengesellschaft Brown, Boveri & Cie: *See—*
Kung, Rolf, 3,525,260.

Albright & Wilson (Mfg.) Limited: *See—*
Jacques, James Keith, 3,525,782.

Aldea, Valentin: *See—*
Marcu, Adrian, and Aldea, Valentin 3,525,251.

Alexander, Alfred J., to Elliott Brothers (London) Limited. Function generator with pulse-width modulator for controlling a gate in accordance with a time-varying function. 3,525,861, Cl. 235-197.

Algenthia A.G., Gesellschaft fur Entwicklungen von Hafen- und Industrieanlagen: *See—*
Asser, Johann Rudolf, 3,525,451.

Allison, Kenneth C., to Kollsman Instrument Corporation. Rotor assembly for rtary electric switch. 3,525,825, Cl. 200-11.

Allison, Kenneth C., to Kollsman Instrument Corporation. Printed circuit rotary switch. 3,525,827, Cl. 200-11.

Allison, Kenneth C., to Kollsman Instrument Corporation. Multi-section rotary switch. 3,535,826, Cl. 200-11.

Allmendinger, Karl, to Licentia Patent-Verwaltungs-G.m.b.H. Spreader-type current transformer. 3,525,908, Cl. 317-157.62

Almeida, Laurindo. Method and apparatus for filing fingernails of guitarists, banjo players, and the like. 3,525,284, Cl. 84-453.

Alpine Chemische Aktiengesellschaft: *See—*
Zeschmar, Winfried, 3,525,714.

Alsco, Inc.: *See—*
Torbett, Richard L., 3,525,188.

Altman, Gerald. Projection devices and graphic materials therefor. 3,525,566, Cl. 353-66.

American Air Filter Company, Inc.,: *See—*
Pond, Robert W., 3,525,233.

American Cyanamid Company: *See—*
Butler, John Henry, Chang, Eugene Yue Chieh, and Kaizerman, Samuel, 3,525,717.
Church, Robert Fitz Randolph, and Weiss, Martin Joseph, 3,525,736.
Leto, Joseph Reder, Travis, David Neil, and Burger, Marilyn Judith, 3,525,698.

American Home Products Corporation: *See—*
Wolf, Milton, and Greek, Francis J., 3,525,743.

American Hospital Supply Corporation: *See—*
Roberts, Martin, 3,525,686.

American Standard Inc.: *See—*
Granieri, George J., 3,526,003.

American Type Founders Co., Inc.,: *See—*
Daniels, Philip Kenneth, 3,525,305.

AMP Incorporated: *See—*
Asick, John Carl, and Kinkaid, Robert John, 3,525,972.
Hays, Kenneth Scott, 3,525,107.

Ampex Corporation: *See—*
Busby, Edwin S., Jr., 3,525,805.

Anchor Hocking Corporation: *See—*
Bogart, Burton S., 3,525,636.

Anderson, Richard W., to Dow Chemical Company, The. Process for the preparation of perhaloalkoxy-s- triazines and novel perfluoroalkoxy-s-triazines. 3,525,745, Cl. 260-248.

Anderson, Robert F. Bowling ball stand. 3,525,440, Cl. 211-14.

Anderson, Robert G.: *See—*
Lyle, Richard E., and Anderson, Robert G. 3,525,693.

Anderson, Robert L., to United States of America, Atomic Energy Commission. Nonboiling liquid target for a high-energy particle beam. 3,525,228, Cl. 62-54.

Angell, Charles H.: *See—*
Thiede, Paul W., and Angell, Charles H. 3,525,858.

Antoni, Carlo Degli, and Masci, Giuseppe. Yarn twisting, bulking and winding machine. 3,525,205, Cl. 57-34.

Archey, William B., to International Business Machines Corporation. Magnetostriction control in magnetic thin films. 3,525,638, Cl. 117-240.

Arcos Corporation: *See—*
Johnson, Wallace C., 3,525,844.

Arenco Aktiebolag: *See—*
Neuber, Dieter, 3,525,344.

Armbruster, David Ray: *See—*
Johnson, Calvin Keith, and Armbruster, David Ray 3,525,379.

Armour and Company: *See—*
Pennington, Grover B., and Nelson, Richard P., 3,525,119.

Armstrong Cork Company: *See—*
Boylan, Joseph W., and Culp, Charles R., 3,525,163.
Hager, Nathaniel E., Jr., 3,525,850.

Armstrong, William A., to General Motors Corporation. Refrigerant charge level indicator. 3,525,231, Cl. 62-125.

Arneklev, Duane R.: *See—*
Fancher, Llewellyn W., and Arneklev, Duane R. 3,525,765.

Asick, John Carl, and Kinkaid, Robert John, to AMP Incorporated. Integrated circuit connector. 3,525,972, Cl. 339-64.

Asser, Johann Rudolf, to Algenthia A.G., Gesellschaft fur Entwicklungen von Hafen- und Industrieanlagen. Container. 3,525,451, Cl. 220-6.

Associated Electrical Industries Limited: *See—*
Roberts, David Henry, 3,525,609.

Astra Nutrition Aktiebolag: *See—*
Osterman, Sven-Olof, 3,525,623.

Atlantic Richfield Corporation and: *See—*
Spragin, Franklin K., 3,525,439.

Atlas Copco Aktiebolag: *See—*
Ekstrom, Gosta Ivar, and Blomberg, Jarl Joel, 3,525,531.

Atterholt, Lawrence E., to Hobart Brothers Company. Generator voltage regulator utilizing time ratio control. 3,525,924, Cl. 322-28.

Austen, Herman E., to National Cash Register Company, The. Electrodeposition of constant-composition thin films. 3,525,677, Cl. 204-43.

Automatic Electric Laboratories, Inc.: *See—*
Goossens, Emiel, and Labedz, Herman, 3,525,820.
Pulles, Eduard J., 3,525,821.

Automatic Switch Company: *See—*
Ringstad, Ralph H., 3,525,904.

Automotive Products Company Limited: *See—*
Bainbridge, Wilfred N., 3,525,511.

Avnet, Inc.: *See—*
Brown, William B., Jr., and Brinsmead, Kenneth H., 3,525,631.

Avon, George L.: *See—*
Ingruber, Otto V., Cranford, William B., Avon, George L., Watson, James K., and Neal, Jack L. 3,525,667.

Azuma, Nobuhiro, to Kokusai Denshin Denwa Kabushiki Kaisha. Apparatus for reading out information punched into tapes or cards. 3,525,855, Cl. 235-61.11

Baachi, Ray M., to De Laval Turbine Inc. Lubricating oil control valve. 3,525,360, Cl. 137-563.

Babb, Raymond Earl, 1/2 to Hanscom, Genevieve I., (formerly Magnuson, Genevieve I.), Magnuson, Robert, Thomson, Lois J., (formerly Duggan, Lois J.), as trustees of the estate of Magnuson, Roy M. Apparatus for sorting products. 3,525,433, Cl. 209-82.

Baclay, John Lynn, and Gasson, Edward James, to Distillers Company Limited, The. Oxidation catalyst of an oxide composition of antimony, tin and copper. 3,525,701, Cl. 252-461.

Badische Anilin- & Soda-Fabrik Aktiengesellschaft: *See—*
Berger, Wolfgang, and Weber, Reinhold, 3,525,125.
Merger, Franz, 3,525,769.

Bailey, Kent T.: *See—*
Lloyd, James R., Kolodzey, Charles E., and Bailey, Kent T. 3,525,392.

Bainbridge, Wilfred N., to Automotive Products Company Limited. Shock absorbers. 3,525,511, Cl. 267-64.

Baldsiefen, Warren. Combination ski pole and avalanche probe. 3,525,532, Cl. 280-11.37

Ballman, Albert A., and Warner, Arthur W., Jr., to Bell Telephone Laboratories, Incorporated. Low temperature-frequency coefficient lithium tantalate cuts and devices utilizing same. 3,525,885, Cl. 310-9.5

Bang, Mogens W.: *See—*
Olson, David A., Pfeufer, Earl A., and Bang, Mogens W. 3,525,970.

Barbary: *See—*
Barbary, George A., Burelbach, Frederick M., Frogge, William F., Long, Edward L., and Riggen, Winnifred 3,525,822.

Barbary, George A., deceased (by Barbary, Helen K. executrix), Burelbach, Frederick M., Frogge, William F., Long, Edward L., and Riggen, Winnifred, to Bell Telephone Laboratories, Incorporated. Switched-access system for testing circuit legs such as communication lines. 3,525,822, Cl. 179-165.3

Barbay, Joseph E., Jr., to Teletype Corporation. Variable range limiter circuit. 3,525,879, Cl. 307-237.

Barber, Alfred W. Analog multiplying/dividing devices using photoconductive means. 3,525,860, Cl. 235-195.

Bardgette, John J., to Esso Production Research Company. Method and apparatus for installing anchor piles. 3,525,224, Cl. 61-46.

Barger, Lloyd D., 1/2 to Sather, Robert O. Means for inducing the flow of material through a storage tank or the like. 3,525,445, Cl. 214-17.

Barish Associates, Inc.: *See—*
Barish, David T., 3,525,491.

Barish, David T., to Barish Associates, Inc. Parachute. 3,525,491, Cl. 244-142.

Barker, James E., and Makipirtti, Simo Antero, to Cities Service Company. Process for producing salt suspension fertilizers. 3,525,602, Cl. 71-40.

Barnard, Richard L.: *See—*
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Barnebey, Herbert L., to Barnebey-Cheney Co. Submerged combustion carbonization. 3,525,674, Cl. 201-27.

Barnebey-Cheney Co.: *See—*
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Barnhart, Morris W.: *See—*
Taylor, Verl L., and Barnhart, Morris W. 3,525,813.

Barrett, Donovan L., to Westinghouse Electric Corporation. Nucleation chamber for crystal growth. 3,525,594, Cl. 23-273.

Bartels, Dietrich: *See—*
Winstel, unter, and Bartels, Dietrich 3,525,947.

Barter, Le Roy, to Beckman Instruments, Inc. Speed control for D.C. motors with counter EMF sampling circuit. 3,525,915, Cl. 318-341.

Barton, David W., to Ford Motor Company. Rearview mirror positioning mechanism. 3,525,564, Cl. 350-281.

Bata, George T., and Emery, Raymen F., to Bendix Corporation, The. Linkage for vehicle top speed limiter. 3,525,415, Cl. 180-109.

Batchelder, Charles F., and Rubico, Jerome A., to Batchelder Rubico, Inc. Sewing form and method of manufacturing shoe uppers. 3,525,109, Cl. 12-123.

Batchelder, Charles F., Rubico, Jerome A., and 805205, to Batchelder Rubico, Inc. Method of making shoes over sheathed lasts. 3,525,110, Cl. 12-145.

Batchelder Rubico, Inc.: *See—*
Batchelder, Charles F., and Rubico, Jerome A., 3,525,109.
Batchelder, Charles F., Rubico, Jerome A., and 805205, 3,525,110.

Batterson, Russell F., to Cincinnati Milling Machine Co., The. Electrical discharge machining apparatus having electrode feedrate controlled by gap width. 3,525,843, Cl. 219-69.

Bauer, Charles J., and Kellogg, George E., to General Motors Corporation. High pressure-low friction seal. 3,525,530, Cl. 277-165.

Bauer, James J., to Clark Equipment Company, mesne. Pivotal joint with ball-bushing and countersunk. 3,525,448, Cl. 214-778.

Bausch & Lomb Incorporated: *See—*
Parnell, James A., 3,525,918.

Baxter, Bernie M., and Cheney, Donald L. Coupling. 3,525,540, Cl. 285-64.

Baxter Laboratories, Inc.: *See—*
Regan, Bernard M., 3,525,794.

Bayless, Jack H., and Penberthy, Walter L., Jr, to Esso Production Research Company. Technique for insulating a wellbore with silicate foam. 3,525,399, Cl. 166-303.

Beamco, Inc.: *See—*
Breslin, John J., 3,525,876.

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Beck, Robert W., and Knapp, Richard P., to Esso Production Research Company. Storage or similar vessel. 3,525,312, Cl. 114-0.5

Beckman Instruments, Inc.: *See—*
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Boronkay, Attila D., Keahl, Gerald T., and Riess, Gottfred, 3,525,942.

Becton, Dickinson and Company: *See—*
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Nieglos, Thomas T., and Cybulsky, Kenneth J., 3,525,264.

Bedi, Ram Dev, to M & T Chemicals Inc. Corrosion inhibition. 3,525,676, Cl. 204-15.

Beffa, Fabio, and Schetty, Guido, to Geigy, J. R., S.A. 1:2 Chromium complex dyestuffs containing a monoazo dyestuff and disazo dyestuff. 3,525,732, Cl. 260-145.

Belart, Juan, and Mogwitz, Horst, to Teves, Alfred, Maschinen- und Armaturenfabrik KG. Tube connector. 3,525,542, Cl. 285-256.

Bell Telephone Laboratories, Incorporated: *See—*
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Barbary, George A., Burelbach, Frederick M., Frogge, William F., Long, Edward L., and Riggen, Winnifred, 3,525,822.
Coyne, James C., and Southworth, Hamilton, Jr., 3,525,405.
Herriott, Donald R., and Poole, Kenneth M., 3,525,807.
Jackson, Raymond G., 3,525,819.
Jaeger, Richard J., Jr., and Koch, George E., 3,525,818.
Richards, Philip C., 3,525,817.
Smith, Warren L., 3,525,944.

Bellagamba, Miro D., and Ulmer, Edward R. Kicking practice tether. 3,525,523, Cl. 273-55.

Bellemare, Gregoire. Apparatus for straightening the bulging of railroad cars. 3,525,249, Cl. 72-372.

Beloit Corporation: *See—*
Justus, Edgar J., and Dahl, Carl B., 3,525,301.

Bender, Alfred, to Teves, Alfred, G.m.b.H. Slide-valve structure. 3,525,500, Cl. 251-324.

Bendix Corporation, The: *See—*
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Carp, Ralph W., and Howard, Donald W., 3,525,553.
Eckhart, Philip H., and Gosnell, Thomas F., Sr., 3,525,828.
Taplin, Lael B., 3,525,488.
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Benesovsky, Friedrich, and Kieffer, Richard, to Ugine-Carbone. Carbide alloys. 3,525,999, Cl. 29-182.7

Bennett, Richard J., Gagle, Duane W., Draper, Homer L., and Levy, Dale F. Non-slip plastic articles. 3,525,467, Cl. 229-53.

Berezin, Gilbert H., to Du Pont de Nemours, E. I., and Company. Preparation of 3-oxabicyclo [3.1.1] heptane-2-one. 3,525,754, Cl. 260-343.5

Berger, Charles V., to Universal Oil Products Company. Alkylation-dehydrogenation process. 3,525,776, Cl. 260-669.

Berger, Wolfgang, and Weber, Reinhold, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Annular die for extruders, particularly an annular die for the production of blown tubular film and sheeting from expandable thermoplastics. 3,525,125, Cl. 18-14.

Bernardin, Leo J., to Kimberly-Clark Corporation. Absorbent pad. 3,525,338, Cl. 128-290.

Berry Metal Company: *See—*
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Berry, William W., 3,525,509.

Berry, William W., to Berry Metal Company. Injection lance with a nozzle adapted for above the bath operation. 3,525,509, Cl. 266-34.

Berry, William W., and Herff, Louis M., to Berry Metal Company. Injection lance with an immersible nozzle. 3,525,508, Cl. 266-34.

Best Stamp & Manufacturing Company: *See—*
Chrietzberg, Bill G., and Newell, Frank V., 3,525,493.

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Bichaylo, Frederick E.: *See—*
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Bingham, Kenneth Charles Arthur, to International Computers and Tabulators Limited. Method of making electrical connections between components. 3,525,617, Cl. 96-36.2

Biscone, Frank: *See—*
Fattori, Lazzaro A., and Biscone, Frank 3,525,152.

Bisschops, Johann H., Van Landeghem, Willy K., and Bollen, Romain H., to Gevaert-Agfa N.V. Magnetic recording material. 3,525,694, Cl. 252-62.54

Bittle, David F., Farr, Allen H., and Taylor, Ernest A., Jr., to Monsanto Company. Arresting elements for viscometers. 3,525,253, Cl. 73-57.

Blattner, Donald J.: *See—*
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Bleckmann, Richard. Heating inserts. 3,525,849, Cl. 219-318.

Bloch, Herman S., and Schmerling, Louis, to Universal Oil Products Company. Reaction of halocycloalkenylacyl halides with prepolymers. 3,525,713, Cl. 260-47.

Blomberg, Jarl Joel: *See—*
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Bloxom, David E. Stable shelter and method of making same. 3,525,185, Cl. 52-73.

Blum, Jack F., to General Motors Corporation. Spark plug with a conductive glass seal electrode of glass and a metal alloy. 3,525,894, Cl. 313-136.

Boas Box Company: *See—*
Robinson, Herman E., 3,525,466.

Bobear, William J., to General Electric Company. Organopolysiloxane compositions containing boron-oxygen compound, phosphorous polyether, and filler. 3,525,707, Cl. 260-34.

Bode, Hans-Joachim, and Wohlleben, Karl, to Siemens Aktiengesellschaft. Method and means for increasing the critical current density of superconducting layers having *a*-tungsten crystal structures. 3,525,649, Cl. 148-4.

Bodine, Albert G. Vibrational method for penetrating, leaching and extracting minerals. 3,525,606, Cl. 75-101.

Boe, Norman W.: *See—*
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Bogart, Burton S., to Anchor Hocking Corporation. Method and composition for protecting a glass surface. 3,525,636, Cl. 117-72.

Bohnenkamp, Heinrich, to Siegener Maschinenbau G.m.b.H. Method and apparatus for changing the rolls of a universal rolling mill. 3,525,244, Cl. 72-238.

Boling, Eldon ., Smith, Stanley B., Jr., and Zindler, Jerrold, to Instrumentation Laboratory, Inc. Fluid diffuser with fluid pressure discharge means and atomizing of material in holder. 3,525,476, Cl. 239-338.

Bollen, Romain H.: *See—*
Bisschops, Johann H., Van Landeghem, Willy K., and Bollen, Romain H. 3,525,694.

Bolton, Anthony P., Lanewala, Mohammed A., and Donley, Samuel W., to Union Carbide Corporation. Catalytic xylene isomerization process and catalyst therefor. 3,525,775, Cl. 260-668.

Bonanno, John. Method of creating design material for making garments and trim. 3,525,104, Cl. 2-244.

Bondley, Ralph J., to General Electric Company. Thermionic cathode. 3,525,135, Cl. 29-25.18

Boninchi S.A. Fabrique de Couronnes de Montres: *See—*
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Bonnefoy, Jean Roger, and Dreyfus, Bertrand Alain, to Photocircuits Corporation, mesne. Machines for sawing samples of brittle materials. 3,525,324, Cl. 125-16.

Boronkay, Attila D., Keahl, Gerald T., and Riess, Gottfred, to Beckman Instruments, Inc. calibration circuit for photometric analyzers. 3,525,942, Cl. 328-142.

Borsini, Giancarlo: *See—*
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Botton, Roger, and Delcoigne, Adrien, to Produits Chmiques Penchiney-Saint-Gobain. Process and apparatus for the preparation of ammonia and chlorine from ammonium chloride. 3,525,590, Cl. 23-219.

Bowditch, Hoel L., and Williams, George F., to Foxboro Company, The. Fluid instrument receiver-transmitter. 3,525,351, Cl. 137-85.

Boyce, Walter A., to Westinghouse Electric Corporation. Basing cement for electric lamps and similar devices and stress-relieving base structure utilizing such cement. 3,525,898, Cl. 313-318.

Boylan, Joseph W., and Culp, Charles R., to Armstrong Cork Company. Method of drying nodular fiberboard. 3,525,163, Cl. 34-13.

Boyle, Robert F.: *See—*
Meulendyk, John W., and Boyle, Robert F. 3,525,365.

Bramah Security Equipment Limited: *See—*
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Braman, Richard J., and Scott, Robert D. Garment assembly. 3,525,334, Cl. 128-142.5

Brannland, Rolf, to Mo och Domsjo Aktiebolag. Process for preparing kraft pulping liquor from black liquor including separate carbonation with combustion gases and evaporation steps. 3,525,666, Cl. 162-30.

Brauer, Edwin Henry, and Demetriades, Pan, to Cyril Bath Company, The. Stretch bending machine with segmental die, tolerance detector, and safety shock absorber. 3,525,247, Cl. 72-305.

Braun, Gunter: *See—*
Meyer, Werner, and Braun, Gunter 3,525,555.

Brega, Angelo: *See—*
Piana, Francesco, and Brega, Angelo 3,525,240.

Breslin, John J., to Beamco, Inc. Electric vacuum cleaning and cleaning tool control system. 3,525,876, Cl. 307-22.

Brewer, John F., Shrader, Ronald E., and Schilling, Louis C., to Copolymer Rubber & Chemical Corporation. Means and method for drying wet elastomeric crumb. 3,525,162, Cl. 34-10.

Bridgestone Tire Company Limited: *See—*
Iwami, Ichiro, and Honda, Toshio, 3,525,703.
Uotani, Hiroshi, Iwamoto, Hiroyasu, and Kuroda, Masayoshi, 3,525,654.

Brieskorn, Ulrich, to Schulz, Joachim. Device and process for gas removal from liquids. 3,525,196, Cl. 55-52.

Briggs, Walter H., and Ward, Benjamin, to Burman & Sons Limited. Rack and pinion steering gear. 3,525,362, Cl. 137-625.24

Brinsmead, Kenneth H.: *See—*
Brown, William B., Jr., and Brinsmead, Kenneth H. 3,525,631.

British Insulated Callender's Cables Limited: *See—*
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Harvey, Peter, and Nash, Dennis Joseph, 3,525,157.

British Petroleum Company Limited, The: *See—*
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Symes, Michael John, 3,525,728.

Brittain Industries Inc.: *See—*
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Brockmuller, Friedrich Franz, to Windmoller & Holscher. Apparatus for forming packs of flat articles. 3,525,444, Cl. 214-6.

Brokelmann Jaegar & Busse K.G.: *See—*
Henrici, Dieter, and Schaefer, Friedrich, 3,525,974.

Bronson, Joseph. Car top carrier structure with locking means. 3,525,461, Cl. 224-42.1

Brooks, Vern E., and Walton, Erlen B., to Eaton Yale & Towne, Inc. Control for a hydrostatic transmission. 3,525,266, Cl. 74-481.

Brosseau, Louis Philippe. Hanger assembly for suspended concrete forms. 3,525,495, Cl. 248-327.

Brousseau, Roy D., and Kogstrom, Carl W., said Kogstrom assor. to said Brousseau. Apparatus for decoding recorded data. 3,525,854, Cl. 235-61.6

Browder, Timothy J., Jr., to Parsons, Ralph M., Company, The. Method of sulfuric acid manufacture. 3,525,587, Cl. 23-168.

Brown, Buck C., to Tracor, Inc. Method and apparatus for synchronizing television signals. 3,525,808, Cl. 178-69.5

Brown, Ernest Charles, to Wolverine Corporation. Apparatus for gaseous treatment of moving webs. 3,525,164, Cl. 34-155.

Brown, James T., to Bethlehem Steel Corporation. Latching device for double container pedestal. 3,525,307, Cl. 105-366.

Brown, Norman J., to United States of America, Atomic Energy Commission. Two-phase fliud control system. 3,525,670, Cl. 176-86.

Brown, William B., Jr., and Brinsmead, Kenneth H., to Avnet, Inc. Manufacture of ceramic bodies. 3,525,631, Cl. 106-57.

Brownstein, Raymond G., to Thomas Machine, Inc. Differential drive mechanism. 3,525,273, Cl. 74-675.

Bruel, Alain: *See—*
Bruel, Yvon, and Bruel, Alain 3,525,430.

Bruel, Yvon, and Bruel, Alain. Machine for sizing elongated vegetable products. 3,525,430, Cl. 209-73.

Brugh, Thomas H.: *See—*
Merkel, Charles M., Salmon, Joe E., and Brugh, Thomas H. 3,525,192.

Bryk, Petri B., Hnkasalo, Jorma B., Malmstrom, Rolf Einar, Tuovinen, Frans Heikki, and Makipirtti, Simo Antero, to Outokumpu Oy. Method for increasing the chromium content of ferrochrome with low chromium content. 3,525,608, Cl. 75-130.5

Bubic, Ranko M.: *See—*
Edel, Alfred, and Bubic, Ranko M. 3,525,306.

Buchanan, Harry Charles, Jr., to General Motors Corporation. Face planocentric speed reduction unit and motor. 3,525,890, Cl. 310-82.

Buckley, Norman A., and Rasmussen, Peter D., to McGraw-Edison Company. Pants topper. 3,525,459, Cl. 223-73.

Buckley, Robert, to Quickfit & Qurtz Limited. Sampling and diluting apparatus. 3,525,592, Cl. 23-253.

Buell Engineering Company, Inc.: *See—*
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Bugaj, Leonard J., to Ford Motor Company. Wear resistant device for utilization in a welding operation and a method of making the same. 3,525,848, Cl. 219-119.

Burdett, Edward Raymond, to English Electric Company Limited, The. Electro-magnetic actuator with armature assembly slidable between two limit positions. 3,525,963, Cl. 335-254.

Burelbach, Frederick M.: *See—*
Barbary, George A., Burelbach, Frederick M., Frogge, William F., Long, Edward L., and Riggen, Winnifred 3,525,822.

Burger, Marilyn Judith: *See—*
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Burleigh, John E., and Uraneck, Carl A., to Phillips Petroleum Company. Modification of rubbery polymers of conjugated dienes with tertiary dodecyl mercaptan. 3,525,722, Cl. 260-85.1

Burman & Sons Limited: *See—*
Briggs, Walter H., and Ward, Benjamin, 3,525,362.

Burroughs Corporation: *See—*
Queffeleant, Jacques Michel, 3,525,270.

Busby, Edwin S., Jr., to Ampex Corporation. Pictorial video level indicator. 3,525,805, Cl. 178-7.1

Bush, James S.: *See—*
Mason, Robert S., and Stewart, Lela Ruth, 3,525,458.

Bushnell, Thomas W., Crson, Jseph R., Jr., and Nill, John J., to Clement, J. W., ompany. Signature or sheet collating system. 3,525,516, Cl. 270-58.

Buss, John R., to Monsanto Company. Economic energy recovery from available feed gas line pressure. 3,525,218, Cl. 60-39.02

Bustamante, Carlos Roberto P. Contact stems for bulbs, plugs and the like. 3,525,899, Cl. 313-318.

Butler, John Henry, Chang, Eugene Yue Chieh, and Kaizerman, Samuel, to American Cyanamid Company. Method for preparation of thermoplastic polyurethane ureas. 3,525,717, Cl. 260-75.

Butula, Ivan: *See—*
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Cachon, Rene P., Miller, Joseph C., and Scheiner, Leonard S., to International Business Machines Corporation. Micro-motion device. 3,525,140, Cl. 29-203.
Cadillac Products, Inc.: *See—*
Williams, Robert J., 3,526,000.
Cairns, Roger John Russell: *See—*
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California Research Corporation: *See—*
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Calkins, Thornton R., to General Electric Company. Stabilized pigmented polycarbonate resin. 3,525,706, Cl. 260-37.
Calmec Extruform Limited: *See—*
Schneider, Jack M., 3,525,872.
Camdale Enterprises: *See—*
Lombardo, Thomas, and Silvagi, Joseph, 3,525,286.
Cameron, Albert R.: *See—*
Johnson, Dwight N., and Cameron, Albert R. 3,525,356.
Cameron, Eric C. Closed, controlled system for carbonizing organic refuse. 3,525,673, Cl. 201-1.
Campbell, Robert H.: *See—*
D'Amico, John J., and Campbell, Robert H. 3,525,752.
Canadian Breweries Limited: *See—*
Groulx, Robert A., and Schaus, Orland O., 3,525,625.
Canadian Iternational Paper Company: *See—*
Ingruber, Otto V., Cranford, William B., Avon, George L., Watson, James K., and Neal, Jack L., 3,525,667.
Cantor, Abraham: *See—*
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Carbaugh, Robert A.: *See—*
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Carbonneau, Rene R., to Ray Plastic Inc. Toy spring type repeating pistol. 3,525,323, Cl. 124-27.
Carlson, Chesley F., Co.: *See—*
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Carp, Ralph W., and Howard, Donald W., to Bendix Corporation, The. Adaptive braking system responsive to tire-road surface condition. 3,525,553, Cl. 303-21.
Carr, James G.: *See—*
Fujioka, Richard T., and Carr, James G. 3,525,538.
Carrigan, Robert J., to United States Envelope Company. Sealable envelope for packing slip or the like. 3,525,470, Cl. 229-74.
Carson, Frank J.: *See—*
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Carson, Frank J., to Libbey-Owens-Ford Company. Edge grinding apparatus. 3,525,181, Cl. 51-101.
Carter, Glester S., and Case, Charles B., said Carter assor. to said Case. Child's nightlight and music box. 3,525,862, Cl. 240-2.
Cartmell, Robert L., to Kurz-Kasch, Inc. Hand held instrument having a pair of indicator lamps for indicating voltage levels in electrical circuits. 3,525,939, Cl. 324-133.
Case, Charles B.: *See—*
Carter, Glester S., and Case, Charles B. 3,525,862.
Cassel, Thomas R., to Torca, Inc. Exhaust system. 3,525,419, Cl. 181-48.
Cayton, David Walter, Tsuchiya, William Sadayuki, and Hosler, Merlin Dale, to Deere & Company. Crop thinning machine. 3,525,403, Cl. 172-107.
Celanese Corporation: *See—*
Derieg, Michael Edward, and Pickard, Porter Louis, Jr., 3,525,718.
Muratorio, Jorge R., 3,525,772.
Celentano, Robert A.: *See—*
Jeter, David G., Jr., and Celentano, Robert A. 3,525,877.
Cerbin, William G., and Jeromson, James R., Jr., to Weatherhead Company, The. Quick disconnect coupling. 3,525,361, Cl. 137-614.04
Cercone, Ettore C., to United Aircraft Corporation. Pneumatic actuator. 3,525,289, Cl. 92-49.
Cevidalli, Guidobaldo: *See—*
Nicora, Carlo, Borsini, Giancarlo, Confalonieri, Giovanni, and Cevidalli, Guidobaldo 3,525,727.
Chain Lakes Research Assoiates, Inc.: *See—*
Peace, George M., Schiffman, Julius, and Szewczyk, Zdzislaw I., 3,525,993.
Chamberlin, Earl M., Harris, Elbert E., and Zabriskie, John L., Jr., to Merck & Co., Inc.Certain 1,3-dioxepino-[5,6-c]-pyridines. 3,525,749, Cl. 260-294.8
Chambers, Vaughan C., Jr., to Du Pont de Nemours, E. I., and Company. Photopolymerization processes and elements thereof. 3,525,615, Cl. 96-28.
Chance, A. B., Company: *See—*
Yager, Carl W., and Watson, Dale D., 3,525,225.
Chandler Evans Inc.: *See—*
Cygnor, John E., 3,525,579.
Chang, Eugene Yue Chieh: *See—*
Butler, John Henry, Chang, Eugene Yue Chieh, and Kaizerman, Samuel 3,525,717.
Chay, Dong M., to Du Pont de Nemours, E. I., and Company. Heterogeneity by slight oxidation prior to consolidation. 3,525,611, Cl. 75-204.
Cheeseman, Ian Clifford, to United Kingdom of Great Britain and Northern Ireland, Minister of Technology in Her Britannic Majesty's Government of the. Propellers. 3,525,577, Cl. 416-90.
Chemetron Corporation, : *See—*
Grant, Edward D., Jr., 3,525,596.
Chemical Construction Corporation: *See—*
Richardson, Harry L., 3,525,510.
Chemische Fabrik Kalk G.m.b.H.: *See—*
Jenkner, Herbert, 3,525,711.
Cheney, Donald L.: *See—*
Baxter, Bernie M., and Cheney, Donald L. 3,525,540.
Chenoweth, Dean B., and Barnard, Richard L., to Eastman Kodak Company. Nozzle for coating an article with a liquid substantially free from discrete immiscible matter removed by velocity gradient separation. 3,525,998, Cl. 239-597.
Chernoch, Joseph P., to General Electric Company. Laser apparatus having high efficiency pumping arrangement. 3,525,950, Cl. 331-94.5
Chesterfield Tube Company Limited, The: *See—*
Sallis, William Arthur, 3,525,245.
Chevron Research Company: *See—*
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Chew, Ju-Nam, to Mobil Oil Corporation. Alternate gas and water flood process for recovering oil. 3,525,395, Cl. 166-263.
Chew, Ju-Nam, to Mobil Oil Corporation. Alternate gas and water flood process for recovering petroleum. 3,525,396, Cl. 166-263.
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Cho, Boong Y., to Industrial Nucleonics Corporation. Moisture measuring system and method for materials having wet and dry layers. 3,525,935, Cl. 324-61.
Chodash, Eugene M., to Honeywell Inc. Solid state motor speed control. 3,525,916, Cl. 318-345.
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Chrablow, Marshall H., to Gulton Industries, Inc. Wire cleaning apparatus. 3,525,243, Cl. 72-39.
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Clay, Everett C., DeGeorge, Peter J., Lockett, Wilson I., McDonald, William L., and Stewart, Joseph R., to International Business Machines Corporation. Electronic computing business machine. 3,525,984, Cl. 340-172.5
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Coenen, Willem Frans, Sr. Swiftly releasable locking device, especially adapted to fasten the free end of a safety to a fixed support. 3,525,130, Cl. 24-230.
Cohly, Mauj A., to Tee-Pak, Inc. Aluminum tannage of edible collagen casing. 3,525,628, Cl. 99-176.
Colautti, Albert J., and Wink, Howard L., Jr., to General Motors Corporation. Manually operable seat adjuster mechanism. 3,525,496, Cl. 248-394.
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Conner, Frank E., Jr. Disposable filter cartridge for aquariums. 3,525,435, Cl. 210-169.
Conrad, Hans-Joachim, to Krupp, Fried., Gesellschaft mit beschrankter Haftung. Counter piston machine, preferably counter piston motor with hydraulic driving mechanism. 3,525,215, Cl. 60-19.
Constantine, Nikiforos, and Hill, Robert C., to Minnesota Mining and Manufacturing Company. Differential emission X-ray gauging apparatus and method using two monochromatic X-ray beams of balanced intensity. 3,525,863, Cl. 250-51.5
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Cox, John Edward. Originating register control switching system with optimum-routing network status programming. 3,525,814, Cl. 179-18.
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Crabbe, Perre, to Syntex Corporation. Halogenated bicyclobutyl and dihalomethylene- halocyclopropenyl steroids and derivatives thereof. 3,525,756, Cl. 260-397.4
Cragg, Richard E., to Teletype Corporation. Three position tight tape switch. 3,525,832, Cl. 200-61.13
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Cross, Alexander D., and Edwards, John A., to Syntex Corporation. Lower alkoxytetrahydropyranyl ethers of corticoid steroids. 3,525,739, Cl. 260-239.55
Cross, Alexander D., and Edwards, John A., to Syntex Corporation. 5',6'-Dihydro-2H-pyran-4'-yl ethers of anabolic steroids. 3,525,740, Cl. 260-239.55
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Crudden, Joseph, to Forney Engineering Company. Damper floating side rail bar. 3,525,328, Cl. 126-285.
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Davidson, Frank A., Prickett, Robert L., and Schmermund, Jack R., to United States of America, Air Force. Water sensing safety control for high voltage electrical equipment. 3,525,902, Cl. 317-9.
Davis, Frederick B., III, and Ross, Charles W., to Leeds & Northrup Company. Load-frequency control system without proportional windup. 3,525,857, Cl. 235-151.21
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de Buck, Jean-Jacques Rene Paul, and Montcouquiol, Jean-Michel, to International Standard Electric Corporation. Analog network telephone switching system. 3,525,815, Cl. 179-18.
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Hiseler, Stanley Robert, and Funk, Welker W., 3,525,547.
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De Rooij, Abraham H., and Elmendorp, Jan, to Stamicarbon N.V. Process of preparing water-soluble phosphates. 3,525,585, Cl. 23-106.
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Drechsel, Herbert, Dorr, Karl-Heinz, and Grim, Hugo, to Metallgesellschaft Aktiengesellschaft. Production of sulfur trioxide and sulfuric acid. 3,525,586, Cl. 23-168.
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Dreyfus, Marc G. Airborne electro-optical systems and apparatus for indicating true aircraft velocity and altitude. 3,525,568, Cl. 356-28.
Driscoll, Richard E., and Gober, Leon, Jr., to Cities Service Company. Apparatus for pelletizing carbon black. 3,525,122, Cl. 18-1.
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Duddy, Joseph C., to ESB Incorporated. Silver chloride battery and method of operating same. 3,525,645, Cl. 136-86.
Dudek, Jozef, Goczal, Jan, Golek, Jan, Kus, Leslaw, and Markiewicz, Kazimierz, to Instytut Metalurgii Zeleza I.m. Stanislawa Staszica. Brush electrode. 3,525,847, Cl. 219-119.
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Eberly, Harry C., and Fisher, Raymond E., to Sperry Rand Corporation. Step-up drive for a baling machine. 3,525,302, Cl. 100-179.
Ebihara, Shinzo. Artificial dwarf tree and method of making same. 3,525,659, Cl. 161-22.
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Eckerle, Otto. Wear and tear-compensating high-pressure gear pump. 3,525,581, Cl. 418-126.
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Kim, Kyongmin, to Siemens Aktiengesellschaft. Method of producing layers from the intermetallic superconducting compound niobium-tin (Nb_3Sn). 3,525,637, Cl. 117-227.

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Meulendyk, John W., and Boyle, Robert F., to Pneumo Dynamics Corporation. Expansion plug. 3,525,365, Cl. 138-89.
Mevenkamp, Paul, and Marsch, Hans-Dieter, to Friedrich Uhde G.m.b.H. Protection against undesirable temperatures in hot gas containers. 3,525,389, Cl. 165-134.
Meyer, Werner, and Braun, Gunter, to Westinghouse Bremsen- und Apparatebau, G.m.b.H. Fluid pressure brake control apparatus. 3,525,555, Cl. 303-40.
Meyers, Frank E., and Kostyra, Florence A. Filtering system. 3,525,438, Cl. 210-295.

Meyn, John E., to Microdot, Inc. Method of manufacturing insulators for multiple conductor connectors. 3,525,786, Cl. 264-135.
Mfi, Samuel T. Clamp for concrete column forms. 3,525,515, Cl. 269-116.
Microdot, Inc.: *See—*
Meyn, John E., 3,525,786.
Sammis, John C., 3,525,901.
Skirvin, Clifford D., Zonis, Jerome, and Ketola, John H., 3,525,900.
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Milanes, Jesus R. Device and method for testing blood coagulation factors. 3,525,254, Cl. 73-64.1
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Miller, Donald N., to Eastman Kodak Company. Antistatic photographic elements. 3,525,621, Cl. 96-85.
Miller, Fredric S. Cycle timer. 3,525,829, Cl. 200-38.
Miller, Ivan Keith, to Du Pont de Nemours, E. I., and Company. Highly absorbent cellulose ethers. 3,525,735, Cl. 260-231.
Miller, James P. Drain cleaning cartridge. 3,525,426, Cl. 206-47.
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Minchokovich, Nicholas P., Sr. Hydraulic torque converter. 3,525,219, Cl. 60-53.
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D'Amico, John J., and Campbell, Robert H., 3,525,752.
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Ratts, Kenneth Wayne, and Yao, Angelina Ngo, 3,525,767.
Montague, Herbert R. Rectified power supply circuit providing variable termination during half cycle conduction using zero crossing turn on and commutation turn off methods. 3,525,882, Cl. 307-252.
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Moore, Michael R., to United States Steel Corporation. Mold and method for increasing the rate of heat abstraction from a continuous casting. 3,525,380, Cl. 164-48.
Moors, Harold B., and Bichaylo, Frederick E., to International Paper Company. Method for producing readily openable plastic coated containers. 3,525,194, Cl. 53-37.
Mori, Toshiyuki, to Olympus Optical Co., Inc. Flexible light transmitting instrument and flexible tube for said instrument. 3,525,331, Cl. 128-6.
Morris, Alton R., and McDonald, Thomas M., to Hubbell, Harvey, Incorporated. Reed relay with electromagnetic biasing. 3,525,903, Cl. 317-18.
Morton, Eldred O., to Westinghouse Electric Corporation. Belt drive for a top-loading washing machine. 3,525,241, Cl. 68-23.7
Mosterd, Jacob H. Device for receiving objects discharged from containers. 3,525,195, Cl. 53-61.
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Mounce, George Ralph, to Electronic Automation Systems, Inc. Electromagnetic gauge means including a motor-driven roller for measuring the caliper of a moving web. 3,525,929, Cl. 324-34.
Mounce, Whitman D., to Esso Production Research Company. Percussive drilling system. 3,525,408, Cl. 175-93.
Mouret, Gerard, to Colgate-Palmolive Company, mesne. Laundry washing process. 3,525,695, Cl. 252-95.
Mozer, Donald Thomas, to International Business Machines Corporation. Matched impedance test probe fixture. 3,525,937, Cl. 324-72.5
Mueller, Erich, to Continental Elektroindustrie Aktiengesellschaft Askania-Werke. Device for measuring the temperature of molten materials. 3,525,261, Cl. 73-358.
Mueller, Leonard E. Aerodynamic saucer. 3,525,484. Cl. 244-12.
Muhlhauser, Fritz. Receptacle and display packet. 3,525,376, Cl. 150-52.
Muijderman, Everhardus Albertus, Visscher, Johannes Mattheus, and Van Der Hilst, Jan, to U.S. Philips Corporation, mesne. Floating shoe for one or more recording heads. 3,525,987, Cl. 340-174.1
Muir, Earl B., to White Motor Corporation. Vehicle engine braking system. 3,525,317, Cl. 123-97.
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Muller, Richard, and Dathe, Christian, to Institut fur Silikon- und Fluorkarbon-chemie. Production of salts of organofluorosilicic acids. 3,525,763, Cl. 260-448.2
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Nagao, Kunihiko, and Nakagawa, Kazuo, to Nihon Denshi Kabushiki Kaisha. Temperature variable sample apparatus for NMR analysis. 3,525,928, Cl. 324-0.5
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Neuber, Dieter, to Arenco Aktiebolag. Method and apparatus for producing bunches, cigars or cigarettes. 3,525,344, Cl. 131-66.
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Neumann, Gernot, to Hanning Elektro-Werke Robert Hanning. Electric motor construction. 3,525,893, Cl. 310-83.
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Newell, Frederick T.: *See—*
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Newman, Elmer F., Travis, Hollis H., McKee, Ross, and Kelly, Jseph L., Jr., to Hughes Tool Company. Rotary drilling rig with direct power drive and simplified controls. 3,525,404, Cl. 173-4.
Newman, James L. Pressure altimeter for weather ballons. 3,525,969, Cl. 338-41.
Nicolaus, Norbert, to Homann-Maytag GmbH. Cooking equipment. 3,525,298, Cl. 99-334.
Nicoll, Frederick Hermes, to RCA Corporation. Thermoplastic deformation imaging process. 3,525,613, Cl. 96-1.1
Nicora, Carlo, Borsini, Giancarlo, Confalonieri, Giovanni, and Cevidalli, Guidobaldo, to Montecatini Edison S.p.A. Process and catalyst system for the low-temperature polymerization of vinyl monomers containing vinyl chloride. 3,525,727, Cl. 260-92.8
Nieglos, Thomas T., and Cybulsky, Kenneth J., to Becton, Dickinson and Company. Micropipette holder. 3,525,264, Cl. 73-425.6
Nield, Gerald L., to Continental Oil Co. Barium-containing dispersion. 3,525,599, Cl. 44-51.
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Nippon Toki Kabushiki Kaisha: *See—*
Yoshikawa, Takayuki, and Suzuki3 Hideaki, 3,525,600.
Nishio, Fumihiko, Shimizu, Ikuo, Koba, Sadaaki, Tsuji, Nobuo, and Hayakawa, Yoshihide, to Fuji Shashin Film Kabushiki Kaisha. Photographic light-sensitive element. 3,525,620, Cl. 96-84.
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Seki, Toshio, and Suzuki, Kozaburo, 3,525,761.
Nomarski, Georges, and Roblin, Gerard, to Etablissement Public: Centre National de la Recherche Scientifique. Vibrating slit photoelecric location device. 3,525,873, Cl. 250-235.
Norden, Alexander R., to Westinghouse Electric Corporation. Electric switchgear. 3,525,835, Cl. 200-153.
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Van Alstyne, Earl M., 3,525,483.
Norton, Robert K., and Weidman, William H., to Harris-Intertype Corporation. Sheet feed between multiple couple rotary press units. 3,525,304, Cl. 101-136.
Novales, William H. Cantilever rack. 3,525,442, Cl. 211-176.
Nutzel, Karl, Hoehne, Klaus, and Heine, Diez. to Farbenfabriken Bayer Aktiengesellschaft. Chlorinated copolymer of toluene and a polydiene. 3,525,730, Cl. 260-94.7
Oaten, Albert W., to International Business Machines Corporation. Self-adjusting and repositioning card gate. 3,525,518, Cl. 271-41.
Oberthur, Heinrich, to Teves, Alfred, G.m.b.H. Braking-force regulator system with cutout. 3,525,552, Cl. 303-6.
Oberthur, Heinrich, to Teves, Alfred, GmbH. Coupling for a load-responsive braking-force regulator. 3,525,554, Cl. 303-22.
Ocker, Herbert Wilhelm Gustav, to Werner & Pfleiderer. Extracting apparatus for processing material having eliminable components. 3,525,124, Cl. 18-12.
Odenwald, William. Creature repeller. 3,525,169, Cl. 40-106.3
O'Donnell, William R., to Valve Corporation of America. Hand-held dispenser with dual valve. 3,525,997, Cl. 222-95.
Ogawa, Shinichiro, and Matsuda, Toshiyuki, to Honeywell Inc. Device to multiply input current by time ratio. 3,525,920, Cl. 321-15.
O'Hara, Mark J., to Universal Oil Products Company. Catalyst and process for hydrorefining petroleum crude and residual oils. 3,525,684, Cl. 208-216.
Ohsato, Mobuyoshi, to Nippon Sheet Glass Co., Ltd. Apparatus for production of flat glass with float bath metal purifying means. 3,525,601, Cl. 65-168.
Okamoto, Shin, and Seto, Yutaka, to Konica Camera Corporation. Safety interlocks for the cameras with interchangeable magazine and lens. 3,525,292, Cl. 95-11.
Okamura, Siezo, and Oldsberg, Lars O., to Perstrop AB. Process for the polymerization of cyclic ethers. 3,525,716, Cl. 260-67.
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Okamura, Siezo, and Oldsberg, Lars O. 3,525,716.
Oliver, Gene L., to Eastman Kodak Company. Merocyanine sensitizing dyes containing a pyrrolo [1,2-a] indolium nucleus. 3,525,742, Cl. 260-240.4
Olson, David A., Pfeufer, Earl A., and Bang, Mogens W., to Stackpole Carbon Company. Potentiometer with tap. 3,525,970, Cl. 338-183.
Olson, Paul E., to Westinghouse Air Brake Company. Multiposition control handle having detent means. 3,525,272, Cl. 74-530.
Olsson, Sven Olof, to Bechik Products, Inc. Apparatus for automatically affixing vent grommets or the like in mattress walls. 3,525,464, Cl. 227-18.
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O'Neill, William D., Stark, Lawrence, and Troelstra, Anne, to Whittaker Corporation. Optical status testing means and method for dynamically determining lens accommodation. 3,525,565, Cl. 351-6.
Onoe, Morio, and Yano, Takeshi, to Nippon Electric Company, Limited. Electromechanical vibrating devices. 3,525,884, Cl. 310-8.2
Oppenheimer, Jess. Adjustable lock support. 3,525,543, Cl. 287-99.
Orca, Inc.,: *See—*
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10% 5o Royalite Oil Company: *See—*
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Orr, Clyde, Jr., to Georgia Tech Research Institute. Method and apparatus for measuring angle of contact between liquids and solids. 3,525,255, Cl. 73-64.4
Osborne, Edwin F., Jr., to Esquire, Inc. Method of making lighting casings. 3,525,142, Cl. 29-445.
Osterman, Sven-Olof, to Astra Nutrition Aktiebolag. Method for processing a fat containing organic material. 3,525,623, Cl. 99-18.
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Forste, Walter, and Ostermay, Gottfried 3,525,149.
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Owen, Joseph R., to United States of America, Navy. Gated video display. 3,525,804, Cl. 178-6.
Padgett, John W., and Prophet, James, Jr., to Moore & Munger. Composite contoured carpets for automobiles and the like and method for making the same. 3,525,662, Cl. 161-67.
Pammer, Erich, and Maly, Dieter, to Siemens Aktiengesellschaft. Method of producing a water-insoluble germanium oxide coating at the surface of a germanium crystal. 3,525,650, Cl. 148-6.14
Pan American Petroleum Corporation: *See—*
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Vincent, Renic P., 3,525,187.
Parke, Davis & Company: *See—*
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Parks, John W., to Union Tank Car Company. Sewage lift station structure. 3,525,353, Cl. 137-363.
Parnell, James A., to Bausch & Lomb Incorporated. Motor drive circuit with dischargeable capacitive network. 3,525,918, Cl. 318-597.
Parrish, Bloys D. Liquid level control device. 3,525,354, Cl. 137-421.
Parsons, Ralph M., Company, The: *See—*
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Partes, Gunther. Geometric instrument having improved adjustment means. 3,525,155, Cl. 33-27.
Patmore, James R., to Electronic Associates Inc. Automatic operate-reset control for analog computer elements. 3,525,859, Cl. 235-183.
Pavesi, Luigi, to De La Rue Giori S.A. Roller constructions for rotary perforating machines. 3,525,280, Cl. 83-345.
Pavia, Leonard W., to Pavia-Farny Associates. Stringed keyboard instrument with adhesive actuator. 3,525,283, Cl. 84-173.
Pavia, Leonard W. Stringed musical instrument with electromagnetic pickup also functioning as a bridge. 3,525,797, Cl. 84-1.15
Pavia, Leonard W., to Pavia-Farny Associates. Electronic organ sound reproduction apparatus. 3,525,809, Cl. 179-1.
Pavia-Farny Associates: *See—*
Pavia, Leonard W., 3,525,283.
Pavia, Leonard W., 3,525,809.
Payson, Benjamin. Electrical box cover construction. 3,525,450, Cl. 220-3.7
Peace, George M., Schiffman, Julius, and Szewczyk, Zdzislaw I., to Chain Lakes Research Assoiates, Inc. Direction responsive vehicle speed measuring police radar apparatus. 3,525,993, Cl. 343-8.

Pellerin, Jean, to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme). Process for automatically making electric batteries. 3,525,151, Cl. 29-624.
Pelsue, Thurman A. Manhole tent. 3,525,290, Cl. 94-38.
Penberthy, Walter L., Jr: *See—*
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Perl, Richard L., to Tappan Company, The. High pressure gas burner. 3,525,325, Cl. 126-39.
Perry, Albert, to Super Sagless Spring Corporation. Pullout sofa beds. 3,525,106, Cl. 5-13.
Perstrop AB: *See—*
Okamura, Siezo, and Oldsberg, Lars O., 3,525,716.
Pesson, Marcel, to Laboratoire Roger Bellon. Certain 2-amino-3-phenyl-3,4-dihydroquinazolin-4- ones. 3,525,748, Cl. 260-256.4
Peters, Loren William, to Deere & Company. Harvesting machine component drive. 3,525,269, Cl. 74-227.
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Petrocci, Alfonso N., Prodo, Kenneth W., Shay, Edward G., and Wakeman, Reginald L., to Millmaster Onyx Corporation. Microbiocidal quaternary ammonium compounds containing synergistic blends of alkyl groups. 3,525,793, Cl. 424-329.
Pfaff, Fritz, Staufenbiel, Rolf, and Volker, Heinrich, to Vereinigte Flugtechnische Werke Gesellschaft mit beschrankter Haftung fruher Weser Flugzeugbau/ Focke-Wulf/Heinkel-Flugzeugbau. Flight control for vertically starting and landing multiengine airplanes. 3,525,485, Cl. 244-12.
Pfeifer, Paul E., and Stucker, Joseph B., to Union Oil Company of California. Replacement of underwater seals. 3,525,529, Cl. 277-1.
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Philips, John, to Westinghouse Electric Corporation. Contact system for intricate geometry devices. 3,525,910, Cl. 317-234.
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Phillips, John Carroll. Fluid motor or pumps. 3,525,216, Cl. 60-24.
Phillips, Paul S., Jr., to National Cash Register Company, The. Colorless ink to give black print. 3,525,630, Cl. 106-21.
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Bonnefoy, Jean Roger, and Dreyfus, Bertrand Alain, 3,525,324.
Piana, Francesco, and Brega, Angelo, to MECMOR S.p.A. Fabric cutting device for cutting fabric in circular knitting machines. 3,525,240, Cl. 66-147.
Pickard, Porter Louis, Jr.: *See—*
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Pickell, Phillip R., to Agricultural Aviation Engineering Company. Aircraft mounted spreader apparatus. 3,525,473, Cl. 239-171.
Pickering, John J. Fishing rig and means for casting same. 3,525,173, Cl. 43-19.
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Piller, Kenneth R. Friction type foot exercising device. 3,525,522, Cl. 272-79.
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Pitts, Charles A., and Lewis, William R., to Dow Chemical Company, The. Tool having combination seal and shear releasing mechanism. 3,525,394, Cl. 166-225.
Plunkett, Bradley J., to Warwick Electronics Inc. Electrical organ circuit. 3,525,951, Cl. 331-111.
Pneumo Dynamics Corporation: *See—*
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Polla, Joseph, Corporation: *See—*
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Pollock, Charles B., and Shelton, Jack L., to Pan American Petroleum Corporation. Method for decreasing water production by gas injection in a single well operation. 3,525,400, Cl. 166-305.
Pollution Control, Inc.: *See—*
Reckers, Donald J., 3,525,436.
Pomara, Johnny B., Jr., 50% to El Chico Corporation. Counting and stacking apparatus. 3,525,443, Cl. 214-6.
Pond, Robert W., to American Air Filter Company, Inc., mesne. Hot gas by-pass temperature control system. 3,525,233, Cl. 62-173.
Poole, Kenneth M.: *See—*
Herriott, Donald R., and Poole, Kenneth M. 3,525,807.
Poot, Albert Lucien: *See—*
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Poppendiek, Heinz Frank, to University of California, The Regents of the. Thermoelectric heat flow responsive device. 3,525,648, Cl. 136-226.
Poschman, William M., II. Control apparatus for electrical circuit breaker. 3,525,956, Cl. 335-74.
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Prodo, Kenneth W.: *See—*
Petrocci, Alfonso N., Prodo, Kenneth W., Shay, Edward G., and Wakeman, Reginald L. 3,525,793.
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Pulles, Eduard J., to Automatic Electric Laboratories, Inc. Miniature rotary dial. 3,525,821, Cl. 179-90.
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Rajon, Andre, to Societe Rhodiaceta. Process for the production of cellulose triacetate having good characteristics. 3,525,734, Cl. 260-230.
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Rentschler, Waldemar T., to Prontor-Werk Alfred Gauthier G.m.b.H. Shutter opening delay mechanism. 3,525,294, Cl. 95-53.3

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RFL Industries, Inc.: *See—*
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Roberg, Theodore W. Air filtering and pumping water fan construction. 3,525,505, Cl. 261-25.

Roberts, David Henry, to Associated Electrical Industries Limited. Copper alloy material. 3,525,609, Cl. 75-153.

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Robinson, Herman E., to Boas Box Company. Six-sided box construction. 3,525,466, Cl. 229-39.

Robinson, John F., and Squillace, Anthony S., to North American Rockwell Corporation. Method of bonding laminates and impregnating the winding on a stator core and product thereof. 3,525,889, Cl. 310-45.

Robinson, Raymond C. Movable file tray. 3,525,559, Cl. 312-183.

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Roederer, Friedhelm: *See—*
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Ross, Donald Keith, to Energy Conversion Limited. Fuel reactor with control system. 3,525,642, Cl. 136-86.

Ross, Peter M., and Tino, Dennis N., to Ford Motor Company. Hinge mechanism for positioning a vehicle deck lid. 3,525,687, Cl. 296-76.

Rothman, Edward A., to United Aircraft Corporation. Header construction for a plate-fin heat exchanger. 3,525,390, Cl. 165-166.

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Batchelder, Charles F., Rubico, Jerome A., and 805205 3,525,110.

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Sagalyn, Rita C., and Smiddy, Michael. Attitude sensing utilizing environmental positive ions. 3,525,866, Cl. 250-83.3

Sagona, Charles. Reciprocating endless band saw. 3,525,278, Cl. 83-201.02

Sakamoto, Tetsuyuki: *See—*
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Sallis, William Arthur, to Chesterfield Tube Company Limited, The. Formation of hollow metal billets. 3,525,245, Cl. 72-267.

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Sanyo Electric Co., Ltd.: *See—*
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Sarkar, Asim Kmar, to Hickson & Wilech Limited. Coumarin derivatives having optical whitening properties. 3,525,753, Cl. 260-343.2

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Sato, Yutakam, to Nippon Kokuyu Tetsudo (Known in English as Japanese National Railways). Vibration-suppressing composite rail for railways. 3,525.472, Cl. 238-151.

Sauerbrey, Horst M., to Langenstein & Schemann Aktiengesellschaft. Hammer with hydraulic coupling. 3,525,220, Cl. 60-51.

Saunders, Orson V., and Betz, Milton G., to General Motors Corporation. Refrigerator door trim and panel mounting strip. 3,525,190, Cl. 52-624.

Saunders, William T., to National Steel Corporation. Sheet metal container. 3,525,455, Cl. 220-67.

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Schaff, Paul W., and Kolze, Lawrence A., to Dole Valve Company, The. Snap action switch having low actuation force. 3,525,833, Cl. 200-67.

Schaus, Orland O.: *See—*
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Scheiner, Leonard S.: *See—*
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Scheler, Siegfried, and Munder, Johannes, to Keuffel & Esser Company, mesne. Heat-developable diazotype material. 3,525,619, Cl. 96-75.

Schelling, James H.: *See—*
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Schenk, Elly Gertrud: *See—*
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Schering AG: *See—*
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Schering A.G.: *See—*
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Schiffman, Julius: *See—*
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Schilling, Louis C.: *See—*
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Schmermund, Jack R.: *See—*
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Schmid, Arthur: *See—*
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Schmid, August, to Serania AG. Patentverwertungs- und Finanzierengsgesellschaft, Glarus. Plastic bowling pin for bowling alleys. 3,525,524, Cl. 273-82.

Schmidt, Jack W., and Cress, Vernor B., Jr., to Tamar Electronics Industries, Inc. Fixed timing traffic control system. 3,525,980, Cl. 340-41.

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Schmidt, Otfried, Neumann, Friedmund, and Wiechert, Rudolf, to Schering AG. Method of preparing 15, 16 -methylene- testosterone and esters thereof. 3,525,757, Cl. 260-397.4

Schmidt, William, and Cantor, Abraham, to West Laboratories, Inc. Low-foaming germicidal surfactant-iodine compositions for cleaned-in-place equipment. 3,525,696, Cl. 252-106.

Schmitt, Reimar: *See—*
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Schneider, Wolfgang, and Schneider, Klaus. Plant for manufacturing concrete blocks. 3,525,131, Cl. 25-2.

Schnell, Hermann: *See—*
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Schorn, Carl F., to Holley Carburetor Company. Fail-safe servo device. 3,525,288, Cl. 91-360.

Schroeder, Klaus G., to Collins Radio Company. Amplitude tapering, nonsymmetrical binary feed networks for high-power HF phased arrays. 3,525,995, Cl. 343-777.

Schubert, Paul E., to Cregier Electrical Mfg. Co. Electric power distribution apparatus. 3,525,906, Cl. 317-108.

Schubert, Paul E., to Cregier Electrical Mfg. Co. Constant voltage AC power supply. 3,525,927, Cl. 323-43.5

Schuller, Peter. Electric temperature regulator. 3,525,222, Cl. 62-202.

Schulte, Richard, and Daniels, Manfred, to Th. Kieserling & Albrecht. Press. 3,525,248, Cl. 72-361.

Schulz, Joachim: *See—*
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Schulze, Heinz, to Jefferson Chemical Company, Inc. Process for preparing aryloxyalkanols. 3,525,773, Cl. 260-613.

Schulze, Paul-Eberhard, to Schering A.G. Process of preparing polycarboxylic acid esters of tertiary 17-steroid alcohols. 3,525,755, Cl. 260-397.4

Schwarz, Hans Helmut, Hermann, Karl Heinz, Schnell, Hermann, and Roederer, Friedhelm, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of polyamides. 3,525,719, Cl. 260-78.

Schweikl, Ldwig, to Motoren- und Turbinen-Union. Exhaust gas deflecting pipe. 3,525,475, Cl. 239-265.35

Scoggin, Jack S., to Phillips Petroleum Company. Block copolymers prepared by feeding batch prepolymer into a continuous reactor. 3,525,781, Cl. 260-878.

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Scott, Paul R., and Christensen, Richard E., to Shell Oil Company. Control of gypsum deposits from supersaturated gypsum solutions. 3,525,349, Cl. 137-1.

Scott, Robert D.: *See—*
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Scovill Manufacturing Company: *See—*
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Scrubaire, Inc.: *See—*
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SDS Data Systems, Inc.: *See—*
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Seabury, Richard W., Jr., to RFL Industries, Inc. Electric-cyclonic hot air furnace. 3,525,851, Cl. 219-370.

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Seki, Toshio, and Suzuki, Kozaburo, to Nitto Kasei Co., Ltd. Diorganotin di(thio carboxylic acid esters) and the preparation thereof. 3,525,761, Cl. 260-429.7

Sensor Precision Industries, Inc.: *See—*
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Serania AG. Patentverwertungs- und Finanzierengsgesellschaft, Glarus: *See—*
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Setz, Henry L., to Ford Motor Company. Glass-plastic laminates having a layer of glass fiber filled polycarbonate. 3,525,658, Cl. 161-1.

Shaffer, Robert S., to Bethlehem Steel Corporation. Air knife and vacuum doctoring apparatus. 3,525,116, Cl. 15-306.

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Hottman, Clarence E., 3,525,550.
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Shimpl Kogyo Kabushiki Kaisha: *See—*
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Shoemaker, Edwin J.: *See—*
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Siekanowicz, Wieslaw W., Blattner, Donald J., and Walsh, Thomas E., to RCA Corporation. Duplexer having two non-reciprocal phase shifting means. 3,525,952, Cl. 333-1.1

Siemens Aktiengesellschaft: *See—*
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Eberhard, Gunther, and Wiesner, Richard, 3,525,909.
Gross, Franz, 3,525,955.
Kim, Kyongmin, 3,525,637.
Krautwald, Herbert, and Muller, Erwin, 3,525,975.
Pammer, Erich, and Maly, Dieter, 3,525,650.
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Sindlinger, Norman E., to Ideal Toy Corporation. Selection mechanism for multimessage tape phonograph. 3,525,527, Cl. 274-11.

Singer Company: *See—*
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Singer-General Precision, Inc.: *See—*
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Sipos, John M., to Air Products and Chemicals, Inc. Welding torch. 3,525,845, Cl. 219-75.

Sirota, Jonathan J., to Memory Technology Inc. Methods and apparatus for weaving memory braids. 3,525,368, Cl. 139-55.

Skirvin, Clifford D., Zonis, Jerome, and Ketola, John H., to Microdot, Inc. Frequency controlled enhancement of light emission. 3,525,900, Cl. 315-98.

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Smith, William G., to Du Pont de Nemours, E. I., and Company. Permeation separation device for separating fluids and process relating thereto. 3,526,001, Cl. 210-23.

Snyder, Clifford H., Jr. Quick disconnect coupling for flanged conduits. 3,525,541, Cl. 285-82.

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Somerville, Sheena Margaret, and White, Ian Malcolm, to United Kingdom of Great Britain and Northern Ireland, the Minister of Technology in Her Britannic Majesty's Government of the. Modified polyorganosiloxanes. 3,525,709, Cl. 260-46.5

Soule, William J., and De Poy, Martin L., II, to Sanders Associates, Inc. Arc lamp envelopes. 3,525,896, Cl. 313-221.

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Sparling, Arthur J., to Teledyne, Inc. Electrical coil. 3,525,965, Cl. 336-198.

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Stobi, Hans, to Maschinenfabrik Benninger AG. Automatic rewinding machine. 3,525,479, Cl. 242-67.4

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Seki, Toshio, and Suzuki, Kozaburo 3,525,761.

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Muller, Paul A., to Celfil Co. Establishment. Filtering material. Re. 26,945, 8–25–70, Cl. 55—489.
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ISSUED AUGUST 25, 1970

NOTE.—First number, class; second number, subclass; third number, patent number

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4—287	3,525,105	44— 51	3,525,599	155	3,525,258	71	3,525,635	161— 1	3,525,658		3,525,827
5— 13	3,525,106	46—240	3,525,175	196	3,525,259	72	3,525,636	22	3,525,659	16	3,525,828
7— 5.3	3,525,107	49— 46	3,525,176	355	3,525,260	227	3,525,637	30	3,525,660	38	3,525,829
10— 86	3,525,108	197	3,525,177	358	3,525,261	240	3,525,638	37	3,525,661	44	3,525,830
12—123	3,525,109	51— 3	3,525,178	398	3,525,262	118—317	3,525,314	67	3,525,662	48	3,525,831
145	3,525,110	46	3,525,179	419	3,525,263	119— 71	3,525,315	68	3,525,663	61.13:	3,525,832
13— 25	3,525,795	92	3,525,180	425.6	3,525,264	122—381	3,525,316	162	3,525,664	67	3,525,833
15—104.06:	3,525,111	101	3,525,181	473	3,525,265	123— 97	3,525,317	162— 19	3,525,665	68	3,525,834
.12:	3,525,112		3,525,182	74— 69	3,525,267	124— 7	3,525,318	30	3,525,666	153	3,525,835
229	3,525,113	270	3,525,183	84	3,525,268	11	3,525,319	62	3,525,667	166	3,525,836
250.16:	3,525,114	295	3,525,600	227	3,525,269	16	3,525,320	169	3,525,668		3,525,837
.23:	3,525,115	52— 9	3,525,184	415	3,525,270	22	3,525,321	164— 16	3,525,379		3,525,838
306	3,525,116	73	3,525,185	450	3,525,271	24	3,525,322	48	3,525,380	201— 1	3,525,673
312	3,525,117	122	3,525,186	481	3,525,266	27	3,525,323	82	3,525,381	27	3,525,674
330	3,525,118	155	3,525,187	501	3,525,996	125— 16	3,525,324	154	3,525,382	203— 7	3,525,675
17— 34	3,525,119	288	3,525,188	530	3,525,272	126— 39	3,525,325	263	3,525,383	204— 15	3,525,676
46	3,525,120	378	3,525,189	675	3,525,273	271.2	3,525,326	165— 7	3,525,384	43	3,525,677
60	3,525,121	624	3,525,190	796	3,525,274	285	3,525,327	30	3,525,385	158	3,525,678
18— 1	3,525,122	645	3,525,191	868	3,525,275		3,525,328	32	3,525,386	181	3,525,679
5	3,525,123	53— 15	3,525,192	75— 40	3,525,604	128— 2	3,525,329	47	3,525,387	192	3,525,680
12	3,525,124	28	3,525,193	76	3,525,605	.06:	3,525,330	134	3,525,389	224	3,525,681
14	3,525,125	37	3,525,194	101	3,525,606	6	3,525,331	166	3,525,390	301	3,525,682
19	3,525,126	61	3,525,195	123	3,525,607		3,525,332		3,525,391	206— 3	3,525,425
19—112	3,525,127	55— 52	3,525,196	130.5	3,525,608	24.2	3,525,333	166— .5	3,525,388	15.1	3,525,429
23— 50	3,525,583	233	3,525,197	153	3,525,609	142.5	3,525,334		3,525,392	47	3,525,426
87	RE.26,942	272	3,525,198	204	3,525,610	145	3,525,335	187	3,525,393	52	3,525,427
88	3,525,584	302	3,525,199		3,525,611	159	3,525,336	225	3,525,394	65	3,525,428
106	3,525,585	484	3,525,200	76—101	3,525,276	290	3,525,337	263	3,525,395	208—199	3,525,683
168	3,525,586	489	RE.26,945	82— 2.5	3,525,277		3,525,338		3,525,396	216	3,525,684
	3,525,587	56— 7	3,525,201	83—171	3,525,279	303	3,525,339	283	3,525,397	209— 73	3,525,430
201	3,525,588	50	3,525,202	201.02:	3,525,278	337	3,525,340	288	3,525,398		3,525,431
208	RE.26,941	311	3,525,203	345	3,525,280	493	3,525,341	303	3,525,399		3,525,432
	3,525,589	364	3,525,204	443	3,525,281	547	3,525,342	305	3,525,400	82	3,525,433
219	3,525,590	57— 34	3,525,205	695	3,525,282	131— 9	3,525,582	315	3,525,401	166	3,525,434
253	3,525,591	140	3,525,206	84— 1.11:	3,525,796	24	3,525,343	169— 40	3,525,402	210— 15	3,525,685
	3,525,592	142	3,525,207	.15:	3,525,797	66	3,525,344	172—107	3,525,403	22	3,525,686
259	3,525,593	145	3,525,208	173	3,525,283	261	3,525,345	173— 4	3,525,404	23	3,526,001
273	3,525,594	58— 50	3,525,209	453	3,525,284	132— 5	3,525,346	174— 26	3,525,798	45.95:	3,525,710
284	3,525,595	88	3,525,210	85— 75	3,525,285	31	3,525,347	84	3,525,799	169	3,525,435
290	3,525,596	90	3,525,211	90— 8	3,525,286	135— 33	3,525,348	175— 19	3,525,405	220	3,525,436
293	3,525,597	60— 12	3,525,213	91— 33	3,525,287	136— 6	3,525,639	26	3,525,406	221	3,525,437
24— 73	3,525,128	13	3,525,214	360	3,525,288	76	3,525,640	78	3,525,407	295	3,525,438
	3,525,129	19	3,525,215	92— 49	3,525,289	86	3,525,641	93	3,525,408	520	3,525,439
230	3,525,130	24	3,525,216	94— 38	3,525,290		3,525,642	245	3,525,409	211— 14	3,525,440
25— 2	3,525,131	37	3,525,217	95— 11	3,525,291		3,525,643	176— 52	3,525,669	49	3,525,441
27— 19	3,525,132	39.02:	3,525,218		3,525,292		3,525,644	86	3,525,670	176	3,525,442
28— 1.4	3,525,133	51	3,525,220	13	3,525,293		3,525,645	177—122	3,525,410	213— 43	3,525,449
	3,525,134	53	3,525,219	53.3	3,525,294		3,525,646	178— 5.4	3,525,800	214— 6	3,525,443
29— 25.18:	3,525,135	54	3,525,221	89	3,525,295	111	3,525,647		3,525,801		3,525,444
96	3,525,136	.5	3,525,212	96— 1	3,525,612	226	3,525,648		3,525,802	17	3,525,445
157	3,525,138	206	3,525,223	.1	3,525,613	137— 1	3,525,349	6	3,525,803	83.3	3,525,446
163.5	3,525,139	61— 45	3,525,227	9	3,525,614	68	3,525,350		3,525,804	767	3,525,447
182.7	3,525,999	46	3,525,224	28	3,525,615	85	3,525,351	7.1	3,525,805	778	3,525,448
183.5	3,525,598	53.5	3,525,225	36	3,525,616	238	3,525,352	.2	3,525,806	219— 10.49:	3,525,839
200	3,525,140	72.3	3,525,226	.2	3,525,617	363	3,525,353	.85:	3,525,807	.55:	3,525,840
208	3,525,137	62— 54	3,525,228	75	3,525,618	421	3,525,354	69.5	3,525,808		3,525,841
400	3,525,141	55.5	3,525,229		3,525,619	489	3,525,355	179— 1	3,525,809	.57:	3,525,842
445	3,525,142	58	3,525,230	84	3,525,620	505.15:	3,525,356		3,525,810	69	3,525,843
471.1	3,525,143	125	3,525,231	85	3,525,621	516.11:	3,525,357		3,525,811	73	3,525,844
	3,525,144	137	3,525,232	102	3,525,622	529	3,525,358		3,525,812	75	3,525,845
558	3,525,145	173	3,525,233	98— 2	3,525,296	553	3,525,359	15	3,525,813	98	3,525,846
589	3,525,146	202	3,525,222	74	3,525,297	563	3,525,360	18	3,525,814	119	3,525,848
596	3,525,147	217	3,525,234	99— 18	3,525,623	614.04:	3,525,361		3,525,815	155	3,525,847
597	3,525,148	223	3,525,235	28	3,525,624	625.24:	3,525,362		3,525,816	318	3,525,849
	3,525,149	294	3,525,236	31	3,525,625	.47:	3,525,363		3,525,817	357	3,525,850
599	3,525,150	64— 1	3,525,237	78	3,525,626	.65:	3,525,364	27	3,525,818	370	3,525,851
624	3,525,151	11	3,525,238	91	3,525,627	138— 89	3,525,365	84	3,525,819	413	RE.26,943
30— 2	3,525,152	65—168	3,525,601	176	3,525,628	109	3,525,366		3,525,820		RE.26,944
32— 14	3,525,153	66— 54	3,525,239	212	3,525,629	139— 1	3,525,367	90	3,525,821	444	3,525,852
28	3,525,154	147	3,525,240	334	3,525,298	55	3,525,368	175.3	3,525,822	482	3,525,853
33— 27	3,525,155	68— 23.7	3,525,241	336	3,525,299	127	3,525,369	180— 5	3,525,411	220— 3.7	3,525,450
76	3,525,156	70—231	3,525,242	427	3,525,300	136	3,525,370		3,525,412	6	3,525,451
129	3,525,157	71— 40	3,525,602	100—161	3,525,301	296	3,525,371	82	3,525,413	10	3,525,452
180	3,525,158	93	3,525,789	179	3,525,302	140—147	3,525,372	109	3,525,415	24.5	3,525,453
204	3,525,159	103	3,525,603	101— 35	3,525,303	143— 32	3,525,373	114	3,525,414	53	3,525,454
34— 6	3,525,160	72— 39	3,525,243	136	3,525,304	146— 62	3,525,374	181— .5	3,525,416	67	3,525,455
8	3,525,161	238	3,525,244	181	3,525,305	117	3,525,375	33	3,525,417	222— 4	3,525,456
10	3,525,162	267	3,525,245	104— 95	3,525,306	148— 4	3,525,649	35	3,525,418	95	3,525,997
13	3,525,163	283	3,525,246	105—366	3,525,307	6.14:	3,525,650	48	3,525,419	100	3,525,457
155	3,525,164	305	3,525,247	106— 21	3,525,630	.15:	3,525,651	188— 71.5	3,525,421	223— 68	3,525,458
36— 2.5	3,525,165	361	3,525,248	57	3,525,631	150— 52	3,525,376	72.4	3,525,420	73	3,525,459
	3,525,166	372	3,525,249	85	3,525,632	152—361	3,525,377	92	3,525,422	102	3,525,460
37— 8	3,525,167	73— 35	3,525,250	108— 8	3,525,308	156— 51	3,525,652	106	3,525,423	224— 42.1	3,525,461
40— 71	3,525,168	38	3,525,251	110— 18	3,525,309	73	3,525,653	171	3,525,424	225— 21	3,525,462
106.3	3,525,169	54	3,525,252	112—142	3,525,310	82	3,526,000	191— 59.1	3,525,823	226— 48	3,525,463
120	3,525,170	57	3,525,253	113—121	3,525,311	124	3,525,654	195— 28	3,525,671	227— 18	3,525,464
158	3,525,171	64.1	3,525,254	114— .5	3,525,312	126	3,525,655	31	3,525,672	229— 37	3,525,465
42— 78	3,525,172	.4	3,525,255	116—133	3,525,313	188	3,525,656	200— 11	3,525,824	39	3,525,466

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A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

August 25, 1970 Volume 877 Number 4

TRADEMARKS

NOTICES

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

Eleanor Gordon, assignee of Wilmer I. Gordon, Cleveland, Ohio, Reg. No. 341,573, Canc. No. 9,519.

Gouley N. Burcham, d.b.a. Gouley Burcham Company, Los Angeles, Calif., Reg. No. 556,047, Canc. No. 9,539.

Monarch Chemicals Limited, Rexdale, Ontario, Canada, Reg. No. 810,908, Canc. No. 9,568.

Farini Cosmetics, Inc., assignee of Joseph D. Farini, d.b.a. Freshette Co. and Farini Cosmetics, Palo Alto, Calif., Reg. No. 803,551, Canc. No. 9,571.

T. W. Wood & Sons, Richmond, Va., Reg. No. 327,934, Canc. No. 9,579.

The Midland Company, South Milwaukee, Wis., Reg. No. 547,105, Canc. No. 9,580.

Salmon-Ettes Company, Inc., Pittsburgh, Pa., Reg. No. 830,396, Canc. No. 9,593.

Star X-Ray Co., Inc., New York, N.Y., Reg. No. 789,119, Canc. No. 9,599.

Teahen Associates, assignee, by mesne assignment, of James M. Teahen, Detroit, Mich., Reg. No. 288,859, Canc. No. 9,604.

Kem Kleen Inc., assignee of The Chemical Cleaning Products Company, Washington, D.C., Reg. No. 774,715, Canc. No. 9,610.

JOHN H. SCHNEIDER,
Assistant Commissioner of Patents.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 22,406 (COCA-COLA), The Coca Cola Company, Tonic syrup or beverage; **Reg. No. 47,189,** same, Non-alcoholic maltless beverages and the syrups for making such beverages; **Reg. No. 238,145,** same, Beverages and syrups for the manufacture of such beverages; **Reg. No. 238,146,** same; **Reg. No. 415,755** (COKE), same, Non-alcoholic maltless beverages and the syrups for making such beverages, **filed** Mar. 23, 1970, D. C. Dist. of Col. (Washington), Doc. 862–70, *The Coca-Cola Co. v. Black Sheep Corporation et al.* Final judgment in favor of plaintiff, June 18, 1970. **Same, filed** Mar. 17, 1970, D.C., E.D. Mo. (St. Louis), Doc. 70C127(1), *The Coca-Cola Co. v. Matthew Russo, doing business as Meramec Coffee Shop.* **Same, filed** Jan. 8, 1970. D.C., E.D. Mo. (St. Louis), Doc. 70C11(2), *The Coca-Cola Co. v. L & H, Inc., doing business as Core Cocktail Lounge, etc.* Final judgment, trademarks valid; permanent injunction against defendant, Apr. 17, 1970.

Reg. No. 40,411 (CROWN), Crown Central Petroleum Corporation, Lubricants, **filed** June 26, 1970, D.C., S.D. Tex. (Hous-

CONDITION OF TRADEMARK APPLICATIONS AS OF JUNE 30, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]---------- 24,142
Date of oldest new application---------- June 13, 1969
Date of oldest amended application (filing date)---------- September 27, 1965

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 17, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	9-24-69	11-30-67
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	11-3-69	9-27-65
(III) C. R. FOWLER, Classes 12, 16, 19, 21, 23, 26, 31, 34, 35, 36	12-24-69	6-19-67
(IV) M. E. ABRAMSON, Classes 13, 14, 20, 22, 24, 25, 29; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	6-13-69	5-18-67
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Sec. 12(c) Publications (All Classes)	5-15-70	----------

Applications filed during the month of June 1970—3,042

Registrations Issued ----------464—No. 897,145 to No. 897,608
Renewals Issued ----------120

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

ton), Doc. CA–70–H–673, *Crown Central Petroleum Corporation v. Crown Petroleum, Inc.*

Reg. No. 47,189. (See Reg. No. 22,406.)

Reg. No. 95,990 (CHEVROLET), General Motors Corporation, Automobiles, motor-vehicles, and parts thereof; **Reg. No. 190,028** (CHEVROLET AND DESIGN), same; **Reg. No. 216,070** (CHEVROLET), same, Automobiles; **Reg. No. 647,235**, same, Maintenance and repair service for automotive vehicles, parts, and accessories; **Reg. No. 647,236** (CHEVROLET AND DESIGN), same, Maintenance and repair service for automotive vehicles, parts, and accessories, **filed** Jan. 21, 1970, D.C., S.D. Fla. (Miami), Doc. 70–87–C–WM, *General Motors Corporation v. William H. Trzcinka, and Family Chevrolets, Inc.* Summary final decree, defendants' motion to dismiss denied; plaintiff's motion for a summary final decree is hereby granted. Defendants permanently enjoined, Apr. 8, 1970.

Reg. No. 102,661 (CANADIAN CLUB), Hiram Walker & Sons, Inc., Whisky; **Reg. No. 709,141** (C.C.), same, **filed** June 26, 1970, D.C.N.J. (Trenton), Doc. 849–70, *Hiram Walker & Sons, Inc. v. Half-Acre Liquors, Inc. et al.*

Reg. No. 190,028. (See Reg. No. 95,990.)

Reg. No. 193,730 (FOOD SERVICE), Electrical Information Publications, Inc., Monthly publications; **Reg. No. 569,484** (FOOD SERVICE NEWS), same, Periodical publication; **Reg. No. 527,347** (FOOD SERVICE), Ahrens Publishing Company, Special section of a periodical devoted to food service, its purchase, storage, preparation, sales, and control published monthly, **filed** Jan. 23, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c136, *Electrical Information Publications, Inc. v. Conover-Mast Publications, Inc.* Stipulation, dismissed with prejudice, Dec. 15, 1969.

Reg. No. 216,070. (See Reg. No. 95,990.)

Reg. No. 238,145. (See Reg. No. 22,405.)

Reg. No. 238,146. (See Reg. No. 22,405.)

Reg. No. 356,701 (DESIGN OF RED TAB), Levi Strauss & Company, Men's, women's and children's overalls of the patch-pocket type; **Reg. No. 516,561** (LEVI'S), same, Men's, women's and children's jeans and jackets; **Reg. No. 577,490** (A TAB), same, Overalls; **Reg. No. 720,376** (REPRESENTATION OF MARKER TAB ON OVERALLS), same, Juvenile overalls; **Reg. No. 774,625** (TAB DESIGN), Garments, particularly trousers; **Reg. No. 775,412** (LEVI'S AND DESIGN), same, **filed** May 1, 1970, D.C., E.D. Calif. (Sacramento), Doc. C70–930, *Levi Strauss & Co. v. Blue Bell Inc.*

Reg. No. 415,755. (See Reg. No. 22,406.)

Reg. No. 516,561. (See Reg. No. 356,701.)

Reg. No. 527,347. (See Reg. No. 193,730.)

Reg. No. 569,484. (See Reg. No. 193,730.)

Reg. No. 577,490. (See Reg. No. 356,701.)

Reg. No. 591,913 (SCRIPTOMATIC), Scriptomatic, Inc., Automatic, power-operated data transferring machines—namely, addressing machines and machines for transferring data from master stock; **Reg. No. 785,470**, same, Inked ribbons and printing liquids specially designed for and intended for use in addressing machines; **Reg. No. 785,601**, same, Filing equipment for master cards for addressing machines; **Reg. No. 785,623**, same, Carbon paper and master cards specially designed for and intended for use in addressing machines; **Reg. No. 771,456**, same, Electric typewriters for producing master cards for addressing machines; automatic and semi-automatic addressing machines; and manually operated addressing machines, but not including hand addressers, **filed** Apr. 6, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c796, *Scriptomatic, Inc. v. Daniel J. Hushek, doing business as Scriptomatic.*

Reg. No. 617,131 (VOLKSWAGEN), Volkswagenwerk, GmbH, Vehicles—namely, automobiles and trucks, aircraft, boats, and parts of and accessories for automobiles—namely, radiators, direction indicators, windshield defrosters, anti-dazzle appliances, windshield wipers, shock absorbers, brakes, and baggage racks; **Reg. No. 631,649** (VW IN CIRCLE), same; **Reg. No. 653,695** (VW), same; **Reg. No. 790,621** (VOLKSWAGEN), same, Automobiles and trucks, aircraft, and boats; and parts of and accessories for automobiles—namely, radiators, direction indicators, windshield defrosters, anti-dazzle appliances, windshield wipers, shock absorbers, brakes, and baggage racks; **Reg. No. 790,959** (VW AND DESIGN), same; **Reg. No. 791,311** (VW), same; **Reg. No. 804,869** (VW AND DESIGN), same, Repair and reconditioning of motor vehicles, aircraft and boats; **Reg. No. 808,381** (VOLKSWAGEN), same, Vehicles—namely, automobiles and trucks, aircraft, and boats; and parts and accessories for automobiles and trucks, aircraft and boats—namely, radiators, direction indicators, windshield wipers, shock absorbers, brakes and baggage racks; **Reg. No. 815,632** (VW), same, Repair, reconditioning and replacement of motors and accessories and parts thereof, and repair and reconditioning of motor vehicles, aircraft, and boats; **Reg. No. 819,297** (VOLKSWAGEN), same, **filed** May 6, 1970, D.C., N.D. Tex. (Dallas), Doc. CA–3–3815–C, *Volkswagenwerk Aktiengesellschaft v. Joe Cook, doing business as Lancaster Volkswagen Service.* Pursuant to Rule 41(a) dismissal without prejudice, June 26, 1970.

Reg. No. 631,649. (See Reg. No. 617,131.)

Reg. No. 647,235. (See Reg. No. 95,990.)

Reg. No. 647,236. (See Reg. No. 95,990.)

Reg. No. 653,695. (See Reg. No. 617,131.)

Reg. No. 709,141. (See Reg. No. 102,661.)

Reg. No. 720,376. (See Reg. No. 356,701.)

Reg. No. 771,456. (See Reg. No. 591,913.)

Reg. No. 774,625. (See Reg. No. 356,701.)

Reg. No. 775,412. (See Reg. No. 356,701.)

Reg. No. 785,470. (See Reg. No. 591,913.)

Reg. No. 785,601. (See Reg. No. 591,913.)

Reg. No. 785,623. (See Reg. No. 591,913.)

Reg. No. 790,621. (See Reg. No. 617,131.)

Reg. No. 790,959. (See Reg. No. 617,131.)

Reg. No. 791,311. (See Reg. No. 617,131.)

Reg. No. 791,812 (THE FILEX LINE AND DESIGN), Smead Manufacturing Company, Office filing equipment—namely, cabinets, drawers, boxes, desks, tables, and folder supporting frames for file cabinet drawers; **Reg. No. 791,849**, same, Filing supplies—namely, folders, guides, cards, indexes and tabs; **Reg. No. 791,850** (FILEX), same, **filed** Nov. 22, 1965, D.C., S.D.N.Y., Doc. 65–C–3548, *Smead Manufacturing Co. v. Filex Steel Products Co., et ano.* Stipulation and order, complaint dismissed with prejudice, defendants' counterclaims dismissed with prejudice, Apr. 16, 1970.

Reg. No. 791,849. (See Reg. No. 791,812.)

Reg. No. 791,850. (See Reg. No. 791,812.)

Reg. No. 804,869. (See Reg. No. 617,131.)

Reg. No. 808,381. (See Reg. No. 617,131.)

Reg. No. 815,632. (See Reg. No. 617,131.)

Reg. No. 819,297. (See Reg. No. 617,131.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[**NOTE:** For publication of marks presented in applications for registration in one class, see section 2.]

SN 269,594. Zenith Radio Corporation, Chicago, Ill. Filed Apr. 19, 1967.

ZENITH

Owner of Reg. Nos. 164,341, 828,809, and others.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Cast Metal Escutcheons (Int. Cl. 6).
First use at least as early as 1948.

Class 21—Electrical Apparatus, Machines, and Supplies

For Sintered Iron Tuning Cores and Permanent Magnets (Int. Cl. 9).
First use at least as early as 1946.

Class 36—Musical Instruments and Supplies

For Cast Lead Counterweights for Phonograph Tone Arms (Int. Cl. 9).
First use at least as early as 1950.

SN 290,042. Pathe Electronics Manufacturing Company, Inc., New York, N.Y. Filed Feb. 1, 1968.

Pathé Electronics

Applicant disclaims the use of the word "Electronics" without waiving any of its common law rights in and to said word.

Class 21—Electrical Apparatus, Machines, and Supplies

For Burglar Alarms and Parts Thereof and Office Intercommunications Equipment—Namely, Solid State FM Transmitters (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Telephone Answering Equipment—Namely, Telephone Message Recorders, Telephone Message Recorder Play-Back Transceivers, and Induction Coupled Solid State Telephone Message Receivers and Recorders (Int. Cl. 9).

First use on or about Aug. 1, 1967.

SN 291,162. Intercontinental Coffee Service, Inc., Rosemont, Ill. Filed Feb. 15, 1968.



Applicant disclaims any right in the representation of a beverage cup apart from the mark as shown. The mark consists of the letters "I," "C," "S," and "P" disposed to simulate a cup of steaming beverage.

Class 46—Foods and Ingredients of Foods

For Coffee, Cream, Sugar, Powdered Mix for Making Hot Chocolate, Powdered Soup, and Tea (Int. Cls. 29 and 30).
First use April 1967, on coffee.

Class 100—Miscellaneous

For Dispensing of beverages on the premises of the customer or Consumer—Namely, Hot Beverages Prepared by and Dispensed From Self-Service Machines (Int. Cl. 42).
First use April 1967.

SN 292,972. Old World Cheese Shop, Toronto, Ontario, Canada. Filed Mar. 11, 1968.

OLD WORLD CHEESE SHOP

Priority claimed under Sec. 44(d) on Canadian application filed Sept. 14, 1967; Reg. No. 165,942, dated Oct. 31, 1969. For the purposes of registration, no claim is made to the exclusive right to use the words "Cheese Shop," but the applicant waives none of its common law rights therein.

Class 100—Miscellaneous

For Restaurant Services (Int. Cl. 42).

Class 101—Advertising and Business

For Counselling Services in the Area of Cheese Selection (Int. Cl. 35).

SN 301,998. Stow-A-Way Products Company, Inc., Cohasset, Mass. Filed July 5, 1968.

STOW-LITE

Class 22—Games, Toys, and Sporting Goods

For Sporting Goods—Namely, Tents (Int. Cl. 22).

Class 46—Foods and Ingredients of Foods

For Dehydrated Foods—Namely, Meats, Vegetables, Fruits, Bread, French Toast, Milk, and Syrup (Int. Cl. 29).

First use March 1968.

SN 302,886. FMC Corporation, San Jose, Calif. Filed July 17, 1968.

BOLENS

Class 19—Vehicles

For Snowmobiles and Utility Carts (Int. Cl. 12).
First use Mar. 25, 1963.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Walking Tractors; Walking Mowers, Push Type and Self-Propelled; Walking Tillers; Self-Propelled Snow Blowers; Riding Tractors and Attachments Therefor—Namely, Rotary Mowers, Tillers, Snow Blowers, Hitches, Power Take-Offs and Cab Enclosures (Int. Cl. 7).
First use 1919.

SN 305,599. Avery Products Corporation, San Marino, Calif. Filed Aug. 21, 1968.

STICKADOO

Owner of Reg. No. 725,039.

Class 37—Paper and Stationery

For Self-Adhesive Blank or Partially Printed Labels, Photomounts, and Reinforcement Rings (Int. Cl. 16).
First use December 1961.

Class 38—Prints and Publications

For Self-Adhesive Printed Labels and Self-Adhesive Numbers and Letters (Int. Cl. 16).
First use January 1962.

SN 311,428. Bachman's Inc., Minneapolis, Minn. Filed Nov. 6, 1968.

BACHMAN'S

Class 1—Raw or Partly Prepared Materials

For Bulbs, Flower Arrangements, Potted Plants, Bedding Plants, Trees, Shrubs, Evergreens, and Cut Flowers (Int. Cl. 31).

Class 50—Merchandise Not Otherwise Classified

For Artificial Plants and Christmas Trees (Int. Cls. 26 and 28).

Class 100—Miscellaneous

For Landscaping Services (Int. Cl. 42).

Class 101—Advertising and Business

For Combined Retail Flower Shop and Garden Store Services (Int. Cl. 35).

First use at least as early as 1949; as early as 1885, in a different form.

SN 314,125. Clyde A. Harbin, Whitehaven, Tenn. Filed Dec. 11, 1968.

HARBIN

Class 38—Prints and Publications

For Publications—Namely, Educational Literature Containing Mix Recipes, Operational and Marketing Suggestions, and Textbooks Concerning the Operation of Retail Establishments Marketing Soft Serve Food Products (Int. Cl. 16).
First use Feb. 18, 1958.

Class 46—Foods and Ingredients of Foods

For Food Products—Namely, Soft Ice Cream and Soft Ice Cream Mixes (Int. Cl. 30).
First use Mar. 17, 1956.

Class 101—Advertising and Business

For Rendering Technical Assistance in the Establishment and Operation of Ice Cream Parlors (Int. Cl. 35).
First use Feb. 2, 1960.

SN 318,766. Defender, Inc., Philadelphia, Pa. Filed Feb. 10, 1969.

DEFENDER

Owner of Reg. No. 722,635.

Class 22—Games, Toys, and Sporting Goods

For Wrist, Elbow, Knee, and Ankle Supports, Pads and Elastic Bands, Wristlets, Forearm, Elbow, Instep and Shin Guards and Pads, Protective Handguards, Mitts and Gloves, Gymnastic Palm Guards, Charley-Horse Wraps, and Gymnastic and Wrestling Protective Covers and Gear (Int. Cls. 10 and 28).

Class 44—Dental, Medical, and Surgical Appliances

For Athletic Protective Equipment and Accessories Made of Natural and Synthetic Fabric and Sheets, Foam Rubber, Elastic, Leather, Molded Plastic, and Combinations Thereof—Namely, Athletic Supporters, Protective Plastic Cups and Cup Supporters, and Abdominal Supporters (Int. Cls. 10 and 28).

First use on or about Feb. 13, 1959.

SN 320,381. Riveting Systems Limited, Harehill, Todmorden, England. Filed Feb. 28, 1969.

IRON DUKE

Priority Claimed under Sec. 44(d) on British Reg. Nos. 934,584 and 934,585, dated Nov. 28, 1968.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Rivets (Int. Cl. 6).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Hand Operated Riveting Tools and Parts Thereof (Int. Cl. 8).

SN 321,373. Aero Enterprises, Inc., Washington, D.C. Filed Mar. 11, 1969.

AERO

Class 100—Miscellaneous

For Operating Restaurants, Cocktail Lounges, and Catering Operations (Int. Cl. 42).

Class 101—Advertising and Business

For Operating News Stands, Book Shops, Gift Shops, Drug Stores, and Tobacco Shops (Int. Cl. 35).

First use Mar. 20, 1965.

SN 321,873. Nucleonic Products Company, Inc., Canoga Park, Calif. Filed Mar. 17, 1969.

FLAMEFLEX

Class 12—Construction Materials

For Cords of Ceramic Oxide for Use as a Refractory (Int. Cl. 19).

Class 14—Metals and Metal Castings and Forgings

For Cords of Metal Alloys (Int. Cl. 6).

First use Jan. 23, 1969.

SN 322,022. Western Publishing Company, Inc., Racine, Wis. Filed Mar. 18, 1969.

BIG LITTLE BOOK

Applicant disclaims any exclusive right in the word "Book" apart from the mark as shown.

Class 22—Games, Toys, and Sporting Goods

For Jigsaw Puzzles (Int. Cl. 28).
First use Sept. 9, 1968.

Class 38—Prints and Publications

For Book Published From Time to Time (Int. Cl. 16).
First use Dec. 12, 1932.

SN 322,933. Lexington Instruments Corporation, Waltham, Mass. Filed Mar. 27, 1969.

Li

Class 21—Electrical Apparatus, Machines, and Supplies

For Alarm and Control Panels, Pre-Amplifiers, Amplifiers, Power Supplies, Transmitters, Receivers, and Receiving Antennas (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Oscilloscopes, Electronic Data Recording Systems, Magnetic Memory Tape Loops, and Electronic Pressure Transducers (Int. Cl. 9).

Class 44—Dental, Medical, and Surgical Appliances

For Medical Electronic Instrumentation—Namely, Cardiac Oscilloscopes and Cardiac Tachometers, Cardiac Alarm and Control Panels, Countershock Units, and Cardiac Output Computers (Int. Cl. 10.

First use as early as July 11, 1966.

SN 329,271. Remington Arms Company, Inc., Bridgeport, Conn. Filed June 5, 1969.

REMINGTON

Owner of Reg. Nos. 585,910 and 641,988.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Motors (Int. Cl. 7).
First use first quarter of 1958.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Gasoline Engine Powered Tools, Specifically Chain Saws, Concrete Rubbing Machines, Concrete Vibrators, Power Trowels, Concrete Screeds, Cutoff Saws and Rail Grinders; Pneumatic Motor Powered Tools, Specifically Chain Saws, Concrete Vibrators, Drills, Screwdrivers, Nutsetters, Impact Wrenches, Grinders, Sanders and Circular Saws; Electric Motor Powered Tools, Specifically Chain Saws, Concrete Rubbing Machines, Concrete Vibrators, Terrazo Grinders, Flexible Shaft Grinders, Sanders, Polishers, and Brushes; Chain Saw Guide Bars, Chain Saw Sprockets, Saw Chain, Flexible Shafts, Spindles; and Parts for All Such Tools (Int. Cl. 7).
First use on or about Apr. 10, 1957.

SN 331,266. Pearse Leather Products Co., Inc., Salem, Mass. Filed June 30, 1969.

PEARSE

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Personal Leather Goods—Namely, Billfolds, Wallets, Card Cases, Toilet Cases, Bottle Protectors, Jewelry Cases, and Briefcases (Int. Cl. 18).

Class 39—Clothing

For Apparel Belts (Int. Cl. 25).

First use 1928.

SN 335,492. Brown Derby, Inc., Cleveland, Ohio. Filed Aug. 18, 1969.

GIRVES
BROWN DERBY

Class 100—Miscellaneous

For Restaurant Services (Int. Cl. 42).
First use Oct. 20, 1962; 1942, in a different form.

Class 101—Advertising and Business

For Aid and Technical Assistance in the Establishment and Operation of Restaurants for Others (Int. Cl. 35).
First use Oct. 20, 1962.

SN 335,640. Alfred Jutzi & Associates, Inc., d.b.a. Effects Unlimited, San Francisco, Calif. Filed Aug. 19, 1969.

Effects Unlimited

Class 16—Protective and Decorative Coatings

For Fluorescent Paints and Lacquers (Int. Cl. 2).
First use July 16, 1969.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electronic Lights and Lighting Control Systems—Namely, Lighting Control Panels Containing Dimming Switches, Remote Control Switches for Both Lights and Audio and Timing Control Switches (Int. Cl. 11).
First use Apr. 25, 1969.

Class 100—Miscellaneous

For Leasing and Rental Services—Namely, Leasing and Renting of Lighting Systems and Lighting Equipment (Int. Cl. 42).
First use Apr. 25, 1969.

SN 335,891. G. C. Murphy Company, McKeesport, Pa. Filed Aug. 21, 1969.

MURPHY'S

Owner of Reg. Nos. 507,746, 824,454, and others.

Class 2—Receptacles

For Paper Souffle Cups and Nut Cups (Int. Cl. 21).

Class 50—Merchandise Not Otherwise Classified

For Party Favors—Namely, Horns, Leis, Party Hats, Blow-Outs, Noisemakers, and Snappers; and a 30-Piece Combination Package Composed of Masks, Nut Cups, Party Hats, Blow-Outs, and Balloons (Int. Cl. 28).

First use May 23, 1969.

SN 341,305. Sarah Coventry, Inc., Newark, N.Y. Filed Oct. 22, 1969.

LADY COVENTRY

Owner of Reg. Nos. 636,452, 800,662, and others.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Handbags (Int. Cl. 18).

Class 39—Clothing

For Gloves, Raincoats, Women's Nightgowns & Women's Scarves (Int. Cl. 25).

Class 40—Fancy Goods, Furnishings, and Notions

For Women's Wigs (Int. Cl. 26).

Class 41—Canes, Parasols, and Umbrellas

For Umbrellas (Int. Cl. 18).

Class 51—Cosmetics and Toilet Preparations

For Powder Eyeliners, and Cologne (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use on or about Aug. 28, 1969.

SN 342,924. Lansil Limited, Lancaster, England. Filed Nov. 7, 1969.

LANSIL

Owner of British Reg. Nos. 696,351, 696,352, and 696,353, dated Feb. 26, 1951.

Class 39—Clothing

For Clothing—Namely, Skirts, Sweaters, Dresses, Suits, Coats, Blouses, Lingerie, and Sleepwear (Int. Cl. 25).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Piece Goods, Bed and Table Covers (Int. Cl. 24).

Class 43—Thread and Yarn

For Yarns and Threads (Int. Cl. 23).

SN 350,423. Lincoln Metal Products Corporation, Brooklyn, N.Y. Filed Feb. 4, 1970.



Owner of Reg. No. 876,291.

Class 2—Receptacles

For Canister Sets, Step-On Cans, Bread Boxes, and Paper Dispensers (Int. Cl. 6).

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Pots and Pans (Int. Cl. 21).

First use Jan. 28, 1970.

SN 356,828. Bombardier Limited, Valcourt, Quebec, Canada. Filed Apr. 14, 1970.



Class 22—Games, Toys, and Sporting Goods

For Safety Helmets With or Without Bubble Visors and Snowshoes (Int. Cls. 9 and 28).
First use on or about June 5, 1967; in commerce on or about Aug. 1, 1967.

Class 26—Measuring and Scientific Appliances

For Goggles (Int. Cl. 9).
First use as early as Nov. 10, 1966; in commerce on or about Jan. 1, 1967.

Class 39—Clothing

For Clothing for Men, Women and Children—Namely, Snowmobile Suits, Winter Overalls, Snowmobile Jackets, Snowmobile Pants, Socks and Mitts, Finger Mitts, Boots, Cardigans, Sweaters, Slacks, and Knitted Suits (Int. Cl. 25).
First use on or about Oct. 5, 1966; in commerce on or about Nov. 15, 1966.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 310,859. Carl Freudenberg, Weinheim, Germany. Filed Oct. 30, 1968.

FAVORITA CALF

Applicant disclaimed the term "Calf" apart from the mark as shown.
For Leather Yard Goods (Int. Cl. 18).
First use June 10, 1968; in commerce June 10, 1968.

SN 328,981. Jonathan Green & Sons, Inc., Kearny, N.J. Filed June 3, 1969.



Applicant disclaims the word "Lawn" apart from the mark as shown, without disclaiming any common law rights therein and in the design format thereof as shown.
For Mixed Grass Seed (Int. Cl. 31).
First use on or about Jan. 30, 1967.

SN 338,223. Canadian Hoechst Limited, Montreal, Quebec, Canada. Filed Sept. 18, 1969.

GENOFIL

Owner of Reg. Nos. 796,576, 796,971, and others.
For Synthetic Monofilaments (Int. Cl. 1).
First use May 19, 1969; in commerce May 19, 1969.

SN 338,587. Merle J. Lucas, d.b.a. Green Forest Nursery, Green Forest, Ark. Filed Sept. 22, 1969.

QUINDELL

For Trees Including Fruit Trees (Int. Cl. 31).
First use 1964.

SN 347,104. Liquid Nitrogen Processing Corporation, Malvern, Pa. Filed Dec. 24, 1969.



"Engineering Plastics" is disclaimed apart from the mark as shown. Owner of Reg. No. 699,980.
For Thermoplastic Polymers Useful for Molding, Coating, Lubricating, and Other Applications (Int. Cl. 1).
First use March 1966.

SN 359,682. Ralston Purina Company, St. Louis, Mo. Filed May 14, 1970.

FRAGRAN

For Absorbent Animal Litter (Int. Cl. 31).
First use Apr. 30, 1970.

SN 359,683. Ralston Purina Company, St. Louis, Mo. Filed May 14, 1970.

PUFFS

For Absorbent Animal Litter (Int. Cl. 31).
First use Apr. 8, 1970.

SN 360,370. K. J. Quinn & Company, Inc, Malden, Mass. Filed May 20, 1970.

Q-THANE

Owner of Reg. Nos. 830,923 and 705,127.
For Urethane Polymers (Int. Cl. 1).
First use September 1969.

Class 2—Receptacles

SN 333,152. Henry J. Macie, d.b.a. Bulk-Pal, La Grange, Ill. Filed July 22, 1969.

BULK-PAL

For Paperboard Containers (Int. Cl. 16).
First use on or prior to June 6, 1963.

SN 335,026. Ipco Hospital Supply Corporation, New York, N.Y. Filed Aug. 11, 1969.

LINEX

For Disposable Utility Bags (Int. Cl. 20).
First use July 22, 1960.

SN 337,984. Sprinter-Pack Aktiebolag, Halmstad, Sweden. Filed Sept. 15, 1969.

TRAYTITE

Owner of Swedish Reg. No. 123,490, dated May 10, 1968.
For Boxes and Cartons Made of Paper, Cardboard, Plastic, and Metal Foil, or Laminates of Said Materials (Int. Cls. 6, 16, and 20).

SN 341,630. Columbian Carbon Company, New York, N.Y. Filed Oct. 24, 1969.

FESTIVAL

Owner of Reg. No. 720,565.
For Plastic Bags (Int. Cl. 20).
First use July 14, 1969.

SN 345,400. Vinyl Maid, Inc., West Springfield, Mass. Filed Dec. 4, 1969.



For Containers Made of Plastic Compositions—Namely, Bottles, Jars, and Trays (Int. Cl. 21).
First use Apr. 11, 1968.

SN 349,681. Arthur C. Popham, Jr., Kansas City, Mo. Filed Jan. 26, 1970.

PalCup

For Plastic Pocket Cups (Int. Cl. 21).
First use May 17, 1963.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 317,615. Reliable Luggage, Inc., West Pittsburgh, Pa. Filed Jan. 27, 1969.

TIME-SAVER

For Suitcases, Valises, and Travelling Bags (Int. Cl. 18).
First use Dec. 21, 1968.

SN 337,914. Excelsior Pet Products, Inc., Brooklyn, N.Y. Filed Sept. 15, 1969.

ROYAL ROOST

For Animal Cages, Beds, Toys, and Exercising Devices (Int. Cls. 18 and 21).
First use Mar. 23, 1963.

Class 4 — Abrasives and Polishing Materials

SN 344,061. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Nov. 20, 1969.

3M

Owner of Reg. Nos. 561,157, 751,879, and others.
For Abrasive Wheels (Int. Cl. 3).
First use Sept. 24, 1969.

SN 344,064. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Nov. 24, 1969.

TY-GRIP

For Abrasive Wheels (Int. Cl. 3).
First use Sept. 24, 1969.

Class 5 — Adhesives

SN 357,195. Borden, Inc., New York, N.Y. Filed Apr. 17, 1970.

SNO-DRIFT

For Adhesive Pastes, Glues, and Adhesive Gums (Int. Cl. 1).
First use on or before May 1904.

SN 357,252. Standard Brands Chemical Industries, Inc., Dover, Del. Filed Apr. 17, 1970.

HUNDRED HOUR

For Hot Melt Adhesives (Int. Cl. 1).
First use Apr. 3, 1970.

SN 360,371. K. J. Quinn & Company, Inc., Malden, Mass. Filed May 20, 1970.

Q-THANE

Owner of Reg. Nos. 830,923 and 705,127.
For Adhesives for Shoes, Leather and Leather Substitutes, Fabrics, Floors, Wood, Paper, Foil, Plastic Film and the Like (Int. Cls. 1 and 16).
First use January 1969.

Class 6 — Chemicals and Chemical Compositions

SN 273,681. Rewo Chemicals, Inc., Plainview, N.Y., assignee of Rewo Chemische Fabrik Gesellschaft mit beschrankter Haftung, Steinau, Germany. Filed June 12, 1967.

REWOPOL

For Raw Materials—Namely, Sulphates of Natural and Synthetic Alcohols, Sulphates of Polyglycol Esters of Such Natural and Synthetic Alcohols; Sulphates of Alkylolamides; Sulphates of Ethoxylated Alkylolamides; Reaction Products of Sulphosuccinic Diesters and Metal Amine Salts Thereof for Use as Surface Active Agents in the Manufacture of Household and Industrial Detergents, Shampoos, Lotions, Creams, Soaps, Synthetic Toilet Bars, and Cosmetic Compositions (Int. Cl. 1).
First use March 1967; in commerce May 17, 1967.

SN 296,419. General Nuclear, Inc., Houston, Tex. Filed Apr. 24, 1968.



For Radioactive Chemicals—Namely, Radio Isotopes and Radio-Active Solutions for Use in Industrial Radiography as Radiation Sources and Radioactive Tracer Materials (Int. Cl. 1).
First use at least as early as May 25, 1965.

SN 311,347. American Cyanamid Company, Wayne, N.J. Filed Nov. 5, 1968.

DMS

For Luminescent Material, in the Nature of Pigments Dispersed in Fluid Media, for Use as an Intermediate Base in the Formulation of Inks, Coating Products and Various Other Finished Goods (Int. Cl. 2).
First use Aug. 9, 1968.

SN 311,483. Givaudan Corporation, Clifton, N.J. Filed Nov. 6, 1968.

GIVAUDAN

Owner of Reg. Nos. 391,676 and 504,203.
For Artificial and Synthetic Perfume Compositions Sold in Bulk Form for Use as an Ingredient in the Manufacture of Cosmetics and Perfumes, and Sunscreening Compositions (Int. Cl. 3).
First use June 28, 1940.

SN 323,501. West Chemical Products, Inc., Long Island City, N.Y. Filed Apr. 2, 1969.

AERO-WEST

Owner of Reg. Nos. 723,244, 868,106, and others.
For Aerosol Space Deodorants, Air Sanitizers and Insecticides Used in Cabinet Dispensers (Int. Cl. 5).
First use Feb. 7, 1969.

SN 323,858. Stull Chemical Company, San Antonio, Tex. Filed Apr. 7, 1969.

BIVERT

For Invert Emulsion Spray Adjuvants for Herbicide and Insecticide Sprays (Int. Cl. 5).
First use May 5, 1965.

SN 325,764. Chemtrust Industries Corporation, Maywood, Ill. Filed Apr. 28, 1969.

FORESIGHT

For Biodegradable Wetting Agent Which Retains Moisture for Flowers, Lawns, Shrubs, Evergreens, and Trees (Int. Cl. 1).
First use May 15, 1968.

SN 328,313. Laaketehdas Orion Oy, Helsinki, Finland. Filed May 26, 1969.

URICULT

Owner of Finnish Reg. No. 54,169, dated Mar. 5, 1969.
For Diagnostic Reagents for Laboratory Use (Int. Cl. 1).

SN 329,018. Uniroyal, Inc., New York, N.Y. Filed June 3, 1969.

SOLO

For Herbicide (Int. Cl. 5).
First use May 9, 1969.

SN 329,885. Pierce Chemical Company, Rockford, Ill. Filed June 12, 1969.

pHix

For Buffer Compounds, Formulations, or Solutions Used for Setting and Maintaining a Definite Hydrogen Ion Concentration in Solutions and Used Primarily as Laboratory Reagents (Int. Cl. 1).
First use Jan. 29, 1969.

SN 331,924. Milchem Incorporated, Houston, Tex. Filed July 7, 1969.

IPI 37

For Chemical Additive for Drilling Mud—Namely, an Asphalt Base Composition Useful as a Bore Hole Sealant (Int. Cl. 1).
First use Feb. 17, 1969.

SN 337,493. Universal Oil Products Company, d.b.a. UOP Water Services Division, Des Plaines, Ill. Filed Sept. 10, 1969.

TRACELEAK

For Non-Toxic Liquid That Is Applied to the Exterior of Pipe Line Systems for Detecting Escaping Gases (Int. Cl. 1).
First use on or prior to Mar. 19, 1969.

SN 344,063. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Nov. 20, 1969.

3M

For Dyes for Use on Vinyl (Int. Cl. 2).
First use at least as early as Dec. 31, 1968.

SN 346,601. Chipman Chemicals Limited, Hamilton, Ontario, Canada. Filed Dec. 18, 1969.

GRANOX

Owner of Canadian Reg. No. 182/46,372, dated Nov. 13, 1953.
For Seed Disinfectants, Insecticides, and Fungicides (Int. Cl. 5).

SN 347,504. Geigy Chemical Corporation, Ardsley, N.Y. Filed Dec. 31, 1969.

IRGASTAB

Owner of Reg. Nos. 165,426, 759,879, and others.
For Nickel Stabilizer (Int. Cl. 1).
First use Oct. 15, 1969.

SN 349,801. S. C. Johnson & Son, Inc., Racine, Wis. Filed Jan. 28, 1970.

PERISH

For Industrial and Household Deodorants, Sanitizing and Disinfecting Agents (Int. Cl. 5).
First use Dec. 19, 1969.

SN 351,799. D. W. Haering & Co. Inc., San Antonio, Tex. Filed Feb. 19, 1970.

H-O-H
HAERING CORSCA
GLUCOSATE

Owner of Reg. Nos. 390,866, 552,306, and others.
For Chemical Product Used in Water Treating for Scale and Corrosion Control (Int. Cl. 1).
First use Sept. 12, 1969.

SN 352,244. A. E. Staley Manufacturing Company, Decatur, Ill. Filed Feb. 24, 1970.

SOFT-PLUS

For Rinse Used as a Textile Softener (Int. Cl. 1).
First use Feb. 18, 1970.

SN 354,830. First Mississippi Corporation, Jackson, Miss. Filed Mar. 23, 1970.

URIFEED

For Feed Grade Urea for Use in the Manufacture of Mixed Feeds for Cattle, Sheep, and Goats (Int. Cl. 31).
First use July 15, 1969.

SN 356,910. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Apr. 15, 1970.

DYBLN

For Dyes and Chemical Fixing Agents (Int. Cl. 2).
First use Mar. 2, 1970.

SN 358,399. The Upjohn Company, Kalamazoo, Mich. Filed Apr. 30, 1970.

MITABAN

For Miticide (Int. Cl. 5).
First use Feb. 19, 1970.

SN 358,400. The Upjohn Company, Kalamazoo, Mich. Filed Apr. 30, 1970.

BANOMITE

For Miticide (Int. Cl. 5).
First use Feb. 19, 1970.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 333,265. Forjas Taurus, S.A., Porto Algegre, Rio Grande do Sul, Brazil. Filed July 23, 1969.

TAURUS BRASIL

No claim is made to the word "Brasil" apart from the mark as shown. The word "Taurus" means "bull" and is also a Zodiak sign. Owner of Brazilian Reg. No. 299,413, dated June 8, 1964.
For Revolvers (Int. Cl. 13).

SN 361,069. Karl R. Lewis, Wethersfield, Conn. Filed May 28, 1970.

PROARMCO

For Sporting Firearms (Int. Cl. 13).
First use May 26, 1970.

Class 10 — Fertilizers

SN 280,602. Leffingwell Chemical Company, Brea, Calif. Filed Sept. 18, 1967.

Sorba-Spray

For Soluble Nutrient Spray, Spreader and Buffering Agent for Agricultural Use (Int. Cl. 1).
First use Apr. 11, 1964.

SN 310,166. Agriform International Chemicals, Inc., Newark, Calif. Filed July 31, 1968.



For Controlled Release Fertilizers (Int. Cl. 1).
First use as early as Aug. 1, 1967.

SN 311,976. Sierra Chemical Company, Newark, Calif. Filed July 31, 1968.



For Controlled Release Fertilizers (Int. Cl. 1).
First use as early as June 1, 1967.

SN 323,125. Red Barn Chemicals Inc., Tulsa, Okla. Filed Mar. 28, 1969.

SUN·GRO

For Lawn and Garden Food (Int. Cl. 1).
First use Feb. 15, 1969.

SN 323,327. Chemtrust Industries Corporation, Maywood, Ill. Filed Apr. 1, 1969.

HYDRO-PEAK

For Soil Builder (Int. Cl. 1).
First use July 14, 1968.

SN 328,197. Pacific Agro Company, Seattle, Wash. Filed May 23, 1969.

RHODO-BLOOM

For Fertilizer (Int. Cl. 1).
First use November 1957.

SN 329,829. Brandt Chem. Co., Inc., Pleasant Plains, Ill. Filed June 12, 1969.

ClawEl

For Plant Nutrients Applied to the Soil To Compensate for Trace Element Deficiencies (Int. Cl. 1).
First use on or before Dec. 18, 1968.

SN 336,781. Dynatron, Incorporated, East Detroit, Mich. Filed Sept. 2, 1969.

DYNATRACE

For Plant Growth Accelerators (Int. Cl. 1).
First use Aug. 15, 1969.

SN 336,782. Dynatron, Incorporated, East Detroit, Mich. Filed Sept. 2, 1969.

GRO-POWER

For Plant Growth Accelerators (Int. Cl. 1).
First use Aug. 15, 1969.

SN 336,784. Dynatron, Incorporated, East Detroit, Mich. Filed Sept. 2, 1969.

ROOT-N'-SHOOT

For Plant Growth Accelerators (Int. Cl. 1).
First use Aug. 15, 1969.

SN 338,220. Brandt Chem. Co., Inc., Pleasant Plains, Ill. Filed Sept. 18, 1969.

CLAW

For Fertilizers (Int. Cl. 1).
First use on or before July 18, 1969.

SN 359,312. United States Steel Corporation, Pittsburgh, Pa. Filed May 11, 1970.

MAGNEX

For Combination Greening Ingredient Incorporated in a Fertilizer (Int. Cl. 1).
First use at least as early as February 1965.

SN 360,838. National Chemsearch Corporation, Irving, Tex. Filed May 26, 1970.

TRIPLE "N"

For Fertilizers (Int. Cl. 1).
First use on or before October 1967.

Class 11 — Inks and Inking Materials

SN 294,518. Martin Marietta Corporation, New York, N.Y. Filed Mar. 29, 1968.

SINCLAIR AND VALENTINE

For Printing Inks, Die Stamping Inks, Ink Additives, Ink Varnish, Ink Thinners, Ink Lacquers, Ink Dryers, and Ink Pigments (Int. Cl. 2).
First use at least as early as 1900.

Class 12 — Construction Materials

SN 292,699. L.G.H. Products Corp., New York, N.Y. Filed Mar. 7, 1968.

COOL HEAT

For Insulating Paste, Protective Against Torch and Welding Heat Damage (Int. Cl. 17).
First use Feb. 12, 1968.

SN 314,275. Soil Seal, Inc., d.b.a. Soil Seal Corporation, Van Nuys, Calif. Filed Dec. 11, 1968.

MIRAL-COTE

For Acrylic Based Coatings for Asphalt and Concrete Surfaces (Int. Cl. 19).
First use Feb. 20, 1968.

SN 319,831. Consolidated Industries, Inc., Akron, Ohio. Filed Feb. 24, 1969.

MONTAGE

For Kit to Create a Protective and Decorative Coating, Containing Chips, for Application to Walls, Counter Tops, Shower Stalls, Floors, and Similar Surfaces (Int. Cl. 19).
First use on or about Jan. 23, 1969.

SN 329,382. The Reardon Company, Brunswick, Ohio. Filed June 6, 1969.

GLASMESH

WOVEN FABRIC

Applicant disclaims the words "Woven Fabric" apart from the mark as shown.
For Waterproofing Membrane for Use on Roofs, Masonry Walls, and Building Seams (Int. Cl. 19).
First use Dec. 15, 1967.

SN 331,859. Cement Asbestos Products Company, Birmingham, Ala. Filed July 7, 1969.

CAPCO

For Cement Asbestos Pipes and Couplings for Such Pipe (Int. Cl. 19).
First use June 24, 1969.

SN 336,980. Environmental Farms, Inc., Tucson, Ariz. Filed Sept. 4, 1969.



For Controlled Environment Green House System—Namely, Plastic Greenhouses (Int. Cl. 19).
First use June 15, 1969.

SN 341,505. Corning Glass Works, Corning, N.Y. Filed Oct. 23, 1969.

CERAMIC-TAB

For Shingles (Int. Cl. 19).
First use on about Sept. 19, 1969.

SN 342,900. Rink Corporation, Hazleton, Pa. Filed Nov. 6, 1969.

RINK

For Acoustical Structures for the Control of Sound (Int. Cl. 19).
First use Jan. 19, 1968.

SN 349,812. American Plywood Association, Tacoma, Wash. Filed Jan. 28, 1970.

APA

Owner of Reg. No. 789,537 and others.
For Plywood (Int. Cl. 19).
First use Feb. 5, 1964.

SN 350,261. A. P. Green Refractories Co., Mexico, Mo. Filed Feb. 2, 1970.

ISO

For Refractory Brick (Int. Cl. 19).
First use Dec. 15, 1966.

SN 352,956. Fuqua Industries, Inc., d.b.a. Stormor, Inc., Atlanta, Ga. Filed Mar. 3, 1970.

EZEE-DRY

For Grain Storage Bins (Int. Cl. 6).
First use Jan. 5, 1970.

SN 352,965. Justice Manufacturing Co., Inc., East Farmingdale, N.Y. Filed Mar. 3, 1970.

FLAIR-FOLD

For Shutters, Shutterettes, Louvre Doors, and Panels (Int. Cl. 19).
First use Jan. 2, 1970.

SN 352,969. Ben Mayer Design, Inc., Los Angeles, Calif. Filed Mar. 3, 1970.



For Translucent Decorative Plastic Panels Used in Conjunction With Natural Light or Static or Modulated Lighting Devices (Int. Cl. 19).
First use Jan. 30, 1970.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 310,508. Toro Manufacturing Corporation, Minneapolis, Minn. Filed Oct. 24, 1968.

VARI-TIME

For Irrigation Devices and Systems, Including Soil Moisture Sensing Devices for Initiating and Terminating Irrigation Cycles, Program Timers for Controlling a Series of Irrigation Outlets, Vacuum Responsive Valves and Remote Control Valves, Sprinklers, Fittings, Tubing, and Other Components of Irrigation Devices and Systems (Int. Cl. 11).
First use on or about Mar. 8, 1967.

SN 319,552. Monex Corporation, Hialeah, Fla. Filed Feb. 19, 1969.

MONEX

For Ballcocks (Int. Cl. 7).
First use October 1967.

SN 332,813. Dixon Valve & Coupling Co., Philadelphia, Pa. Filed July 17, 1969.

QUICK DIXON SAFE

Owner of Reg. No. 778,058.
For Chains, Chain Links and Hose Connection Fittings Including Hose Clamps, Band Clamp Adapters and Hose Coupling Chains and Parts Therefor (Int. Cl. 6).
First use July 2, 1969.

SN 339,985. Wrought Washer Mfg. Co., Milwaukee, Wis. Filed Oct. 6, 1969.



For Washers (Int. Cl. 6).
First use Dec. 5, 1954.

SN 345,893. Fiber Glass Systems, Inc., Big Spring, Tex. Filed Dec. 11, 1969.

STAR

For Reinforced Plastic Pipe and Fittings Therefor (Int. Cl. 17).
First use on or about Oct. 27, 1969.

Class 14 — Metals and Metal Castings and Forgings

SN 336,405. Baldwin Steel Company, Bedford, Ohio. Filed Aug. 27, 1969.

TUFF-BRAZE

For Plate Steel (Int. Cl. 6).
First use Aug. 20, 1969.

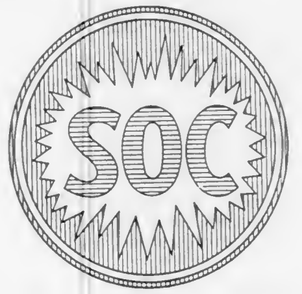
Class 15 — Oils and Greases

SN 296,761. Standard Oil Company, Flemington, N.J. Filed Apr. 29, 1968.

EXXON

For Petroleum and Petroleum Products—Namely, Industrial Oils and Greases, Petroleum and Mineral Waxes, Lubricants, Hydrocarbon Fuels, Petroleum Illuminants and Crude Oil (Int. Cl. 4).
First use Dec. 5, 1967.

SN 320,187. Southland Oil Corporation, Savannah, Ga. Filed Feb. 26, 1969.



The drawing is lined for the colors red and blue.
For Gasoline, Motor Oil, Fuel Oil, and Lubricating Greases (Int. Cl. 4).
First use in or about October 1955.

SN 325,172. Clarkson & Ford Co., Clifton, N.J. Filed Apr. 22, 1969.



For Lubricating Oil, Cutting Oil, and Greases (Int. Cl. 4).
First use Jan. 1, 1885.

SN 337,718. Sun Oil Company, Philadelphia, Pa. Filed Sept. 11, 1969.

CONDEX

For Petroleum Oils Used as Base Oils for Crop Spray Applications, Form Oils, Fog Oils and Livestock Post Oils (Int. Cl. 4).
First use Feb. 26, 1968.

SN 337,721. Sun Oil Company, Philadelphia, Pa. Filed Sept. 11, 1969.

KLEENRING

For Lubricating Oil for Diesel Engines (Int. Cl. 4).
First use Oct. 1, 1956.

SN 339,117. Aztec Oil & Gas Company, Dallas, Tex. Filed Sept. 29, 1969.



For Petroleum Products, To-Wit: Crude Oil and Natural Gas (Int. Cl. 4).
First use Apr. 6, 1956.

SN 339,871. Essex Manufacturing Co., Greensboro, N.C. Filed Oct. 6, 1969.

PIERRE MARCHANT

For Heating Fuel for Use With Fondue Apparatus and Chafing Dishes (Int. Cl. 4).
First use June 19, 1969.

SN 347,008. Standard Oil Company, Flemington, N.J. Filed Dec. 23, 1969.

COSMOS

For Lubricating Oils and Greases (Int. Cl. 4).
First use at least as early as Oct. 8, 1969.

SN 360,168. Triple-X Chemical Laboratories, Inc., Mundelein, Ill. Filed May 18, 1970.



Owner of Reg. No. 842,690.
For Electric Motor Oil, Graphite Penetrating Oil, and Neatsfoot Oil (Int. Cl. 4).
First use on or about Sept. 1, 1969; at least as early as 1933, in another form.

Class 16 — Protective and Decorative Coatings

SN 359,375. Lien Chemical Company, Franklin Park, Ill. Filed May 11, 1970.



The drawing is lined for the colors red and blue.
For Concrete Coloring Concentrates and Asphalt Tile Sealants in the Nature of Paints, Floor Sealers and Finishes in the Nature of Protective Coatings, and Solvents and Thinners Used in Paint (Int. Cl. 2).
First use Apr. 11, 1953.

Class 17 — Tobacco Products

SN 359,798. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed May 15, 1970.

SUNDANCE

For Cigarettes (Int. Cl. 34).
First use May 5, 1970.

SN 359,834. Douwe Egberts Koninklijke Tabaksfabriek-Koffiebranderijen-Theehandel N.V., Joure, Netherlands. Filed May 15, 1970.

ANZAC

For Pipe Tobacco (Int. Cl. 34).
First use Mar. 17, 1970; in commerce Mar. 17, 1970.

SN 359,949. American Brands, Inc., New York, N.Y. Filed May 18, 1970.

RED LINE

For Cigarettes (Int. Cl. 34).
First use Apr. 22, 1970.

SN 360,410. Consolidated Cigar Corporation, New York, N.Y. Filed May 21, 1970.

TAHOE TIPS

For Cigars (Int. Cl. 34).
First use May 1, 1970.

SN 360,411. Consolidated Cigar Corporation, New York, N.Y. Filed May 21, 1970.

SAUSALITOS

For Cigars (Int. Cl. 34).
First use May 1, 1970.

SN 360,412. Consolidated Cigar Corporation, New York, N.Y. Filed May 21, 1970.

QUILLS

For Cigars (Int. Cl. 34).
First use May 1, 1970.

SN 360,619. American Brands, Inc., New York, N.Y. Filed May 25, 1970.

3X

For Filters Sold Incorporated in Cigarettes (Int. Cl. 34).
First use Apr. 22, 1970.

Class 18 — Medicines and Pharmaceutical Preparations

SN 304,032. Williams & Son, Lomita, Calif. Filed July 31, 1968.

VETA ⊕ CARE

For Veterinary Preparations—Namely, Scour Boluses, Nitrofurazone Urea Boluses, Sulfa Urea Preparation, Sulfamethazine Boluses With Electrolytes, Rumen Laxative Boluses With Silicones and Triple Sulfa Boluses With Electrolytes (Int. Cl. 5).
First Use May 28, 1968.

SN 304,611. Majestic Drug Co., Inc., Bronx, N.Y. Filed Aug. 7, 1968.

PINE-SPA

Owner of Reg. Nos. 681,384 and 815,346.
For Mineral Bath Preparation for the Relief of Rheumatic and Arthritic-Like Muscular Aches and Pains Caused by Bruises and Sprains (Int. Cl. 5).
First use January 1968.

SN 314,799. Kabushiki Kaisha Yamasakitelkokudo, Chiyoda-ku, Tokyo-to, Japan. Filed Dec. 18, 1968.

毒掃丸

The Chinese characters shown on the drawing are translated into English as follows: "poison-sweeping pills," the last character of the mark meaning "pills" is disclaimed apart from the mark as shown. Owner of Japanese Reg. No. 322,863, dated Oct. 18, 1959.
For Line of Pharmaceutical Products in Pill Form (Int. Cl. 5).

SN 319,641. G. D. Searle & Co., Skokie, Ill. Filed Feb. 19, 1969.

OVULEN-28

Owner of Reg. Nos. 757,201 and 841,929.
For Pharmaceutical Preparations Containing Steroid Hormones and Presented in Packaging Adapted for a Particular Program of Administration (Int. Cl. 5).
First use Feb. 3, 1969.

SN 330,370. Dr. Madaus & Co., Cologne-Merheim, Germany. Filed June 18, 1969.

LEGALON

Owner of German Reg. No. 478,977, dated May 13, 1935.
For Preparations for the Treatment of Liver Ailments (Int. Cl. 5).

SN 330,415. Protect-A-Care, Inc., Philadelphia, Pa. Filed June 18, 1969.

PROTECT-A-CARE

For Medical Kit Containing Diversified Medicines and Medical Aids Comprising Antiseptics, Analgesics, Dressings, Bandages, Applications, Non-Prescription Drugs, and the Like (Int. Cl. 5).
First use May 29, 1969.

SN 331,603. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed July 2, 1969.

CRASNITIN

Owner of German Reg. No. 782,801, dated June 14, 1962.
For Cytostatic Agent With an Anti-Leukemic Action (Int. Cl. 5).

SN 343,653. Calbiochem, Los Angeles, Calif. Filed Nov. 17, 1969.

CALBIO

For Antiviral Preparation (Int. Cl. 5).
First use Oct. 23, 1969.

SN 345,206. Savage Laboratories, Inc., Houston, Tex. Filed Dec. 3, 1969.

CORTIGEL-80

Owner of Reg. No. 879,021.
For Acth, Adrenocorticotropic Hormone, a Pituitary Hormone That Stimulates the Cortex of the Adrenal Glands (Int. Cl. 5).
First use Dec. 10, 1964.

SN 345,291. Arnar-Stone Laboratories, Inc., Mount Prospect, Ill. Filed Dec. 4, 1969.

VULVAN

For Topical Ointment for the Treatment of Vulvar Dystrophic Disease (Int. Cl). 5.
First use on or before Nov. 18, 1969.

SN 349,098. American Home Products Corporation, New York, N.Y. Filed Jan. 21, 1970.

INNOVETTES

For Tablets for Use as a Vaginal Cleanser and Deodorant (Int. Cl. 5).
First use Dec. 10, 1969.

SN 349,100. American Home Products Corporation, New York, N.Y. Filed Jan. 21, 1970.

NOVETTES

For Tablets for Use as a Vaginal Cleanser and Deodorant (Int. Cl. 5).
First use Dec. 10, 1969.

SN 350,430. Syntex Laboratories, Inc., Palo Alto, Calif. Filed Feb. 4, 1970.

LIDEX

For Steroid Hormones Sold on Prescription (Int. Cl. 5).
First use Jan. 13, 1970.

SN 350,438. The Upjohn Company, Kalamazoo, Mich. Filed Feb. 4, 1970.

ULTRINASE

For Antidiabetic Agent (Int. Cl. 5).
First use Nov. 17, 1969.

SN 359,799. Smith Kline & French Laboratories, Philadelphia, Pa. Filed May 15, 1970.

LOCID

For Antacid Preparation (Int. Cl. 5).
First use Apr. 30, 1970.

SN 359,969. Medics Pharmaceutical Corporation, Decatur, Ga. Filed May 18, 1970.

PARADOL

For Pharmaceutical Preparation for Use as an Analgesic-Sedative (Int. Cl. 5).
First use as early as Jan. 18, 1967.

SN 360,406. American Home Products Corporation, New York, N.Y. Filed May 21, 1970.

ACTIGON

For Hormonal Pharmaceutical Preparation for Veterinary Use (Int. Cl. 5).
First use May 8, 1970.

SN 360,526. Smith Kline & French Laboratories, Philadelphia, Pa. Filed May 22, 1970.

PACAM

For Antacid Preparation (Int. Cl. 5).
First use Apr. 30, 1970.

Class 19 — Vehicles

SN 316,512. Action-Age, Inc. (Delaware corporation), Warrensville Heights, Ohio, assignee of Action-Age, Incorporated (Ohio corporation), Cleveland, Ohio. Filed Jan. 14, 1969.

ACTION-AGE

For Off Highway Wheeled Recreational Vehicles and Structural Parts Thereof (Int. Cl. 12).
First use Dec. 20, 1967.

SN 316,513. Action-Age, Inc. (Delaware corporation), Warrensville Heights, Ohio, assignee of Action-Age, Incorporated (Ohio corporation), Cleveland, Ohio. Filed Jan. 14, 1969.



For Off Highway Wheeled Recreational Vehicles and Structural Parts Thereof (Int. Cl. 12).
First use Dec. 20, 1967.

SN 321,047. Del Krome Corp., Walton, N.Y. Filed Mar. 7, 1969.

"SUR-LOCK TOPPER"

"Sur-Lock" is disclaimed apart from the mark as shown.
For Automobile Wheel Covers and Trim for Passenger Automobiles (Int. Cl. 12).
First use July 1964.

SN 324,745. Peters and Russell, Inc., Springfield, Ohio. Filed Apr. 16, 1969.

TWINAIR

For Fenders and Bumpers Primarily for Marine Use (Int. Cl. 12).
First use Feb. 13, 1969.

SN 329,219. Bonair Boats, Inc., Merriam, Kans. Filed June 5, 1969.

Be a sailor... without a Trailer!

For Inflatable Boats (Int. Cl. 12).
First use May 23, 1969.

SN 330,953. Progressive Yacht Hardware International, Palos Verdes Estates, Calif. Filed June 25, 1969.

DURACHROME

For Chrome Plated Plastic Marine Deck Plates, Hatches, Moldings, Ventilators and the Like (Int. Cl. 12).
First use on or about May 17, 1968.

SN 333,465. Wells Cargo, Inc., Elkhart, Ind. Filed July 24, 1969.

TOOL WAGON

For Trailer Vans (Int. Cl. 12).
First use Feb. 18, 1963.

SN 333,466. Wells Cargo, Inc., Elkhart, Ind. Filed July 24, 1969.

EXPRESS WAGON

For Trailer Vans (Int. Cl. 12).
First use Feb. 18, 1963.

SN 333,467. Wells Cargo, Inc., Elkhart, Ind. Filed July 24, 1969.

WORK WAGON

For Trailer Vans, Portable Offices and Mobile Tool Storage Vans (Int. Cl. 12).
First use Feb. 18, 1963.

SN 339,153. Detomaso Automobili S.p.A., Modena, Italy. Filed Sept. 29, 1969.

DETOMASO

Owner of U.S. Reg. No. 889,026.
For Automobiles (Int. Cl. 12).
First use in 1966; in commerce in 1966.

SN 345,106. Coot Industries, San Francisco, Calif. Filed Dec. 3, 1969.

RED BARON

For Recreational and General Utility Motor Cars (Int. Cl. 12).
First use Nov. 11, 1969.

SN 347,425. Ramada Homes, Inc., Earle, Ark. Filed Dec. 30, 1969.

RAMADA

For Mobile Homes (Int. Cl. 12).
First use September 1967.

SN 347,523. North American Boat Corporation, Fort Lauderdale, Fla. Filed Dec. 31, 1969.

SUNCHASER

For Boats (Int. Cl. 12).
First use May 20, 1966.

SN 347,524. North American Boat Corporation, Fort Lauderdale, Fla. Filed Dec. 31, 1969.

OFFSHORE

For Boats (Int. Cl. 12).
First use June 13, 1966.

SN 348,181. Schwinn Bicycle Company, Chicago, Ill. Filed Jan. 9, 1970.

PEA PICKER

For Bicycles (Int. Cl. 12).
First use Oct. 28, 1968.

SN 349,000. Howard A. Smith and Shirley C. Smith (joint owners), d.b.a. Ranger Fiberglass Boats, South Kent, Wash. Filed Jan. 19, 1970.

RANGER

For Boats (Int. Cl. 12).
First use 1958.

SN 349,378. Overland Manufacturing, Inc., Grand Prairie, Tex. Filed Jan. 22, 1970.

OVERLAND

For House Trailers (Int. Cl. 12).
First use June 17, 1968.

SN 351,502. Minibus, Inc., Pico Rivera, Calif. Filed Feb. 16, 1970.

TOURMOBILE

For Buses (Int. Cl. 12).
First use Feb. 21, 1968.

SN 353,374. Martin Engineering Company, Neponsit, Ill. Filed Mar. 9, 1970.

BOOT-LIFT

For Railroad Hopper Car Adjustable Outlet-Connectors (Int. Cl. 12).
First use during the year 1967.

SN 360,042. Duesenberg Corporation, Houston, Tex. Filed May 18, 1970.

DUESENBERG

For Passenger Automobile (Int. Cl. 12).
First use Feb. 1, 1966.

SN 360,227. Ford Motor Company, Dearborn, Mich. Filed May 19, 1970.

TEMPO

For Automobiles (Int. Cl. 12).
First use on or about Mar. 31, 1970.

SN 360,291. Rolly Tasker Sails, Inc., Cary, Ind. Filed May 20, 1970.

ROLLY TASKER

The mark consists of the name of a living individual, whose consent is of record.
For Sails for Sailboats (Int. Cl. 22).
First use on or before Jan. 1, 1963.

SN 360,567. Liberty Homes, Inc., Syracuse, Ind. Filed May 22, 1970.

GEORGETOWN

For Mobile Homes (Int. Cl. 12).
First use Feb. 21, 1969.

SN 360,588. Rubbermaid Incorporated, Wooster, Ohio. Filed May 22, 1970.

SCULPTURA

For Automobile Floor Mats of Plastic Material (Int. Cl. 12).
First use on or about Apr. 21, 1970.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 316,352. Tapecon, Inc., Rochester, N.Y. Filed Jan. 10, 1969.

TAPECON

For Pressure-Sensitive Tapes and Laminates Used in Electrical Masking, Shielding, and Conducting (Int. Cl. 17).
First use at least as early as Jan. 16, 1967.

SN 316,761. Allied Computer Systems, Inc., Madison, Conn. Filed Jan. 16, 1969.

ReaDoc

For Identification of a Character Recognition Reader (Used in Conjunction With Computer Systems (Int. Cl. 9).
First use Oct. 23, 1968.

SN 317,167. Viaphone, Inc., St. Louis, Mo. Filed Jan. 21, 1969.

Viaphone

For Apparatus for the Transmission and Reception of Electrocardiograms by Telephone, by the Conversion of Electronic Impulses Into Signals and the Reconversion Thereof at the Terminal Point (Int. Cl. 9).
First use Nov. 12, 1963.

SN 323,493. Visual Electronics Corporation, New York, N.Y. Filed Apr. 2, 1969.

PAGEFILE

For Devices for Magnetically Storing Video Information Corresponding to Multiple Frames of Alphanumerical Characters, and for Selecting and Reading Out Such Frames on Demand for Television Transmission (Int. Cl. 9).
First use July 30, 1968.

SN 325,489. Intel Corporation, Mountain View, Calif. Filed Apr. 24, 1969.



For Integrated Circuits, Registers, and Semiconductor Memories (Int. Cl. 9).
First use Mar. 11, 1969.

SN 325,879. Lapp Insulator Company, Inc., Leroy, N.Y. Filed Apr. 29, 1969.

HYDRATUBE

For Metering Pump Head (Int. Cl. 7).
First use at least as early as Dec. 26, 1968.

SN 327,025. S. S. Kresge Company, Detroit, Mich. Filed May 12, 1969.

SUPER K-500

For Vehicle Storage Batteries (Int. Cl. 9).
First use in or before February 1969.

SN 329,424. American Photocopy Equipment Company, Evanston, Ill. Filed June 9, 1969.

Ultra

For Electrostatic Photocopy Machines (Int. Cl. 9).
First use Mar. 1, 1968.

SN 330,777. S & A Electronics, Inc., d.b.a. Airex of Ohio Division, Toledo, Ohio. Filed June 23, 1969.

AIREX OF OHIO

Applicant disclaims the term "Of Ohio" apart from the mark as shown.
For Antennas and Antenna Accessories—Namely, Antenna Rotators, Antenna Wire, Antenna Masts, Antenna Mounts, Antenna Transmission Lines, Antenna Wire Guides, and Antenna Couplers (Int. Cl. 9).
First use in or about August 1960.

SN 331,908. Jetco Electronic Industries, Inc., Huntsville, Tex. Filed July 7, 1969.

JETCO

For Line of Superheterodyne, Remotely controlled Animal Training Devices Utilizing a Collar-Mounted Electric Shocker, and a Line of Hand-Held Electronic Metal-Mineral Locators, Operating on a Beat Frequency Principle, Indicating the Proximity of Metal and/or Minerals by Sound, and by Instrument Display (Int. Cl. 9).
First use Aug. 15, 1966.

SN 332,283. Ascot Sales Ltd., Hastings-On-Hudson, N.Y. Filed July 11, 1969.

LADY ASCOT

For Electrical Appliances—Namely, Cookers and Fryers, Dry Irons, Spray Irons, Steam Irons, Hand Mixers, Heating Pads, and Toasters (Int. Cls. 7, 9, 10, and 11).
First use Apr. 15, 1969, on electric hand mixers.

SN 337,517. Chieftain-Uniworld Corp., Corona, N.Y. Filed Sept. 10, 1969.

FIAMM

For Electro-Compressor Automotive Horns (Int. Cl. 12).
First use June 1965.

SN 337,844. Wehr Corporation, Milwaukee, Wis. Filed Sept. 12, 1969.

PERMA-PAC

Owner of Reg. Nos. 514,775 and 520,749.
For Magnetic Devices—Namely, Plate Magnets, Sheet Lifters, Floor and Road Cleaners, Hump Magnets, Hand Magnets, Trap Magnets, and Grate Magnets (Int. Cls. 7 and 9).
First use Jan. 20, 1969.

SN 342,151. Ell Distributors, Inc., Little Rock, Ark. Filed Oct. 30, 1969.

THE ORIGINAL BLACK BOX

For Box Containing Electric Lights Which Show a Variety of Arbitrary Shapes in Different Colors and Is Viewed in Association With Music To Reflect the Mood Thereof (Int. Cl. 9).
First use on or about June 15, 1969.

SN 345,774. Wands, Inc., Stamford, Conn. Filed Dec. 10, 1969.

BARK-A-TROL

For Electronic Device, Consisting of a Light-Weight Battery Operated Unit To Be Mounted on a Dog's Collar, To Control Noise by Administering a Mild Electric Stimulus Each Time the Dog Barks (Int. Cl. 9).
First use Sept. 10, 1969.

SN 347,182. The Vadic Corporation, Palo Alto, Calif. Filed Dec. 29, 1969.

vadic

For Modems—Namely, Modulator-Demodulators (Int. Cl. 9).
First use Nov. 28, 1969.

SN 350,192. Sona Stream Corporation, Peotone, Ill. Filed Feb. 2, 1970.

SONA STREAM

Owner of Reg. No. 861,996.
For Cleaning Equipment—Namely, an Electrically Powered Cleaning Machine for Carpets or Other Fabrics (Int. Cl. 9).
First use during or about November 1969.

SN 350,762. McGraw-Edison Company, Elgin, Ill. Filed Feb. 6, 1970.

RESILITE

For Luminaires (Int. Cl. 11).
First use Dec. 8, 1968.

SN 351,424. Pierre Cible, Paris, France. Filed Feb. 16, 1970.



The stippling appearing in the mark is for shading only, and not to indicate color. Owner of French Reg. No. 741,346, dated Oct. 24, 1967.
For Vehicle, Automobile and Aircraft Headlights, Sidelights, Interior Lights, Direction Indicating Lights, Tail Lights, Reversible Lights, Beam Adjusting Devices, and Lamp Assemblies (Int. Cl. 11).

SN 351,850. Unimax Switch Corporation, Wallingford, Conn. Filed Feb. 19, 1970.

UNIMAX

Owner of Reg. No. 444,079.
For Electrical Switches of Various Types—Namely, Pushbutton, Toggle, Rocker, Illuminated, Rotary, Foot, Proximity, Reed, Stepping, Thumbwheel, Thermal, Pressure; Lighted Indicators; Switch and Relay Combinations, and Electric Control Panels (Int. Cl. 9).
First use Dec. 23, 1946.

SN 353,536. McGraw-Edison Company, Elgin, Ill. Filed Mar. 9, 1970.

NECCOTHERM

For Electrical Insulation (Int. Cl. 9).
First use Dec. 19, 1969.

SN 354,425. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Mar. 18, 1970.

SPITFIRE

For Storage Batteries (Int. Cl. 9).
First use Feb. 16, 1970.

SN 354,516. Pinkerton's, Inc., New York, N.Y. Filed Mar. 18, 1970.

915 SUBURBAN

For Electronic Security Systems for Intrusion, Fire, Smoke, and Water (Int. Cl. 9).
First use Feb. 17, 1970.

Class 22 — Games, Toys, and Sporting Goods

SN 314,375. Fred Weatherford, d.b.a. Weatherford Enterprises, Hyattsville, Md. Filed Dec. 12, 1968.

THE IDIOT STICK

Applicant disclaims the exclusive use of the word "Stick" apart from the mark as shown.
For Apparatus Comprising a Stick With Hooks and a Ring for Playing an Amusement Game of Skill (Int. Cl. 28).
First use Nov. 14, 1968.

SN 321,798. Charles Hannon, Scarsdale, N.Y. Filed Mar. 14, 1969.

SPELL-A-RAMA

For Equipment Sold as a Unit for Playing a Game Using Dice-Like Blocks (Int. Cl. 28).
First use Feb. 28, 1969.

SN 323,306. Kenner Products Company, Cincinnati, Ohio. Filed Apr. 1, 1969.

NURSERY PETS

Applicant disclaims the word "Nursery" except in the combination shown.
For Crib Toys (Int. Cl. 28).
First use on or about May 2, 1965.

SN 328,693. The Franklin Mint, Inc., Yeadon, Pa. Filed May 29, 1969.

LANDMARK OF AMERICA

For Equipment or Apparatus for Playing a Game Involving Gameboard (Int. Cl. 28).
First use May 1, 1969.

SN 331,277. Epoch Company Ltd., Taito-ku, Tokyo, Japan. Filed June 30, 1969.



For Toys and Games—Namely, Pom-Pom Games, Table Ring Toss Games, Roulette Games, Volley Ball Games, Basketball Games, Boxing Games, Hand Wrestling Games, Baseball Games, Soccer Games, Hockey Games, Chess Games, Billiard Games, Spaceship Toys, Teddybear Toys, Table Derby Games, Magic Games, Family Theater Toys, Teaching Machine Toys, Picture Puzzle Toys, Missile Fleet Games, and Cavalry Games (Int. Cl. 28).
First use July 1968; in commerce July 1968.

SN 334,038. The Art Award Co., Inc., North Bergen, N.J. Filed July 31, 1969.

CARV-WOOD

For Paint-by-the-Number Painting Kits Containing Painting Panels in Sculptured Relief, Liquid Paints, Brushes, and a Staining-Antiquing Solution (Int. Cl. 28).
First use on or about Feb. 21, 1969.

SN 339,667. Eldon Industries, Inc., Hawthorne, Calif. Filed Oct. 3, 1969.

MAGAZINE SERIES

For Toy Model Kits (Int. Cl. 28).
First use July 3, 1969.

SN 339,668. Eldon Industries, Inc., Hawthorne, Calif. Filed Oct. 3, 1969.

BIG BEND

For Toy Road Race Equipment (Int. Cl. 28).
First use June 24, 1968.

SN 339,669. Eldon Industries, Inc., Hawthorne, Calif. Filed Oct. 3, 1969.

SCUBA SCOUT

The word "Scuba" is disclaimed apart from the mark as shown.
For Toy Figurines (Int. Cl. 28).
First use Jan. 20, 1969.

SN 345,410. Dynamic Classics, Ltd., New York, N.Y. Filed Dec. 5, 1969.

EXCER-JOG

For Manually Operated Device To Stimulate Jogging Motions for Exercise Purposes (Int. Cl. 28).
First use Sept. 20, 1969.

SN 352,306. Rainbow Crafts, Inc., Cincinnati, Ohio. Filed Feb. 25, 1970.

PUT-A-PATCH

For Toys—Namely, Modeling Compound and Apparatus To Work With Said Modeling Compound Sold as a Unit (Int. Cl. 28).
First use on or about Jan. 30, 1970.

SN 352,307. Rainbow Crafts, Inc., Cincinnati, Ohio. Filed Feb. 25, 1970.

PLAY-DOH FARM SET

Applicant disclaims the word "Farm Set" apart from the mark as shown. Owner of Reg. No. 650,035.
For Toys—Namely, Modeling Compound and Apparatus To Work With Said Modeling Compound Sold as a Unit (Int. Cl. 28).
First use on or about Jan. 30, 1970.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 301,411. Clawson Machine Co., Flagtown, N.J. Filed June 26, 1968.

SNOW BALL

For Ice-Shaving Machines (Int. Cl. 7).
First use May 1, 1924.

SN 303,619. Logan Engineering Co., Chicago, Ill. Filed July 25, 1968.

ELECTRI-MATIC

Owner of Reg. No. 679,210.
For Lathes and Parts—Namely, Coolant Pumps and Tank, Collect Actuator Assemblies, Bar Feeds, Vertical Cut-Off Slides, Collect Pads, Power Chucks and Control Panels Used Therewith (Int. Cl. 7).
First use May 1965.

SN 310,507. Toro Manufacturing Corporation, Minneapolis, Minn. Filed Oct. 24, 1968.

KEY-LECTRIC

For Turf Care Equipment—Namely, Lawn Mowers (Int. Cl. 7).
First use at least as early as September 1967.

SN 317,163. Topps Photos, Inc., Brooklyn, N.Y. Filed Jan. 21, 1969.

DIS-EYE-LIKE

For Coin Operated Vending Machines for Dispensing Various Foods in Cans (Int. Cl. 9).
First use July 1, 1968.

SN 320,348. B. Jadow and Sons, Inc., New York, N.Y. Filed Feb. 28, 1969.

VIGOR

Owner of Reg. No. 439,393.
For Mechanical Engraving Machines (Int. Cl. 7).
First use Dec. 1, 1964.

SN 322,568. Dresser Industries, Inc., Dallas, Tex. Filed Mar. 24, 1969.

AIRETOOL

Owner of Reg. No. 659,290.
For Fastening Tools—Namely, Riveters, Screwdrivers, Nutsetters and Impact Wrenches, Metal Removal Tools, Namely, Grinders, Sanders, Chippers and Drills; Pumps; Air Motors, and Metal Cleaning Scaler Tools (Int. Cl. 7).
First use at least beginning in March 1956.

SN 325,116. American Type Founders Co., Inc., Nashville, Tenn. Filed Feb. 24, 1969.

DAVIDSON

Owner of Reg. Nos. 508,440, 628,631, and others.
For Duplicating Machines, Printing Presses, Folding Machines, and Paper Handling Machines (Int. Cls. 7 and 16).
First use at least as early as Nov. 20, 1940.

SN 325,318. Greer Hydraulics, Inc., Los Angeles, Calif., assignee of West & Heininger, Inc., Alhambra, Calif. Filed Apr. 23, 1969.

W & H PORTA FILTER

Applicant disclaims the word "Filter" apart from the mark as shown, without waiving any common law rights it may now have therein or may hereafter acquire.
For Internal Combustion Engine-Driven Unit for Pumping and Filtering Transformer Cooling Fluids (Int. Cl. 11).
First use at least as early as November 1967.

SN 325,334. Robert G. Evans Company, Kansas City, Mo. Filed Apr. 23, 1969.

P.D.Q.

For Metal Cutoff Saws for Masonry, Metal, Concrete, Asphalt, Wood, and the Like (Int. Cl. 7).
First use Oct. 11, 1968.

SN 325,962. Equipment Importers, Inc., Tacoma, Wash. Filed Apr. 30, 1969.

JET

Owner of Reg. Nos. 713,132, 797,758, and 834,306.
For Tools for Securing Materials for Shipping—Namely, Chain and Cable Pullers and Load Binders; Liquid Pumps; Machine Tools—Namely, Lathe Chucks, Drill Press Chucks, Magnetic Chucks, Drill Press Tables, Powered Hack Saws and Rotary Cut-Off Saws; Hand Tools—Namely, Anvils, Sledges, Wedges, Mauls and Hand Wrenches and Roller Conveyor Chains (Int. Cls. 7 and 8).
First use Oct. 25, 1966.

SN 327,269. Gold Bell Enterprises, Inc., d.b.a. Gold Standard Products, Detroit, Mich. Filed May 14, 1969.

Gold G S Standard

Owner of Reg. No. 809,890.
For Kitchen Cutlery and Flatware Made of Non-Precious Metal (Int. Cl. 8).
First use Apr. 15, 1969.

SN 327,521. Sydnor Hydrodynamics Inc., Richmond, Va. Filed May 16, 1969.

SYDCO

For Water Well Pumps and Pump Actuating Mechanisms; Air Compressors; Mechanical Aerators for Sewage and Industrial Waste Treatment; and Circulatory Type, Non-Refrigerated Water Coolers and Aerators (Int. Cl. 7).
First use at least as early as January 1963.

SN 328,255. Union Tank Car Company, Chicago, Ill. Filed May 26, 1969.

TRANS UNION

Owner of Reg. Nos. 775,321, 775,960, and 838,726.
For Sewage Pumping and Treatment Equipment and Parts Thereof (Int. Cl. 11).
First use May 8, 1969.

SN 328,673. Cutler-Hammer, Inc., Denver, Colo. Filed May 29, 1969.

MINERDYNE

For Mechanical Ski Lifts (Int. Cl. 7).
First use Nov. 23, 1966.

SN 328,869. Logic Display Corporation, Santa Ana, Calif. Filed June 2, 1969.

CIGOL-MATIC

For Food Processing Machinery—Namely, Machines for Extruding Mouldable Food Products (Int. Cl. 7).
First use Apr. 7, 1969.

SN 329,611. Dognin Societe Anonyme, Villeurbanne (Rhone), France. Filed June 10, 1969.

BOSDO

Owner of French Reg. No. 728,699, dated July 6, 1967.
For Knitting and Weaving Machines, Lace Making Machines, Parts Thereof and Attachments Therefor (Int. Cl. 7).

SN 329,836. The Carlyle Johnson Machine Company, Manchester, Conn. Filed June 12, 1969.

MAXITORQ

For Clutches for Transmitting Power From One Mechanism to Another in Machine Tools or the Like (Int. Cl. 7).
First use on or about Nov. 11, 1939.

SN 335,341. Glomera Aktiengesellschaft, Basel, Switzerland. Filed Aug. 14, 1969.

GLOMERA

Owner of Swiss Reg. No. 216,936, dated Apr. 5, 1966.
For Briquetting Presses and Fuel Briquetting Plants Comprising a Press, Grinder, Dryer, Material Feeder, Automatic Conveyor, and Storage Bin (Int. Cl. 7).

SN 336,199. Waterbury Hydraulic & Pollution Sciences, Inc., Waterbury, Conn., by change of name from Waterbury Hydraulic Industries, Inc., Waterbury, Conn. Filed Aug. 25, 1969.

ECONO-PAK

For Refuse Compactor for Stationary Installation (Int. Cl. 7).
First use during June 1968.

SN 338,745. Barber-Greene Company, Aurora, Ill. Filed Sept. 24, 1969.

VFC

For Gyratory Rock and Ore Crushers (Int. Cl. 7).
First use Nov. 22, 1967.

SN 339,849. California Car Wash Systems, Inc., Sun Valley, Calif. Filed Oct. 6, 1969.

mini-mitter

For Automatic Automotive Vehicle Washing Systems (Int. Cl. 7).
First use Jan. 4, 1969.

SN 340,484. Air-Mo Hydraulics, Inc., Minneapolis, Minn. Filed Oct. 13, 1969.

AMH

The drawing is lined for the color red.
For Air-Operated Hydraulic Equipment—Namely, Pumps and Chucks (Int. Cl. 7).
First use Feb. 1, 1968.

SN 340,587. Oneida Ltd., Oneida, N.Y. Filed Oct. 13, 1969.

ROSE SHADOW

Applicant disclaims the word "Rose" apart from the mark as shown.
For Flatware Made of Non-Precious Metal (Int. Cl. 8).
First use Oct. 3, 1969.

SN 348,817. Nippon Pillow Block Mfg. Co., Ltd., Sakai-shi, Osaka, Japan. Filed Nov. 26, 1969.

FYH

For Bearings, Bearing Units, Pillow Blocks and Flange Units Including Parts Therefor (Int. Cl. 7).
First use as early as March 1954; in commerce at least as early as Oct. 1, 1959.

SN 350,398. Gert Nielsen, d.b.a. Maskinfabriken Gerni, Randers, Denmark. Filed Feb. 3, 1970.

Gerni

The marking in the drawing is for shading purposes only, and does not indicate any color.
For Steam Cleaners, High Pressure Cleaners, High Pressure Hot Water Cleaners, Car Lifts, and Car Washing Machines (Int. Cl. 7).
First use Aug. 20, 1968; in commerce Aug. 20, 1968.

SN 351,713. McNeil Corporation, Akron, Ohio. Filed Feb. 18, 1970.

GP

For Cranes and Parts Thereof (Int. Cl. 7).
First use Dec. 19, 1969.

SN 352,429. Regent Sheffield, Ltd., Farmingdale, N.Y. Filed Feb. 26, 1970.

Country Squire

For Stainless Steel Flatware, Cutlery Sets and Serving Pieces—Namely, Stainless Steel Cake Servers, Cake Knives, Snack Knives, Spreader Knives, Pastry Knives, Hostess Servers, and Snack Forks (Int. Cl. 8).
First use Jan. 2, 1968.

SN 354,374. The X-4 Corporation, West Acton, Mass. Filed Mar. 18, 1970.

PERF-A-TORQ

For Torque Limiting Adapters for Use With Manual and Power-Operated Driving Tools (Int. Cl. 8).
First use Jan. 2, 1970.

SN 354,865. Midas-International Corp., Chicago, Ill. Filed Mar. 23, 1970.

BIG DADDY

For Mufflers for Internal Combustion Engines (Int. Cl. 7).
First use Jan. 13, 1970.

SN 359,292. International Harvester Company, Chicago, Ill. Filed May 11, 1970.

INTERNATIONAL

Owner of Reg. Nos. 106,975, 615,685, and others.
For Farm Tractors and Farm Machinery (Int. Cls. 7 and 12).
First use Nov. 1, 1961.

SN 360,509. Doughboy Industries, Inc., New Richmond, Wis. Filed May 22, 1970.

SPIN-SURE

For Impeller and Mounting Structure for Electrically Driven Liquid Pumps (Int. Cl. 7).
First use Aug. 25, 1969.

Class 26—Measuring and Scientific Appliances

SN 295,225. Gevaert-Agfa N.C., Mortsel, Belgium. Filed Apr. 9, 1968.

COPEX

Owner of Belgian Reg. No. 19,577, dated June 23, 1966.
For Sensitized Photographic Materials—Namely, Paper, Plates and Film; Photographic and Cinematographic Cameras; Apparatus for Developing, Reproducing, Enlarging and Projecting Images on Light Sensitive Photographic Materials, Including Flow-Line Cameras and Readers; and Parts and Components Thereof (Int. Cls. 1 and 9).

SN 307,828. Continental Electronics Manufacturing Company, Dallas, Tex. Filed Sept. 20, 1968.

PB

Owner of Reg. No. 750,445.
For Time Reference Generators for Time Synchronization, Propogation and Event Measurement; Precise Time Generator Systems Consisting of a Digital Clock, Printer Control Unit, Oscilloscope, Receiver, Frequency Generator, Chart Recorder, Printer, Power Supplies Cabinet Rack, Antenna, Accessories and Cables To Provide Time and Frequency Services; Timing Systems Consisting of a Receiver and Phase Comparator, Time Comparator, Receiver, Time Reference Generator, Frequency Generator, Chart Recorder, Oscilloscope, Cabinet Rack, Antennae, Accessories and Cables To Provide Precision Time and Frequency Services; Cessium Beam Frequency Standards; and Navigation Receivers for Use in Marine Navigation; and Digital Time Clocks (Int. Cl. 9).
First use July 14, 1959.

SN 314,279. Viatron Computer Systems Corporation, Burlington, Mass. Filed Dec. 11, 1968.

VIATRON SYSTEM 21

For Data Processing Apparatus—Namely, Microprocessor Fixed Memory, Data Channel, Parallel Data Channel, Short Record Adapter, Card Punch/Reader Adapter Unbuffered, Card Punch/Reader Buffered, Control Keyboard, Manual Communications Adapter, Automatic Communications Adapter, Acoustic Coupler, Video Display 9-Inch Screen Black/White, Video Display 12-Inch Screen Color, Keyboard Alphanumeric Character Plus Controls, Tape Recorder, Printing Robot (On Line, Unbuffered), Printing Robot (On Line, Buffered), Data Stream Control Adapter, Tape Duplicator, 4 Tape Extender, Tape Cartridge, Tape to Card Converter and Tape to Computer-Compatible Tape Converter 4 Tape Drives (Int. Cl. 9).
First use May 31, 1968.

SN 318,663. Maun Industries Limited, Mansfield, England. Filed Feb. 7, 1969.

MAUN

Owner of British Reg. No. 775,098, dated June 26, 1963.
For Straight Edges and Steel Rulers (Not for Drawing) (Int. Cl. 9).

SN 320,646. Rockwell Manufacturing Company, Pittsburgh, Pa. Filed Mar. 3, 1969.

ROCKSYN

For Fluid Measuring Chambers for Water Meters (Int. Cl. 9).
First use Dec. 19, 1968.

SN 336,368. Centri-Spray Corporation, Livonia, Mich. Filed Aug. 27, 1969.

CENTRI-SPRAY

Owner of Reg. Nos. 620,295 and 620,767.
For Test Equipment—Namely, Fluid Pressure Test Machine, Automatic Leak Test and Functional Test Machines, Dynamometer, and Fluid Pressure Testing or Gauging Machines Having Automation for Selecting Articles in Transit; and Parts for the Foregoing (Int. Cl. 9).
First use since at least Aug. 7, 1956.

SN 337,897. Data Instruments Co., Sepulveda, Calif. Filed Sept. 15, 1969.

FORMOL

For Computer Magnetic Tapes (Int. Cl. 9).
First use July 28, 1969.

SN 340,038. Oxwall Tool Co., Ltd., Flushing, N.Y. Filed Oct. 7, 1969.

LADY OXWALL

For Tape Measures (Int. Cl. 9).
First use about July 1, 1969.

SN 341,503. Cincinnati, Incorporated, Cincinnati, Ohio. Filed Oct. 23, 1969.

TONDICATOR

Owner of Reg. No. 854,102.
For Load Measuring Apparatus for Presses and Press Brakes (Int. Cl. 9).
First use July 20, 1966.

SN 341,612. American Buttermaster Corporation, Long Beach, Calif. Filed Oct. 24, 1969.

BUTTERMASTER

For Butter-Dispensing Machines for Dispensing Measured or Metered Servings of Butter or Like Substances (Int. Cl. 9).
First use Oct. 9, 1969.

SN 341,782. Ben-Hur Products, Inc., New York, N.Y. Filed Oct. 27, 1969.

TURNABOUTS

For Sunglasses (Int. Cl. 9).
First use October 1969.

SN 345,752. Dodwell and Company, Limited, London, England. Filed Dec. 10, 1969.

DELTEK

For Electronic Calculators (Int. Cl. 9).
First use Oct. 16, 1969; in commerce Oct. 16, 1969.

SN 346,281. David P. Nelson, d.b.a. Force Flow Equipment, Oakland, Calif. Filed Dec. 15, 1969.

CHLOR-SCALE

The word "Scale" is disclaimed apart from the mark.
For Hydraulic Cell Type Scale (Int. Cl. 9).
First use Sept. 1, 1967.

SN 346,809. Infoton, Incorporated, Burlington, Mass. Filed Dec. 22, 1969.



The mark consists of a tube design which is a fanciful illustration of two lower case, side-by-side representations of the letter "i" located on a circular-shaped background. No particular color combination of the letters and background is claimed as part of the mark.
For Cathode Ray Tube Displays (Int. Cl. 9).
First use Nov. 5, 1969.

SN 350,634. Wang Laboratories, Inc., Tewksbury, Mass. Filed Feb. 5, 1970.

WANG

For Digital Electronic Equipment—Namely, Calculators, Computers, and Parts Therefor (Int. Cl. 9).
First use August 1952.

SN 359,668. Aerospace Controls Corporation II, Los Angeles, Calif. Filed May 14, 1970.

MAGNAFORM

For Magnetic and Ceramic Components and Assemblies for Computer Memory Systems (Int. Cl. 9).
First use Feb. 13, 1970.

SN 360,408. Century Wheels, Inc., Highland Park, Ill. Filed May 21, 1970.

CONVINCOR

For Brake Drum Micrometers (Int. Cl. 9).
First use Apr. 24, 1970.

Class 27 — Horological Instruments

SN 329,878. Mido G. Schaeren & Co. S.A., Bienne, Switzerland. Filed June 12, 1969.

MULTISTAR

Owner of Swiss Reg. No. 228,226, dated Nov. 6, 1967.
For Watches and Parts of Watches (Int. Cl. 14).

SN 335,934. Basis Watch, M. Thommen, Uhrenfabrik Tecknau, Tecknau, Switzerland. Filed Aug. 22, 1969.

BASIS

Owner of Swiss Reg. No. 171,611, dated Aug. 18, 1958.
For Watches and Parts of Watches (Int. Cl. 14).

SN 335,978. Gebruder Gunzinger AG., Uhrenfabrik Technos Welschenrohr (Soleure), Switzerland. Filed Aug, 22, 1969.

TECHNOTRON

Owner of Swiss Reg. No. 235,494, dated Nov. 26, 1968; and U.S. Reg. No. 698,129.
For Watches, Watch Movements, and Parts Thereof (Int. Cl. 14).

SN 355,323. Jules Racine & Co., Inc., New York, N.Y. Filed Mar. 30, 1970.

PRESTO

For Watches, Stopwatches, and Parts Thereof (Int. Cl. 14).
First use Apr. 15, 1947.

Class 28 — Jewelry and Precious-Metal Ware

SN 339,492. Chanel, Inc., New York, N.Y. Filed May 28, 1969.

CHANEL

Owner of Reg. No. 612,169.
For Bracelets, Pins and Earrings (Int. Cl. 14).
First use in 1914.

Class 29 — Brooms, Brushes, and Dusters

SN 350,191. Sonn Stream Corporation, Peotone, Ill. Filed Feb. 2, 1970.

For Oral Hygiene Systems—Namely, Electric Toothbrushes (Int. Cl. 21).
First use on or about Dec. 11, 1969.

Class 31 — Filters and Refrigerators

SN 356,556. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Apr. 13, 1970.

ZIPAX

For Controlled Surface Porosity Particles for Use as Support Material for Chromatographic Columns (Int. Cl. 1).
First use Jan. 26, 1970.

SN 356,557. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Apr. 13, 1970.

DU PONT

Owner of Reg. Nos. 153,155, 584,357, and others.
For Controlled Surface Porosity Particles for Use as Support Material for Chromatographic Columns (Int. Cl. 1).
First use Mar. 5, 1970.

Class 32 — Furniture and Upholstery

SN 313,767. Palletower Limited, Lytham St. Annes, England. Filed Nov. 29, 1968.

PALLETOWER

Owner of British Reg. No. B909,482, dated May 16, 1967.
For Frames for Use in Stacking Pallets or Trays (Int. Cl. 20).

SN 329,882. G. W. Onthank Company, Des Moines, Iowa. Filed June 12, 1969.

Capitol Bedding

The term "Bedding" is disclaimed apart from the mark as shown. Owner of Reg. No. 866,460.
For Bedding—Namely, Bed Springs and Mattresses, Sleeper Beds Comprising a Davenport Type Unit That Unfolds and Makes Up Into a Full-Size Bed; and a Sleeper Bed Comprising a Davenport Type Unit Where the Back Thereof Stays Solid and the Springs Fold Out Therefrom (Int. Cl. 20).
First use May 14, 1969.

SN 337,466. H. J. Scheirich Company, Louisville, Ky. Filed Sept. 9, 1969.

GARDENCOURT

For Cabinets—Namely, Wall Cabinets, Corner Wall Cabinets, Base Cabinets, Vanity Bases, Sink or Burner Base Cabinets, Sink Fronts, Drawer Bases, Utility Cabinets, and Oven Cabinets (Int. Cl. 20).
First use Aug. 27, 1969.

SN 337,862. Plastiglide Manufacturing Corporation, Santa Monica, Calif. Filed Sept. 15, 1969.

ARMED GUARDS

For Arm Rests for Furniture (Int. Cl. 20).
First use September 1968.

SN 339,572. Knickerbocker Bed Spring Company, d.b.a. Knickerbocker Bed Company, Carlstadt, N.J. Filed Oct. 2, 1969.

Wonda Wheel

For Bedding Carriers, Including Bed Frames (Int. Cl. 20).
First use on or about May 16, 1969.

SN 348,210. Fellowes Manufacturing Company, Franklin Park, Ill. Filed Jan. 12, 1970.

R-KIVE II

Owner of Reg. No. 645,108.
For Cardboard and Corrugated-Board Storage Filing Boxes (Int. Cl. 16).
First use at least as early as Jan. 5, 1967.

SN 348,655. Eastern Steel Rack Co., Boston, Mass. Filed Jan. 15, 1970.

DYNAFORM

For Shelves (Int. Cl. 20).
First use May 1969.

SN 351,946. Instructional Concepts, Inc., Manhasset, N.Y. Filed Feb. 20, 1970.

LESSON BANK

For Storage Rack for Audio Visual Aids and Lesson Books (Int. Cl. 20).
First use Dec. 15, 1969.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 251,308. Iwatani & Co. Ltd., Higashi-ku, Osaka, Japan. Filed July 29, 1966.

IWATANI

The word "Iwatani" is a composite symbol meaning: for the component word "Iwa," "rock," for the component word "Tani," meaning "valley."
For Household Heating and Kitchen Appliances—Namely, Gas Ranges, Cookers and Ovens, and Other Kitchen Utensils—Namely, Cooking Tables, Including Heating Units (Int. Cl. 11).
First use Apr. 1, 1964; in commerce May 17, 1966.

SN 327,203. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed May 14, 1969.

HIGH SPEED

Owner of Reg. No. 247,209.
For Soldering and Tinning Flux (Int. Cl. 1).
First use Apr. 18, 1969.

SN 331,276. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed June 30, 1969.

KLEANROL

Owner of Reg. No. 208,449.
For Soldering and Tinning Flux (Int. Cl. 1).
First use Apr. 10, 1969.

SN 351,597. American Standard Inc., New York, N.Y. Filed Feb. 17, 1970.

APOLLO

For Fireplaces (Int. Cl. 11).
First use on or about Dec. 29, 1969.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 360,841. National Cooperatives, Inc., Albert Lea, Minn. Filed May 26, 1970.

SPD

For Tires (Int. Cl. 12).
First use at least as early as Mar. 25, 1968.

Class 36 — Musical Instruments and Supplies

SN 333,196. Sonidisc International Records, Inc., Hialeah, Fla. Filed July 22, 1969.

SoniDisc

Applicant disclaims the term "Soni Disc" apart from the mark as shown.
For Phonograph Records, Phonographs, Magnetic Tapes and Pre-Recorded Magnetic Tapes and Tape Recorders (Int. Cl. 9).
First use Feb. 15, 1969.

SN 333,327. P. R. Mallory & Co. Inc., Indianapolis, Ind. Filed July 24, 1969.

DURATAPE

For Tape Cartridges and Magnetic Tapes and Components Thereof (Int. Cl. 9).
First use on or about June 20, 1969.

SN 334,553. Capitol Records, Inc., Los Angeles, Calif. Filed Aug. 6, 1969.

Capitol

Applicant makes no claim to the representation of a phonograph record, per se, as a trademark. Owner of Reg. Nos. 426,557, 668,983, and others.
For Phonograph Records (Int. Cl. 9).
First use May 22, 1969.

SN 343,471. Nash Publishing Company, d.b.a. Nash Voicebooks, Los Angeles, Calif. Filed Nov. 14, 1969.

VOICEBOOKS

For Prerecorded Magnetic Tape Cassettes (Int. Cl. 9).
First use Oct. 24, 1969.

SN 352,171. Mercado De Discos, Inc., New York, N.Y. Filed Feb. 24, 1970.

ASTRO Records

Applicant disclaims the word "Records" which is a name for the goods.
For Tape Cartridges, Phonograph Records, and Casettes (Int. Cl. 9).
First use Dec. 10, 1969.

Class 37 — Paper and Stationery

SN 338,831. Chrono Graphics, Ltd., New York, N.Y. Filed Nov. 20, 1969.

TALL TAILS

For Personal Stationery in the Form of Narrow Sheets With Printed Ornamental Designs (Int. Cl. 16).
First use Mar. 3, 1969.

SN 343,698. The Gillette Company, d.b.a. The Paper Mate Company, Boston, Mass. Filed Nov. 11, 1969.

Flair!

Owner of Reg. No. 586,100.
For Pens and Refills for Pens (Int. Cl. 16).
First use December 1968.

Class 38 — Prints and Publications

SN 244,809. Directory Publishers, Inc., Wabash, Ind. Filed May 3, 1966.

COLOR PAGES

The drawing is lined for the colors yellow, red and blue but no claim is made to these particular colors.
For Business Directories Which Are Incorporated in Telephone Directories (Int. Cl. 16).
First use Apr. 16, 1966.

SN 301,972. Specialties, Inc., Memphis, Tenn. Filed July 3, 1968.

For Reproductions of Drawings and Paintings (Int. Cl. 16).
First use June 10, 1966.

SN 303,056. Literary Institute Ltd., Basel, Switzerland. Filed July 18, 1968.

EDITIONES HERDER

Applicant does not claim exclusive use of the term "Editions" apart from the mark as a whole. Owner of Swiss Reg. No. 225,261, dated May 5, 1967.
For Books, Including Those for Education; Scientific Magazines, and Journals Issued Periodically (Int. Cl. 16).

SN 323,767. Robert M. Randolph, d.b.a. Planagement Associates, Northbrook, Ill. Filed Apr. 7, 1969.

PLANAGEMENT

For Brochures and Manuals Relating to the Field of Management Consulting, Education, Training and Development, and Providing Information, Decision Factors, Guidance and Instructions in Decisional Planning and Techniques (Int. Cl. 16).
First use Mar. 17, 1969.

SN 329,687. Carrollton Press, Inc., Washington, D.C. Filed June 11, 1969.

INDEX POWER

For Index Volumes to Periodicals in the Sciences and Humanities, Issued Periodically (Int. Cl. 16).
First use June 1, 1969.

SN 334,381. Robert A. Scalise, San Luis Obispo, Calif. Filed Aug. 4, 1969.

LIFETIME CODE COMPANION

For Wallet-Size, Plastic Cards With Morse Code and Distress Signal Information and the Like Printed on Them (Int. Cl. 16).
First use July 3, 1969.

SN 343,812. American Association for the Advancement of Science, Washington, D.C. Filed Nov. 18, 1969.

GUIDE TO SCIENTIFIC INSTRUMENTS

For Periodically Issued Scientific Index and Directory (Int. Cl. 16).
First use Oct. 31, 1962.

SN 343,815. American Association for the Advancement of Science, Washington, D.C. Filed Nov. 18, 1969.

AAAS 1848

For Newsletters, Bulletins, Journals, Indices, Directories, Books, and Programs (Int. Cl. 16).
First use Dec. 31, 1953.

SN 344,465. Ticket Reservation Systems, Inc., New York, N.Y. Filed Nov. 24, 1969.

TICKETRON

For Entertainment Guide Magazine, Published From Time to Time (Int. Cl. 16).
First use Sept. 2, 1969.

SN 347,293. Diana Lyons, White Plains, N.Y. Filed Dec. 29, 1969.

IN TOUCH

For Weekly Newspaper Column (Int. Cl. 16).
First use Feb. 6, 1969.

SN 358,910. Hi-Score Enterprises, Encino, Calif. Filed May 6, 1970.

COMPUSPORT

For Syndicated Newspaper Sports Column (Int. Cl. 16).
First use Sept. 17, 1969.

Class 39 — Clothing

SN 298,855. Team Oy Finn-Flare, Salo, Finland, by change of name from Oy Salon Leninkitukku Finn-Flare, Salo, Finland. Filed May 22, 1968.

FINN-FLARE

Priority claimed under Sec. 44(d) on Finnish application filed Mar. 21, 1968; Reg. No. 56,534, dated May 20, 1970.
For Dresses, Skirts, Trousers, Shorts, Swim Wear, Beach Wear, Overcoats, Hats, and Kerchiefs for Women and Children (Int. Cl. 25).

SN 309,599. Mandarin Mills, Inc., New York, N.Y. Filed Oct. 14, 1968.



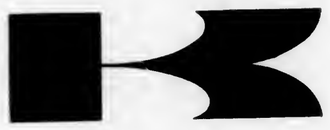
For Men's and Ladies' Shirts and Sweaters (Int. Cl. 25).
First use Aug. 5, 1967.

SN 323,855. Don Shapiro, d.b.a. Don Shapiro Industries, El Paso, Tex. Filed Apr. 7, 1969.

LORI-LING

For Women's Lingerie, Sleepwear, and Robes (Int. Cl. 25).
First use Dec. 16, 1966.

SN 327,634. Kawasaki Motors Corp., Santa Ana, Calif. Filed May 19, 1969.



For Protective Helmets for General Usage, Particularly by Motorcyclists (Int. Cl. 9).
First use Mar. 7, 1969.

SN 332,310. California Forms, Inc., Culver City, Calif. Filed July 11, 1969.



For Sun Suits, Swim Suits, Brassieres, Bikini Pants, Bikini Bathing Suits, Halters, Shorts, Beach Wear, Panties, Brassiere and Panty Sets, Panty Girdles, Garter Belts, Petticoats, Slips, Chemises, Nightgowns, Robes, Peignoirs, and Sleepwear (Int. Cl. 25).
First use Feb. 14, 1947.

SN 335,025. Hughes & Hatcher, Inc., Detroit, Mich. Filed Aug. 11, 1969.

LINEBACKER BOOT

Applicant disclaims the word "Boot" apart from the mark as shown.
For Shoes and Boots (Int. Cl. 25).
First use Sept. 1, 1963.

SN 338,529. Joseph Bancroft & Sons Company, New York, N.Y. Filed Sept. 22, 1969.



For Women's Hosiery (Int. Cl. 25).
First use Aug. 28, 1969.

SN 343,013. TAH Inc., San Francisco, Calif. Filed Nov. 7, 1969.

ZIG-ZAG

For Men's and Women's Ready-To-Wear Clothes—Namely, Women's and Girls' Skirts, Shirts, Vests, Slacks, Jackets, Shorts, and Hats, and Men's and Boys' Trousers, Shirts, Vests, Slacks, Jackets, Shorts, and Hats (Int. Cl. 25).
First use on or about Oct. 1, 1969.

SN 343,756. Royal Park Fashions Inc., Dallas, Tex. Filed Nov. 17, 1969.

DOODLE BUGS

For Dresses (Int. Cl. 25).
First use Nov. 1, 1969.

SN 348,255. J. W. Bray Company, Inc., Dalton, Ga. Filed Jan. 12, 1970.



The illustrated goods apart from the mark as shown are disclaimed. The representation of the individual is fictitious and does not refer to any living person.
For Slippers (Int. Cl. 25).
First use Dec. 29, 1969.

SN 349,915. Consolidated Foods Corporation, Chicago, Ill. Filed Jan. 29, 1970.

NIGHTIE GLOVE

The word "Glove" is disclaimed apart from its use in the mark.
For Stretch Fabric Gloves (Int. Cl. 25).
First use Dec. 11, 1969.

SN 350,049. Caine's Mutiny, Inc., New York, N.Y. Filed Jan. 30, 1970.

SOLAR KINI

Owner of Reg. No. 811,374.
For Men's String Mesh Underwear (Int. Cl. 25).
First use Dec. 13, 1969.

SN 350,050. Caine's Mutiny, Inc., New York, N.Y. Filed Jan. 30, 1970.

SOLO KINI

Owner of Reg. No. 811,374.
For Men's String Mesh Underwear (Int. Cl. 25).
First use Dec. 13, 1969.

SN 350,130. Sharon Shoe Corp., Hialeah, Fla. Filed Jan. 30, 1970.

PROJECTIONS

For Women's, Misses', and Juniors' Shoes (Int. Cl. 25).
First use Jan. 5, 1970.

SN 350,147. Tiny-Town Togs, Inc., New York, N.Y. Filed Jan. 30, 1970.

RIGHT THIS WAY

For Children's Dresses (Int. Cl. 25).
First use Dec. 30, 1969.

SN 350,999. The Lovable Company, Atlanta, Ga. Filed Feb. 10, 1970.

LOVEWEAR

For Women's Foundation Garments and Underwear (Int. Cl. 25).
First use Jan. 9, 1970.

SN 351,236. Thorlo, Inc., Statesville, N.C. Filed Feb. 12, 1970.

MAGIC ROLL

For Socks (Int. Cl. 25).
First use Jan. 5, 1970.

SN 351,280. Swanee Paper Company, Inc., New York, N.Y. Filed Feb. 13, 1970.

DOVEPRINT

Owner of Reg. No. 800,370.
For Paper Diapers (Int. Cl. 25).
First use Jan. 28, 1970.

SN 351,488. Lov-It Creations, Inc., Milwaukee, Wis. Filed Feb. 16, 1970.

LOV-IT

For Brassieres (Int. Cl. 25).
First use Aug. 21, 1969.

SN 359,793. Manhattan Industries, Inc., New York, N.Y. Filed May 15, 1970.



For Outer Dress and Sport Shirts for Men and Women (Int. Cl. 25).
First use July 2, 1969.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 343,238. Abbott Tresses, Inc., Pittsburgh, Pa. Filed Nov. 12, 1969.

HOPE

For Hair Pieces (Int. Cl. 26).
First use Dec. 15, 1968.

SN 343,239. Abbott Tresses, Inc., Pittsburgh, Pa. Filed Nov. 12, 1969.

MERNA

For Hair Pieces (Int. Cl. 26).
First use Dec. 15, 1968.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 338,546. Dan River Mills, Incorporated, Danville, Va. Filed Sept. 22, 1969.

TWINTWIST

For Textile Fabrics in the Piece of Cotton or Synthetic Fibers or Any Combinations Thereof (Int. Cl. 24).
First use Aug. 14, 1969.

SN 338,884. The Bunker-Ramo Corporation, Oak Brook, Ill. Filed Sept. 25, 1969.

TEMPTIERRA

For Pile Fabrics of Cotton, Wool, Synthetic Fibers, or Combinations of Either of Them (Int. Cl. 24).
First use at least as early as June 1967.

SN 339,353. Plitt Segall & Sons, Inc., New York, N.Y. Filed Sept. 30, 1969.

VELVETYME

For Cotton Pile Fabrics (Int. Cl. 24).
First use at least as early as June 1, 1969.

SN 339,362. Societe Industrielle des Etablissements B.V.R. (Blais-Mousseron-L. Villeminot-A. Rondeau), Paris, France. Filed Sept. 30, 1969.



Owner of French Reg. No. 752,940, dated Dec. 27, 1968.
For Textile Fabrics With Warp and Weft and Particularly of Jersey (Int. Cl. 24).

SN 342,352. Berven Carpets Corporation, Fresno, Calif. Filed Nov. 3, 1969.



For Carpets (Int. Cl. 27).
First use Feb. 20, 1961.

SN 351,752. Deering Milliken, Inc., New York, N.Y. Filed Feb. 19, 1970.

MILLI-PLUS

Owner of Reg. No. 322,425.
For Fabrics Made of Wool, Cotton, and Synthetic Fibers and Combinations Thereof and on Textile Rugs and Carpets (Int. Cls. 24 and 27).
First use Nov. 5, 1969, on textile rugs.

SN 351,868. Deering Milliken, Inc., New York, N.Y. Filed Feb. 20, 1970.

CURIOSITY

For Textile Fabrics Made of Wool, Cotton and Synthetic Fibers and Combinations Thereof (Int. Cl. 24).
First use Feb. 12, 1970.

SN 351,869. Deering Milliken, Inc., New York, N.Y. Filed Feb. 20, 1970.

BUTTERSKIN

For Textile Fabrics Made of Wool, Cotton and Synthetic Fibers and Combinations Thereof (Int. Cl. 24).
First use Feb. 12, 1970.

SN 357,553. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Apr. 22, 1970.

KITCHEN SPLENDOR

For Carpets (Int. Cl. 27).
First use Mar. 16, 1970.

SN 357,555. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Apr. 22, 1970.

ROYAL MANOR

For Carpets (Int. Cl. 27).
First use Mar. 18, 1970.

SN 358,500. Deering Milliken, Inc., New York, N.Y. Filed May 1, 1970.

MILLI-TRONIC

Owner of Reg. No. 820,830.
For Textile Fabrics Made of Wool, Cotton and Synthetic Fibers and Combinations Thereof (Int. Cl. 24).
First use Apr. 11, 1970.

SN 358,680. Webster Mills, Inc., New York, N.Y. Filed May 4, 1970.



For Piece Goods of Woolen and Worsted Materials, of Yarns of Synthetic Fibers, and of Combinations of Natural and Synthetic Yarns (Int. Cl. 24).
First use Nov. 8, 1968.

SN 359,765. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed May 15, 1970.

CORONADO

For Carpets (Int. Cl. 27).
First use May 6, 1970.

SN 359,767. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed May 15, 1970.

COLOR MIST

For Carpets (Int. Cl. 27).
First use May 6, 1970.

SN 359,768. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed May 15, 1970.

TROPICAL STAR

For Carpets (Int. Cl. 27).
First use May 6, 1970.

SN 359,769. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed May 15, 1970.

STATESMAN

For Carpets (Int. Cl. 27).
First use May 6, 1970.

SN 359,771. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed May 15, 1970.

SHADOW LAKE

For Carpets (Int. Cl. 27).
First use May 6, 1970.

SN 359,772. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed May 15, 1970.

MARINA

For Carpets (Int. Cl. 27).
First use May 6, 1970.

SN 359,773. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed May 15, 1970.

MAGNUM

For Carpets (Int. Cl. 27).
First use May 6, 1970.

SN 360,414. Deering Milliken, Inc., New York, N.Y. Filed May 21, 1970.

FAME

For Textile Rugs, Carpets, and Carpeting (Int. Cl. 27).
First use Mar. 13, 1967.

SN 360,415. Deering Milliken, Inc., New York, N.Y. Filed May 21, 1970.

FORTUNE

For Textile Rugs, Carpets, and Carpeting (Int. Cl. 27)
First use Mar. 13, 1967.

Class 43 — Thread and Yarn

SN 329,617. Glen Raven Mills, Inc., Glen Raven, N.C. Filed June 10, 1969.

KONTROL

For Yarn of Natural or Synthetic Fibers or Combinations Thereof (Int. Cl. 23).
First use May 20, 1969.

Class 44 — Dental, Medical, and Surgical Appliances

SN 313,321. Mennen-Greatbatch Electronics, Inc., Clarence, N.Y. Filed Nov. 29, 1968.

PHYSIO SENTINEL

Owner of Reg. Nos. 840,930 and 840,931.
For Equipment for Monitoring Physiological Functioning and Components for Said Equipment (Int. Cl. 10).
First use Aug. 31, 1967.

SN 322,934. Sonotone Corporation, Elmsford, N.Y. Filed Mar. 27, 1969.



Owner of Reg. No. 816,067.
For Electrical Apparatus—Namely, Hearing Aid Receivers, Hearing Aids, and Parts Thereof (Int. Cl. 10).
First use Jan. 2, 1969; on or about May 22, 1946, in a different form.

SN 326,588. Chesebrough-Pond's Inc., New York, N.Y. Filed May 7, 1969.



Owner of Reg. No. 863,974.
For Petrolatum Gauze, Surgical Dressings, Sterile Urinary Drainage Bags, Catheters, External Catheters, Radiopaque Thoracic Catheters, Leg Bag, Thermometer Kit, Sterile Specimen Trap, Sterile Midstream Catch, Sterile Prep Razor and Blade, Sterile Bottles, Blow Bottles, Complete Underwater Drainage Sets, Sterile Tubing With Milker, Adaptor for Emerson Pump (Int. Cls. 5 and 10).
First use June 30, 1966.

SN 342,329. Sonotone Corporation, Elmsford, N.Y. Filed Oct. 31, 1969.

TOUCH-MATIC

For Hearing Aid Receivers, Hearing Aids, and Parts Thereof (Int. Cl. 10).
First use on or about Sept. 5, 1969.

SN 342,332. The Telex Corporation, Tulsa, Okla. Filed Oct. 31, 1969.

TELEX

Owner of Reg. No. 517,386.
For Personal Hearing Devices for the Aid of Deaf or Partially Deaf Persons, and Component Parts Thereof (Int. Cl. 10).
First use January 1937.

SN 342,418. Helene Curtis Industries, Inc., Chicago, Ill. Filed Nov. 3, 1969.

STYLE CENTER

For Electrically Operated Hair Dryers (Int. Cl. 11).
First use on or about July 11, 1969.

SN 343,015. Tassette, Inc., Stamford, Conn. Filed Nov. 7, 1969.



Owner of Reg. Nos. 686,010, 706,077, and 854,235.
For Menstrual Cups (Int. Cl. 5).
First use on or about July 18, 1963.

SN 343,077. Cardiovascular Electrodynamics, Inc., Baltimore, Md. Filed Nov. 10, 1969.

DIALUNG

For Artificial Kidney (Int. Cl. 10).
First use February 1966.

SN 343,078. Carlisle Research and Development Corporation, Elmsford, N.Y. Filed Nov. 10, 1969.

PLIASORB

For Non-Woven Bandages and Wound Dressings (Int. Cl. 5).
First use Jan. 15, 1969.

SN 344,618. Johnson & Johnson, d.b.a. Jelco Laboratories, New Brunswick, N.J. Filed Nov. 26, 1969.

CATHLON IV

For Catheter Placement Units—Namely, Surgical Needles and Lock Hubs; Intravenous Catheters; and Stylets (Int. Cl. 10).
First use July 2, 1969.

SN 345,178. Laser Systems & Electronics, Inc., Tullahoma, Tenn. Filed Dec. 3, 1969.

PROGRESS MASTER

For Cardiac Monitoring Equipment for Producing Visual and Hard Copy of Patient's EKG Pattern (Int. Cl. 10).
First use at least as early as Sept. 3, 1969.

SN 347,173. J. Pfrimmer+Co. Erlangen Pharmazeutische Werke, Erlangen, Germany. Filed Dec. 29, 1969.

SUPRYLON

For Surgical Sutures (Int. Cl. 10).
First use Apr. 13, 1968; in commerce Jan. 16, 1969.

SN 347,797. Edward J. Trethway, Ithaca, N.Y. Filed Jan. 5, 1970.

HANDI-CHAIR

For Chair With Head Support and Adjustable Tray and Footrest for the Handicapped (Int. Cl. 10).
First use Nov. 13, 1969.

SN 352,035. Parke, Davis & Company, Detroit, Mich. Filed Feb. 24, 1970.

SANABAN

Owner of Reg. Nos. 776,694 and 795,635.
For Kits Containing Personal Convenience Items—Namely, Sanitary Belts, Sanitary Napkins, Cleansing Towels, Disposable Washcloths, Underpads for Protection of Hospital Bed Linen and Tissues for Personal Health Care by Bed Patients (Int. Cl. 5).
First use on or before Nov. 26, 1962.

Class 45—Soft Drinks and Carbonated Waters

SN 336,577. Johnson Flavor & Supply Co., Detroit, Mich. Filed Aug. 28, 1969.



For Carbonated Soft Drinks and Extracts for Same (Int. Cl. 32).
First use on or about Apr. 1, 1969.

SN 350,418. The Coca-Cola Company, Atlanta, Ga. Filed Feb. 4, 1970.

CAD

For Orange Flavored Soft Drink and Syrup for Making Same (Int. Cl. 32).
First use Jan. 26, 1970.

SN 350,808. The Coca-Cola Company, Atlanta, Ga. Filed Feb. 9, 1970.

MACH I

For Orange Flavored Soft Drink and Syrup for Making Same (Int. Cl. 32).
First use Jan. 27, 1970.

SN 350,809. The Coca-Cola Company, Atlanta, Ga. Filed Feb. 9, 1970.

POW

For Orange Flavored Soft Drink and Syrup for Making Same (Int. Cl. 32).
First use Jan. 27, 1970.

SN 360,628. The Coca-Cola Company, Atlanta, Ga. Filed May 25, 1970.

BRIGHT & EARLY

Owner of Reg. No. 637,271.
For Frozen Concentrate, Containing Water, for Imitation Orange Juice (Int. Cl. 32).
First use Mar. 2, 1970.

Class 46—Foods and Ingredients of Foods

SN 312,884. Flavor Maid Prepared Mixes, Inc., Shawnee Mission, Kans. Filed Nov. 22, 1968.



The representation of a doughnut in the mark is disclaimed apart from the mark shown.
For Doughnuts, Doughnut Mixes, Shortening of Vegetable Nature for Frying Doughnuts, Icing Bases, Coffee, and Flavorings Used Both in Doughnuts and the Icings Therefor (Int. Cl. 46).
First use on or about June 1, 1966.

SN 315,695. John Tobin White, d.b.a. New Orleans Seasoning Co., Metairie, La. Filed Dec. 5, 1968.

"1812"

For Wine Sauce (Int. Cl. 30).
First use Jan. 1, 1930.

SN 316,622. Compagnie des Maitres Fromagers "C.D.M.F.," Paris, France. Filed Jan. 15, 1969.

TARTARIN

Owner of French Reg. No. 736,381, dated Jan. 24, 1968; and U.S. Reg. No. 866,486.
For Milk Products—Namely, Cheese (Int. Cl. 29).

SN 317,768. South African Frozen Rock Lobster Packers (Pty.) Ltd., Capetown, Republic of South Africa. Filed Jan. 28, 1969.



No claim is made to the words "Genuine South African Rock Lobster Tails," but not otherwise. The drawing is lined for the color red.
For Frozen Lobster Tails (Int. Cl. 29).
First use at least as early as Jan. 2, 1962; in commerce at least as early as Jan. 2, 1962.

SN 318,887. Baltz Bros. Packing Company, d.b.a. Baltz Bros. Packing Co., Nashville, Tenn. Filed Feb. 11, 1969.

REAL MEAL

For Dog Food (Int. Cl. 31).
First use Jan. 10, 1969.

SN 323,543. Educator Biscuit Company, Incorporated, d.b.a. Educator Biscuit Company, Lowell, Mass. Filed Apr. 3, 1969.



For Bakery Products—Namely, Cookies and Crackers, Plain, Filled, or Coated (Int. Cl. 30).
First use Mar. 19, 1969.

SN 324,553. Wileman Bros. & Elliott, Inc., Cutler, Calif. Filed Apr. 14, 1969.

LISTEN

For Fresh Grapes and Oranges (Int. Cl. 31).
First use 1930, on fresh grapes.

SN 324,850. Takeda Chemical Industries, Ltd., Higashi-ku, Osaka, Japan. Filed Apr. 17, 1969.

TAKASAGO

"Takasago" is a phonetic equivalent to a Japanese word meaning "congratulations."
For Flavor Enhancers for Foods (Int. Cl. 30).
First use Oct. 4, 1968; in commerce Oct. 4, 1968.

SN 325,876. Kraftco Corporation, New York, N.Y. Filed Apr. 29, 1969.

VALLEY FARMS

Owner of Reg. No. 859,038.
For Cream (Int. Cl. 29).
First use Dec. 3, 1968.

SN 328,521. Armour-Dial, Inc., Chicago, Ill. Filed May 28, 1969.

CHEF ANDRE

For Combination Package Consisting of a Flour Mix and a Sauce Topping Used To Make Pizza Pies and Other Pizza Products (Int. Cl. 30).
First use on or prior to May 7, 1969.

SN 331,740. General Foods Corporation, White Plains, N.Y. Filed July 3, 1969.

TOAST'EM

Owner of Reg. Nos. 809,030 and 880,111.
For Snack Food Product, Dough-Like in Nature With Various Snack Fillings, Such as Cheese, Tomato and Meat Flavored Fillings (Int. Cl. 30).
First use Mar. 11, 1969.

SN 332,458. CPC International Inc., Englewood Cliffs, N.J. Filed July 14, 1969.



The drawing is lined for light green, gold, and dark green. Owner of Reg. Nos. 41,117, 847,503, and others.
For Table Syrups (Int. Cl. 30).
First use at least as early as Feb. 15, 1965.

SN 334,129. Stafford Foods Limited, Toronto, Ontario, Canada. Filed July 31, 1969.

BERRY BOX

No claim is made to the word "Berry" apart from the mark as shown. Owner of Canadian Reg. No. 100,493, dated Apr. 22, 1955.
For Jams, Canned Fruits, Marmalade, Jellies, and Sauces for Use on Sundaes (Int. Cl. 29).

SN 334,140. Joseph Terry & Sons Limited, York, England. Filed July 31, 1969.



For Candies and Chocolates (Int. Cl. 30).
First use on or about Dec. 31, 1825; in commerce on or about Dec. 31, 1928.

SN 334,141. Joseph Terry & Sons Limited, York, England. Filed July 31, 1969.



For Candies and Chocolates (Int. Cl. 30).
First use on or about Dec. 31, 1825; in commerce on or about Dec. 31, 1928.

SN 338,925. Nanticoke Seafood Company, Inc., Nanticoke, Md. Filed Sept. 25, 1969.

SEAKOVE

For Frozen Seafoods—Namely, Chopped Clams, Breaded Clam Strips, Breaded Ipswich Clams, Pre-Cooked Fish Patties, and Breaded Oysters (Int. Cl. 29).
First use Aug. 9, 1969.

SN 339,452. Pizza Flip, Inc., Titusville, Fla. Filed Oct. 1, 1969.

PIZZA FLIP

Without waiver of common law rights, applicant disclaims use of the word "Pizza" apart from the mark as shown.
For Refrigerated Pizza (Int. Cl. 30).
First use on or about Sept. 15, 1969.

SN 339,453. Pizza Flip, Inc., Titusville, Fla. Filed Oct. 1, 1969.



For Refrigerated Pizza (Int. Cl. 30).
First use on or about Sept. 15, 1969.

SN 339,567. Hanover Brands, Incorporated, d.b.a. Hanover Canning Company, Hanover, Pa. Filed Oct. 2, 1969.

ALTLAND HOUSE

For Peas With Corn, Green Beans, Scalloped Potatoes and Carrots, All in Frozen Casserole Form (Int. Cl. 29).
First use Sept. 16, 1969.

SN 341,108. Friendship Dairies, Inc., Friendship, N.Y. Filed Oct. 20, 1969.

BEAU TREAT

The term "Treat" is disclaimed apart from the mark as shown.
For Dry Milk-Based Pudding (Int. Cl. 30).
First use Oct. 7, 1969.

SN 341,234. Harry G. Walter, d.b.a. Scorb Company, Denver, Colo. Filed Oct. 20, 1969.

FREEZE-GLOW

For Food Grade Ascorbic Acid Mixture for Addition to Fruit (Int. Cl. 1).
First use on or about Sept. 18, 1969.

SN 342,209. Lever Brothers Company, New York, N.Y. Filed Oct. 31, 1969.

TOP 'N GOOD

Applicant disclaims use of the word "Good" apart from the mark as shown.
For Artificial Butter Flavored Popcorn Topping (Int. Cl. 29).
First use Oct. 2, 1969.

SN 343,432. Avery Stirratt, d.b.a. Tasty Products Company, Metairie, La. Filed Nov. 13, 1969.

SNO BOW

For Frozen Confections, and Food Syrups and Extracts for Making Frozen Confections (Int. Cl. 30).
First use Feb. 14, 1969.

SN 343,433. Avery Stirratt, d.b.a. Tasty Products Company, Metairie, La. Filed Nov. 13, 1969.



For Frozen Confections, and Food Syrups and Extracts for Making Frozen Confections (Int. Cl. 30).
First use Feb. 14, 1969.

SN 346,819. The Pillsbury Company, Minneapolis, Minn. Filed Dec. 22, 1969.



Applicant disclaims the word "Farms" apart from the mark. Owner of Reg. Nos. 45,179 and 698,691.
For Fresh Dressed Poultry (Int. Cl. 29).
First use Oct. 1, 1969.

SN 347,149. C. Cretors & Co., Chicago, Ill. Filed Dec. 29, 1969.



Owner of Reg. Nos. 873,431 and 886,721.
For Popcorn and Peanuts (Int. Cls. 29 and 30).
First use in or about 1910.

SN 348,206. DCA Food Industries, Inc., New York, N.Y. Filed Jan. 12, 1970.

KRAZY KRISP

The word "Krisp" is disclaimed apart from its use in the mark.
For Seasoned Coating Mixes for Fried or Baked Food Products Such as Meat, Fowl, Seafood and Vegetables (Int. Cl. 30).
First use Dec. 12, 1969.

SN 349,460. Gourmet Bakers, Inc., Linden, N.J. Filed Jan. 23, 1970.

"THE BIG LOAFER"

For Bread (Int. Cl. 30).
First use Mar. 10, 1969.

SN 349,485. Manor Hill Salad Company, Inc., d.b.a. Manor Hill Salad Co., Inc., and Manor Hill Salad Co., Baltimore, Md. Filed Jan. 23, 1970.

MANOR HILL

Owner of Reg. No. 532,873.
For Mayonnaise, Chow Chow, Borscht, Salads (Macaroni, Potato and Health), Cole Slaw, and Sweet Pickled Beet Salad (Int. Cls. 29 and 30).
First use May 4, 1948.

SN 349,805. Rodriguez Hermanos de Cordoba, S.A., Cordoba, Spain. Filed Jan. 28, 1970.

TIPICO

"Tipico" translated in English means "typical."
For Olive Oil (Int. Cl. 29).
First use October 1955; in commerce Sept. 22, 1969.

SN 351,326. General Foods Corporation, White Plains, N.Y. Filed Feb. 13, 1970.

DANKA

For Toaster Pastry (Int. Cl. 30).
First use Jan. 27, 1970.

SN 351,826. Philip Morris Incorporated, New York, N.Y. Filed Feb. 19, 1970.

BLOCKADE

For Chewing Gum (Int. Cl. 30).
First use Jan. 22, 1970.

Class 47 — Wines

SN 342,429. Etablissements Sardet et Deribaucourt E.S.E.D., Paris-Bercy, France. Filed Nov. 3, 1969.

MARCELIN PICASSOL

The name "Marcelin Picassol" is imaginary. Owner of French Reg. No. 719,585, dated Aug. 25, 1966.
For Wines (Int. Cl. 33).

SN 361,248. United Vintners, Inc., d.b.a. Inglenook Vineyards, San Francisco, Calif. Filed June 1, 1970.

RONDELLAY

For Wines (Int. Cl. 33).
First use May 12, 1970.

SN 361,249. United Vintners, Inc., d.b.a. Italian Swiss Colony, San Francisco, Calif. Filed June 1, 1970.

KEY LARGO

For Wines (Int. Cl. 33).
First use Apr. 29, 1970.

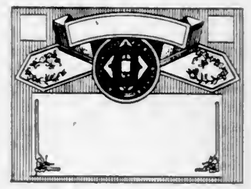
SN 361,250. United Vintners, Inc., d.b.a. Italian Swiss Colony, San Francisco, Calif. Filed June 1, 1970.

GRASS VALLEY

For Wines (Int. Cl. 33).
First use Apr. 29, 1970.

Class 48 — Malt Beverages and Liquors

SN 349,568. Anheuser-Busch, Incorporated, St. Louis, Mo. Filed Jan. 26, 1970.



The drawing is lined for red, but the mark is not limited to the color shown. Owner of Reg. No. 13,064.
For Beer (Int. Cl. 32).
First use January 1876.

Class 49 — Distilled Alcoholic Liquors

SN 327,168. Pedro Domecq, S.A., Jerez de la Frontera, Cadiz, Spain. Filed May 13, 1969.

CARLOS I

Owner of Reg. No. 322,673.
For Brandy (Int. Cl. 33).
First use Nov. 21, 1933; in commerce on or about Dec. 22, 1933.

SN 360,940. Joseph E. Seagram & Sons, Inc., New York, N.Y. Filed May 27, 1970.

BAJAN

For Rum (Int. Cl. 33).
First use Mar. 9, 1970.

Class 50 — Merchandise Not Otherwise Classified

SN 308,687. The Franklin Mint, Inc., Yeadon, Pa. Filed Oct. 2, 1968.

FAMOUS FACTS & FACES

For Non-Monetary Coins; Tokens; Medals; and Medallions (Int. Cl. 14).
First use Sept. 25, 1968.

SN 311,949. Herman Silverman, Doylestown, Pa., assignee of Sylvan Pools, Inc., Doylestown, Pa. Filed Nov. 12, 1968.

THE FAMILY CHANUKA BUSH

For Decorative Artificial Topiary Shrubbery Having the Configuration of a Menorah (Int. Cl. 26).
First use on or about Oct. 30, 1968.

SN 313,772. David Poliat, d.b.a. Poliat Artesano, Madrid, Spain. Filed Oct. 4, 1968.

ENCANTO

The word "Encanto" is Spanish and means "enchantment, delight."
For Kit for Making Wall Hanging Comprising a Number of Cut Felt Pieces in Different Colors, a Heat Adhesive Backing Paper, Instructions, Label, Reference Sheet and Work Sheet and a Container in Form of a Folder With a Color Photograph To Help the Purchaser (Int. Cl. 28).
First use Aug. 13, 1968; in commerce Aug. 13, 1968.

SN 320,816. Hawkeye Steel Products, Incorporated, Waterloo, Iowa. Filed Mar. 5, 1969.

PRIDE OF THE RANCH

Owner of Reg. No. 656,573.
For Farm Machinery and Barnyard Equipment—Namely, Feeders and Waterers (Int. Cl. 21).
First use Nov. 27, 1968.

SN 327,614. The Franklin Mint, Inc., Yeadon, Pa. Filed May 19, 1969.

GOING PLACES

For Non-Monetary Coined Products (Int. Cl. 14).
First use Apr. 18, 1969.

SN 328,690. The Franklin Mint, Inc., Yeadon, Pa. Filed May 29, 1969.

LANDMARKS OF AMERICA

For Non-Monetary Coins; Tokens; Medals; and Medallions (Int. Cl. 14).
First use May 1, 1969.

SN 329,146. Albert L. Wilson, Rochester, N.Y. Filed June 4, 1969.

EYE BEAMER

For Sculptured Works of Art Utilizing the Medium of Structural Steel "I" Beams (Int. Cl. 6).
First use Apr. 15, 1969.

SN 329,147. Albert L. Wilson, Rochester, N.Y. Filed June 4, 1969.

PEOPLE PEEKER

For Sculptured Birds (Int. Cl. 20).
First use Apr. 24, 1968.

SN 333,101. Continental Can Company, Inc., New York, N.Y. Filed July 22, 1969.

BOND SMOOTH TWIST

Applicant disclaims the words "Smooth Twist" apart from the mark as shown, Owner of Reg. No. 875,312.
For Crown Closures (Int. Cl. 6).
First use Apr. 29, 1968.

SN 336,438. The Franklin Mint, Inc., Yeadon, Pa. Filed Aug. 27, 1969.

EYEWITNESS

For Non-Monetary Coins; Tokens; Medals; and Medallions (Int. Cl. 14).
First use Aug. 21, 1969.

SN 337,651. The Franklin Mint, Inc., Yeadon, Pa. Filed Sept. 11, 1969.

THE FRANKLIN MINT THE WORLD'S FOREMOST PRIVATE MINT

The term "Mint" is disclaimed apart from the mark as shown.
For Non-Monetary Coins; Tokens; Medals; and Medallions (Int. Cl. 14).
First use Sept. 10, 1969.

SN 342,439. Henry Ten Hagen, d.b.a. Tenaflowers Company, Warsaw, N.Y. Filed Nov. 3, 1969.

TENAFLOWERS

Owner of Reg. No. 750,680.
For Dried and Processed Natural Flowers, Plants, and Foliage (Int. Cl. 26).
First use on May 7, 1962.

SN 360,438. Wham-O Mfg. Co., San Gabriel, Calif. Filed May 21, 1970.

STRING-A-TREE

For Plastic Stream Material or Composition and Pressurized Dispenser of Same (Int. Cl. 28).
First use at least as early as May 14, 1970.

Class 51 — Cosmetics and Toilet Preparations

SN 307,212. Kare, Inc., Beverly Hills, Calif. Filed Sept. 12, 1968.

POTEN

For Cosmetic Cleansing Lotions (Int. Cl. 3).
First use Aug. 28, 1968.

SN 348,927. Foremost-McKesson, Inc., d.b.a. McKesson Laboratories, New York, N.Y. Filed Jan. 19, 1970.

Anti +

For Anti-Perspirant Plus Deodorant (Int. Cl. 5).
First use at least as early as Jan. 7, 1970.

SN 358,139. Carter-Wallace, Inc., New York, N.Y. Filed Apr. 28, 1970.

TWICE ON SATURDAY

For Denture Cleanser and a Denture Adhesive (Int. Cls. 3 and 5).
First use Mar. 31, 1970.

SN 358,140. Carter-Wallace, Inc., New York, N.Y. Filed Apr. 28, 1970.

ON SATURDAY

For Denture Cleanser and a Denture Adhesive (Int. Cls. 3 and 5).
First use Mar. 31, 1970.

SN 358,145. Carter-Wallace, Inc., New York, N.Y. Filed Apr. 28, 1970.

SATURDAY MORNING

For Denture Cleanser and a Denture Adhesive (Int. Cls. 3 and 5).
First use Mar. 31, 1970.

SN 358,366. Carter-Wallace, Inc., New York, N.Y. Filed Apr. 30, 1970.

VANISHING POINT

For Cosmetic Facial Cleanser (Int. Cl. 3).
First use Mar. 31, 1970.

SN 358,521. Sterling Drug Inc., New York, N.Y. Filed May 1, 1970.

DAY LONG

For Personal Deodorant and Anti-Perspirant (Int. Cl. 5).
First use Mar. 25, 1970.

SN 358,807. Sterling Drug Inc., New York, N.Y. Filed May 4, 1970.

SUNBODY

For Hair Conditioner and Lightener (Int. Cl. 3).
First use Mar. 25, 1970.

Class 52 — Detergents and Soaps

SN 187,806. St. Louis Janitor Supply Co., d.b.a. Navy Brand Manufacturing Company, St. Louis, Mo. Filed Mar. 2, 1964.

NAVY BRAND

The word "Brand" is disclaimed apart from the mark as shown.
For Soaps for Household and Industrial Usage, Soap Powders, Agents for Cleaning Metal, Porcelain, and Enamel Surfaces, Dishwashing Compounds, Degreasers, Detergents for Household and Industrial Use, Wax Removers, Sweeping Compounds, Acid Cleaners, Scale Removers, Drain Pipe Solvents, Sludge Removers, and Oil and Grease Absorbents (Int. Cls. 3 and 4).
First use 1916.

SN 296,407. G-D Enterprises, Inc., Louisville, Ky. Filed Apr. 24, 1968.

SUN WHITE

For the purposes of registration, no claim is made to the exclusive right to use the word "White" for laundry concentrates separate and apart from the mark as shown.
For Laundry Concentrates for Cleaning and Brightening Clothes (Int. Cl. 3).
First use Mar. 15, 1968.

SN 299,043. Sep-Ko Chemicals, Inc., Minneapolis, Minn. Filed May 24, 1968.

FA-BOL-US

For Cleaner-Deodorant Preparation for Toilet Bowls (Int. Cl. 3).
First use Mar. 5, 1968.

SN 360,285. Lever Brothers Company, New York, N.Y. Filed May 20, 1970.

I.D.

For Household Detergent for General Washing and Cleansing (Int. Cl. 3).
First use May 7, 1970.

SERVICE MARKS

Class 100 — Miscellaneous

SN 282,589. Instrumentation & Control Systems, Inc., Villa Park, Ill. Filed Oct. 16, 1967.

ICS

For Engineering Consulting Services—Namely, Services in the Field of Electronic Control and Instrumentation (Int. Cl. 42).
First use Jan. 15, 1962.

SN 313,712. Lift Parts Mfg., Inc., Elk Grove Township, Ill. Filed Dec. 5, 1968.

LPM

For Rental of Material Handling Lift Trucks (Int. Cl. 42).
First use Oct. 1, 1968.

SN 332,160. Southwestern Electric Power Company, Shreveport, La. Filed July 9, 1969.

SWEPCO

For Utility Services—Namely, Supplying Electricity for Heat and Power (Int. Cl. 42).
First use at least since Sept. 26, 1958.

SN 340,227. Superintendence Company, Inc., New York, N.Y. Filed Oct. 9, 1969.

SUPCO

For Services Rendered for Others Mainly in Connection With the Quality and Quantity of All Kinds of Products and Materials To Be Shipped or Intended for Shipment or Storage, Including Inspection To Determine Conformity of the Products and Materials to Their Predefined Specifications; Taking Samples of the Products and Materials for the Purpose of Analyses, Weighing or Supervising Weighing at Piers or at Interior Locations and Supervising the Loading and Stowage Aboard the Carriers (Int. Cl. 42.)
First use January 1935.

SN 346,437. Unicare Health Services, Inc., Milwaukee, Wis. Filed Dec. 17, 1969.



The caduceus is disclaimed apart from the mark as shown.
For Nursing Home Services and Sheltered Care Services for Mentally Retarded, Socially Disturbed, Dependent, and Neglected Children (Int. Cl. 42).
First use Oct. 1, 1968.

SN 351,382. Marriott Corporation, Washington, D.C. Filed Feb. 16, 1970.



For Providing a Package Group of Hotel and Restaurant Services as a Weekend Vacation Plan (Int. Cl. 42).
First use at least as early as January 1965.

Class 101 — Advertising and Business

SN 263,126. Stop & Shop, Inc., Boston, Mass. Filed Jan. 23, 1967.



Owner of Reg. Nos. 796,894 and 806,846.
For Supermarket Services (Int. Cl. 35).
First use on or before Apr. 30, 1964.

SN 277,960. Mayfair Productions Ltd., d.b.a. Associated Broadcast Merchandisers, Toronto, Ontario, Canada. Filed Aug. 10, 1967.

MINI BINGO

Priority claimed under Sec. 44(d) on Canadian application, filed Feb. 10, 1967; Reg. No. 153,683, dated Oct. 13, 1967. The right to the exclusive use of the word "Bingo" is disclaimed apart from the mark as shown.
For Development, Installation and Operation of Schemes and Games for Promoting the Sales of the Services and the Goods of Others Through the Medium of Broadcasting and Through the Distribution of Material to Members of the Public To Enable Them To Participate in Broadcast Audience Participation Programs, and of Awards to Selected Participants in Such Programs (Int. Cl 35).
First use Feb. 1, 1967; in commerce Mar. 1, 1967.

SN 284,006. Gateway Press Incorporated, Louisville, Ky. Filed Nov. 2, 1967.

GATEWAY PRESS

Applicant disclaims any proprietary rights in the term "Press" apart from the mark as shown.
For Assisting Others in the Performance of Lithographic Art, Color Printing and Commercial Art Services (Int. Cl. 40).
First use July 9, 1950.

SN 307,036. Masco Systems Group, Inc., New York, N.Y. Filed Sept. 10, 1968.

MASCO

For Consulting in Office Management and Computer Uses (Int. Cl. 35).
First use Sept. 4, 1968.

SN 308,690. The Franklin Mint, Inc., d.b.a. The Franklin Mint, Yeadon, Pa. Filed Oct. 2, 1968.

HEROES OF THE AMERICAN FRONTIER

For Promoting the Sales of Goods of Others by Games and Premiums (Int. Cl. 35).
First use Sept. 25, 1968.

SN 313,670. Atar Computer Systems, Inc., Van Nuys, Calif. Filed Dec. 5, 1968.



Applicant disclaims the wording "Computer Systems, Inc." apart from the mark as shown, and any of its common law rights.
For Maintaining Schedules of Flight/Class/Segment Availability of Air Carrier in Connection With Providing a Communications System Linking Selling Agents With Reservation Centers of the Air Carriers Whereby Said Schedules Are Used To Establish Passenger Itineraries by Means of the System's Computers (Int. Cl. 35).
First use July 1, 1968.

SN 313,907. Comfort Supply, Inc., Houston, Tex. Filed Dec. 9, 1968.



For Heating and Air Conditioning Equipment Distributing Services (Int. Cl. 35).
First use May 16, 1966.

SN 314,531. Consumers Caravan, Inc., Hempstead, N.Y. Filed Dec. 16, 1968.



The mark is a miscellaneous hexagonal design.
For Promoting the Sale of Goods and Services of Others by Providing Customers With a Gift and Discounts at Retail Outlets (Int. Cl. 35).
First use Nov. 27, 1968.

SN 315,396. Downtown, Inc., Butte, Mont. Filed Dec. 30, 1968.

DOWNTOWN

For Promoting the Sale of Goods of Others Through the Issuance and Redemption of Trading Stamps (Int. Cl. 35).
First use Oct. 18, 1965.

SN 320,881. United Sales Associates, Ltd., Elberon, N.J. Filed Mar. 5, 1969.



For Distributorship Services in the Field of Imported or Domestic Giftware and/or Housewares (Int. Cl. 35).
First use Feb. 28, 1969.

SN 321,639. The Reuben H. Donnelley Corporation, New York, N.Y. Filed Mar. 13, 1969.

DONNELLEY RETAIL INFORMATION SERVICE

The applicant disclaims the words "Retail Information Service" apart from the mark as shown. Owner of Reg. Nos. 570,822 and 865,940.
For Marketing Research Services in the Field of Consumer Goods (Int. Cl. 35).
First use on or before Mar. 1, 1968.

SN 324,925. Military Personnel Placement Service Incorporated, Vienna, Va. Filed Apr. 18, 1969.



For Military Personnel Placement Services (Int. Cl. 35).
First use on or about June 19, 1968.

SN 325,570. Autocode, Inc., Washington, D.C. Filed Apr. 25, 1969.



AUTOCODE, INC.



For Codification and Compilation of National, State, County and Municipal Law Codes With the Aid of Computer Technology (Computer Systems and Programs) for the use of the Governmental Entities Mentioned (Int. Cl. 35).
First use Mar. 1, 1969.

SN 326,354. Compumedic Controls Corp., New York, N.Y. Filed May 5, 1969.

COMPUCLAIM

For Computerized, Decision-Making Services for the Processing of Insurance Claims (Int. Cl. 35).
First use Apr. 19, 1969.

SN 326,890. Koscot Interplanetary, Inc., Winter Park, Fla. Filed May 9, 1969.

HOUSE OF KOSCOT

The wording "House Of" is disclaimed apart from the mark as shown. Owner of Reg. No. 865,908.

For Rendering Technical Assistance in the Establishment and Operation of Retail Cosmetic Outlets (Int. Cl. 35).

First use at least as early as Dec. 30, 1968.

SN 327,645. Mal Fruit Systems, Inc., Miami Beach, Fla. Filed May 19, 1969.



The words "Fruit Basket" and the representation of fruit are disclaimed separate and apart from the mark as shown.

For Aiding in the Establishment and Operation of Food and Fruit Basket Businesses (Int. Cl. 35).

First use Feb. 1, 1969.

SN 328,704. E. L. Kendall & Sons, Inc., Dayton, Ohio. Filed May 29, 1969.

SUDDEN SERVICE DUPLI-PRINT

For Printing and Copying Services (Int. Cl. 35).

First use June 20, 1968.

SN 329,072. The Franklin Mint, Inc., Yeadon, Pa. Filed June 4, 1969.

LANDMARKS OF AMERICA

For Promoting the Sale of Goods or Services of Others Through Providing Materials and Advertising Matter Designed for a Promotional Contest (Int. Cl. 35).

First use May 1, 1969.

SN 339,659. Happy Chef Foods, Inc., Springdale, Ark. Filed Oct. 3, 1969.



Owner of Reg. No. 836,854.

For Distributorship Services in the Field of Food Products (Int. Cl. 35).

First use June 25, 1969.

SN 339,660. Happy Chef Foods, Inc., Springdale, Ark. Filed Oct. 3, 1969.

HAPPY CHEF

Owner of Reg. No. 836,854.

For Distributorship Services in the Field of Food Products (Int. Cl. 35).

First use June 25, 1969.

SN 340,701. Blue Bell, Inc., Greensboro, N.C. Filed Oct. 15, 1969.



Owner of Reg. No. 878,287.

For Retail Clothing Store Services (Int. Cl. 35).

First use July 1969.

SN 341,993. Payless Cashways, Inc., Iowa Falls, Iowa. Filed Oct. 29, 1969.



For Retail Building Materials Store Services (Int. Cl. 35).

First use at least as early as June 1957.

SN 341,994. Payless Cashways, Inc., Iowa Falls, Iowa. Filed Oct. 29, 1969.



For Retail Building Materials Store Services (Int. Cl. 35).

First use at least as early as 1957.

SN 341,996. Payless Cashways, Inc., Iowa Falls, Iowa. Filed Oct. 29, 1969.



For Retail Building Materials Store Services (Int. Cl. 35).

First use at least as early as 1953.

SN 341,997. Payless Cashways, Inc., Iowa Falls, Iowa. Filed Oct. 29, 1969.



For Retail Building Materials Store Services (Int. Cl. 35).

First use at least as early as July 1963.

SN 348,731. Fedders Corporation, Edison, N.J. Filed Jan. 16, 1970.

REDDI CLEAN

Applicant seeks no registration rights in the term "Clean" apart from the mark as shown.

For Providing Technical Assistance in the Establishment and Operation of Coin Operated Laundry and Dry Cleaning Centers (Int. Cl. 35).

First use at least as early as Nov. 30, 1969.

SN 349,437. Synd-A-Cake of America, Inc., Knoxville, Tenn. Filed Jan. 23, 1970.



For Retail Bakery Outlet Services Specializing in Mail Order and Home Delivery (Int. Cl. 35).

First use Jan. 17, 1969.

SN 350,414. A.C.T. Tax Service, Inc., Chicago Heights, Ill. Filed Feb. 4, 1970.



For Preparing Tax Returns (Int. Cl. 35).

First use on or before Jan. 19, 1970.

Class 102 — Insurance and Financial

SN 311,167. North American Company for Life and Health Insurance, Chicago, Ill. Filed Nov. 1, 1968.



No claim is made to any exclusive rights to the use of the words "Salary" or "Security."

For Advertising, Promotional and Informational Purposes Relative to the Underwriting of Group Income Continuation Insurance (Int. Cl. 36).

First use Mar. 13, 1967.

SN 328,402. Avco Delta Service Corporation, d.b.a. Avco Delta Service Corporation, Shaker Heights, Ohio. Filed May 27, 1969.

The Tomorrow People.

For Making Consumer, Commercial and Agricultural Loans, Factoring, Sales Finance, Extending Credit Card Services to Others, and Procuring and Providing Insurance for Others (Int. Cl. 36).

First use Feb. 15, 1969.

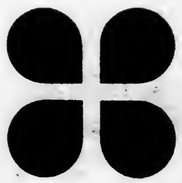
SN 334,341. The Johnston Mutual Fund Inc., New York, N.Y. Filed Aug. 4, 1969.



For Mutual Fund Services (Int. Cl. 36).

First use at least as early as July 31, 1960.

SN 336,113. J. F. Freeman & Co., Inc., Los Angeles, Calif. Filed Aug. 25, 1969.



For Commodity Futures Investment Services (Int. Cl. 36).

First use June 1967.

Class 103 — Construction and Repair

SN 298,966. Riverside Auto Lab, Inc., Riverside, Calif. Filed May 23, 1968.



The drawing is lined for red. The words "Autolab" and "Diagnostic Center" are disclaimed apart from the mark as shown.

For Testing Automobiles for Mechanical Defects and Furnishing Detailed Inspection Reports to the Owners Thereof (Int. Cl. 37).

First use Mar. 4, 1968.

SN 327,235. Circuit Board Drilling Service, Inc., Torrance, Calif. Filed May 14, 1969.



No registration rights are claimed for the words "Circuit Board Drilling Service Incorporated" apart from the mark shown, but applicant waives none of its common law rights in the mark shown and all features thereof.

For Circuit Board Drilling Services (Int. Cl. 37).

First use on or about August 1968.

SN 336,650. Mooney Aircraft Corporation, Kerrville, Tex. Filed Aug. 29, 1969.



For Repair Services for Aircraft Equipment, Accessories and Parts (Int. Cl. 37).

First use on or about Apr. 20, 1961.

SN 336,654. Mooney Aircraft Corporation, Kerrville, Tex. Filed Aug. 29, 1969.



For Repair Services for Aircraft Equipment, Accessories and Parts (Int. Cl. 37).

First use on or about Jan. 2, 1961.

SN 349,558. Standard Oil Company, Flemington, N.J. Filed Jan. 26, 1970.

AVITAT

For Aircraft Supply Station Services, Aircraft Parking, and Aircraft Cleaning Services (Int. Cl. 37).

First use Nov. 1, 1969.

Class 105 — Transportation and Storage

SN 336,477. South Shore National Bank, Quincy, Mass. Filed Aug. 27, 1969.

SELECTOUR

For Travel Agency and Arrangement Services (Int. Cl. 39).

First use on or about July 23, 1969.

Class 106 — Material Treatment

SN 317,310. Berkey Photo, Inc., New York, N.Y. Filed Jan. 23, 1969.

BERKEY

For Material Treatment for Photo Finishing Including the Processing of Black and White and Color Film Including Developing and Printing (Int. Cl. 40).

First use 1933.

SN 329,124. Photo-Rama, Inc., Springfield, Ill. Filed June 4, 1969.

PHOTO-RAMA

For Photo Finishing Services (Int. Cl. 40).

First use May 13, 1969.

Class 107 — Education and Entertainment

SN 314,208. The Donde Corporation, d.b.a. Pounds-Off-Per-Month Club, Anniston, Ala. Filed Dec. 11, 1968.

POUNDS-OFF-PER-MONTH CLUB

For Education Services—Namely, Instructing Others by Correspondence in Methods of Reducing by Utilizing Coordinated Exercises and Diet Programs (Int. Cl. 41).

First use Sept. 29, 1968.

SN 329,257. The Muddywillows, Medford, Oreg. Filed June 5, 1969.

THE MUDDYWILLOWS

For Entertainment Services—Namely, Musical Entertainment Rendered by a Vocal and Instrumental Group (Int. Cl. 41).

First use on or about Mar. 11, 1963.

SN 331,293. Smart and Associates, Ltd., New York, N.Y. Filed June 30, 1969.

UPSTAGE PRODUCTIONS

Applicant disclaims the word "Productions" apart from the mark as shown, but does not waive any common law or other right in the mark, or in any part thereof.

For Creating, Producing, and Performing Theatrical and/or Motion Picture Productions for Trade Shows, Exhibits, and Industry (Int. Cl. 41).

First use at least as early as September 1968.

SN 335,366. Nelson & Associates, Inc., Evanston, Ill. Filed Aug. 14, 1969.

READON

For Training of and Consultation With Teachers in Methods of Teaching Reading Skills (Int. Cl. 41).

First use July 11, 1969.

SN 360,290. Psychological Associates, Inc., St. Louis, Mo. Filed May 20, 1970.

DSM

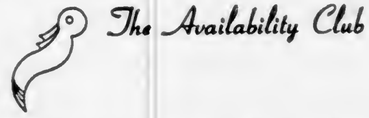
For Educational Seminars on Management Techniques (Int. Cl. 41).

First use Nov. 1, 1969.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 319,605. International Availability Club, Inc., Houston, Tex. Filed Feb. 19, 1969.



Applicant disclaims any exclusive right to the words "The" and "Club" when used apart from the mark.

For Indicating Membership in Applicant.

First use Feb. 13, 1969.

SN 326,235. The International Academy of Forensic Psychology, Waco, Tex. Filed May 2, 1969.

THE INTERNATIONAL ACADEMY OF FORENSIC PSYCHOLOGY

For Indicating Membership in Applicant.

First use Dec. 30, 1968.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

S97,145. ESLON. Sekisui Chemical Company Ltd. SN 126,392. Pub. 10–23–62. Filed 8–21–61.

S97,146. STRESS-PROVEN. Crow's Hybrid Corn Company. SN 311,354. Pub. 6–9–70. Filed 11–5–68.

S97,147. STRESS-TESTED. Crow's Hybrid Corn Company. SN 311,355. Pub. 6–9–70. Filed 11–5–68.

S97,148. STRESS-PROVED. Crow's Hybrid Corn Company. SN 311,356. Pub. 6–9–70. Filed 11–5–68.

S97,149. COROPLAST. Fritz Muller Coroplast K.G. SN 332,338. Pub. 6–9–70. Filed 7–11–69.

S97,150. SEF. Monsanto Company. SN 333,422. Pub. 6–9–70. Filed 7–24–69.

S97,151. STEAKHOUSE. Dierks Forests, Inc. SN 335,853. Pub. 6–9–70. Filed 8–21–69.

S97,152. VINTARA. CITC Industries Inc. SN 336,411. Pub. 6–9–70. Filed 8–27–69.

S97,153. JAYSUN. Armour and Company. SN 337,417. Pub. 6–9–70. Filed 9–9–69.

S97,154. LEDERGO. Armour and Company. SN 337,418. Pub. 6–9–70. Filed 9–9–69.

S97,155. UNOLEDER. Armour and Company. SN 337,421. Pub. 6–9–70. Filed 9–9–69.

S97,156. KYASILL. E. I. du Pont de Nemours and Company. SN 353,819. Pub. 6–9–70. Filed 3–12–70.

Class 2 — Receptacles

S97,157. COUNTRY KITCHEN. Elpo Industries Inc. MULTIPLE CLASS (Classes 2 and 23). SN 261,724. Pub. 10–1–68. Filed 12–30–66.

S97,158. H & H AND DESIGN. H & H Plastics Mfg. Co. SN 273,497. Pub. 6–9–70. Filed 6–9–67.

S97,159. THRIFTY MISS AND DESIGN. APL Corporation. MULTIPLE CLASS (Classes 2, 4, 7, 13, 24, 29, 39, and 42). SN 291,301. Pub. 9–9–69. Filed 2–19–68.

S97,160. THERMO-DISC. Therm-O-Disc, Incorporated, assignee of Thermo-Disc, Inc. SN 302,986. Pub. 1–21–69. Filed 7–17–68.

S97,161. FULGURIT AND DESIGN. Fulgurit-Vertriebsgesellschaft m.b.H. SN 303,156. Pub. 6–9–70. Filed 7–19–68.

S97,162. FUS-A-LINER. Rochester Silo Co. MULTIPLE CLASS (Classes 2 and 12). SN 324,097. Pub. 6–9–70. Filed 4–9–69.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

S97,163. MARIMAC HALL. Alvin C. Haakenson. SN 333,710. Pub. 6–9–70. Filed 7–28–69.

S97,164. PARNELL. Leon's Fashions, Inc. MULTIPLE CLASS (Classes 3 and 39). SN 341,889. Pub. 6–9–70. Filed 10–28–69.

S97,165. BELLESTONE AND DESIGN. Alexander Light. SN 348,382. Pub. 6–9–70. Filed 1–13–70.

S97,166. BEAR CAT. H. Porters of Tucson. SN 350,188. Pub. 6–9–70. Filed 2–2–70.

Class 4 — Abrasives and Polishing Materials

S97,159. (See Class 2 for this trademark.)

S97,167. REFLECTING QUALITY AND DESIGN. H. B. Meyer and Son, Inc. MULTIPLE CLASS (Classes 4, 6, 12, 16, and 52). SN 333,221. Pub. 6–9–70. Filed 7–22–69.

Class 5 — Adhesives

S97,168. CONCE-TRED. Dispersed Materials Inc. SN 333,911. Pub. 6–9–70. Filed 7–30–69.

Class 6 — Chemicals and Chemical Compositions

S97,167. (See Class 4 for this trademark.)

S97,169. HYDROLUBE. The Western Company of North America, d.b.a. The Western Company. SN 291,797. Pub. 6–9–70. Filed 2–23–68.

S97,170. HI-SOL. Ashland Oil, Inc., by change of name from Ashland Oil & Refining Company. SN 311,003. Pub. 6–9–70. Filed 10–31–68.

S97,171. FORTICYTE. Stanley B. Krutulis. SN 315,773. Pub. 6–9–70. Filed 1–3–69.

S97,172. AQUA-VEX. Pennwalt Corporation. SN 335,252. Pub. 6–9–70. Filed 8–13–69.

S97,173. UOP. Universal Oil Products Company. SN 353,390. Pub. 6–9–70. Filed 3–9–70.

Class 7 — Cordage

S97,159. (See Class 2 for this trademark.)

Class 8 — Smokers' Articles, Not Including Tobacco Products

S97,174. SABRE. Bernard Hochstein. SN 353,759. Pub. 6–9–70. Filed 3–11–70.

Class 12 — Construction Materials

S97,162. (See Class 2 for this trademark.)

S97,167. (See Class 4 for this trademark.)

S97,175. FLAREX. Airoil Burner Company (G.B.) Limited. SN 313,796. Pub. 6–9–70. Filed 12–6–68.

S97,176. SAN-A-CAGE. Sidney Sachs. SN 316,139. Pub. 6–9–70. Filed 1–8–69.

S97,177. DAVLIN. David De Ruiter, d.b.a. Davlin Paint Company. MULTIPLE CLASS (Classes 12 and 16). SN 316,774. Pub. 6–9–70. Filed 1–16–69.

S97,178. LEAF DESIGN. Fence City, Inc. MULTIPLE CLASS (Classes 12 and 13). SN 318,484. Pub. 6–9–70. Filed 2–6–69.

S97,179. C A C. Construction Adhesives Company. SN 319,139. Pub. 6–9–70. Filed 2–14–69.

S97,180. SUPER-CORE. The American Welding & Manufacturing Company. SN 321,375. Pub. 6–9–70. Filed 3–11–69.

S97,181. MANDOSEAL. Mandoval Limited. SN 326,479. Pub. 6–9–70. Filed 5–6–69.

S97,182. CONGARD. Resin Systems Inc. SN 333,180. Pub. 6–9–70. Filed 7–22–69.

S97,183. TRIDENT AND DESIGN. Brooks & Perkins, Incorporated. SN 334,514. Pub. 6–9–70. Filed 8–6–69.

S97,184. LPC. Johns-Manville Corporation. SN 336,333. Pub. 6–9–70. Filed 8–26–69.

S97,185. PARTICLE-GARD. Johns-Manville Corporation. SN 336,336. Pub. 6–9–70. Filed 8–26–69.

S97,186. SSK AND DESIGN. S. S. Kresge Company. SN 336,458. Pub. 6–9–70. Filed 8–27–69.

S97,187. K MART AND DESIGN. S. S. Kresge Company. SN 336,459. Pub. 6–9–70. Filed 8–27–69.

S97,188. POLY-SURF. Playtime U.S.A. Inc. SN 338,177. Pub. 6–9–70. Filed 9–17–69.

S97,189. VENTROW. American Metal Climax, Inc. SN 338,212. Pub. 6–9–70. Filed 9–18–69.

S97,190. LAVDEK. Joseph S. Wheeler, Jr., assignee of Huntington Tile, Inc. SN 338,246. Pub. 6–9–70. Filed 9–18–69.

S97,191. NOMAH-PLY AND DESIGN. Multnomah Plywood Corporation. SN 338,652. Pub. 6–9–70. Filed 9–22–69.

S97,192. VARI-FORM. The Carborundum Company. SN 339,134. Pub. 6–9–70. Filed 9–29–69.

S97,193. SAFECORE. Kaiser Aluminum & Chemical Corporation. SN 339,324. Pub. 6–9–70. Filed 9–30–69.

S97,194. PAK-FILL. Silbrico Corporation. SN 341,425. Pub. 6–9–70. Filed 10–22–69.

S97,195. MAJOR-DOME. Major Pool Equipment Corp. SN 341,534. Pub. 6–9–70. Filed 10–23–69.

S97,196. TRIESTE. Simpson Timber Company. SN 351,391. Pub. 6–9–70. Filed 2–16–70.

S97,197. LAV-COAT. International Minerals & Chemical Corporation. SN 351,759. Pub. 6–9–70. Filed 2–19–70.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

S97,159. (See Class 2 for this trademark.)

S97,178. (See Class 12 for this trademark.)

S97,198. "AFCOTE." Anchor Post Products, Inc., d.b.a. Afco Fences. SN 312,648. Pub. 6–9–70. Filed 11–20–68.

S97,199. NEW CONCEPTS IN CONSTRUCTION FASTENING. Illinois Tool Works, Inc. SN 313,937. Pub. 6–9–70. Filed 12–9–68.

S97,200. BRISTOL PRODUCTS CORP. VENT CHEK BRISTOL, INDIANA AND DESIGN. Bristol Products Corporation. SN 322,826. Pub. 6–9–70. Filed 3–26–69.

S97,201. EASY FLOW. Fedtro, Inc. SN 328,167. Pub. 6–9–70. Filed 5–23–69.

S97,202. BRAZ TYTE AND DESIGN. Truly Tubular Fitting Corporation. SN 329,049. Pub. 6–9–70. Filed 6–4–69.

S97,203. IBO. Gebr. Schmeing. SN 332,423. Pub. 6–9–70. Filed 7–14–69.

S97,204. P E D A M A T I C. Borg-Warner Corporation. SN 336,410. Pub. 6–9–70. Filed 8–27–69.

S97,205. REDI-HOOK. Kirsch Company. SN 336,456. Pub. 6–9–70. Filed 8–27–69.

S97,206. CONOFLOW. Conoflow Corporation. SN 351,683. Pub. 6–9–70. Filed 2–18–70.

S97,207. THERMASET. Fastener Systems Corporation. SN 353,955. Pub. 6–9–70. Filed 3–13–70.

Class 14 — Metals and Metal Castings and Forgings

S97,208. LUXOR. Leonhard Kurz. SN 324,074. Pub. 6–9–70. Filed 4–9–69.

S97,209. SS (DESIGN). Solar Steel Corporation. SN 332,372. Pub. 6–9–70. Filed 7–11–69.

S97,210. PORTEC. Portec, Inc. SN 345,981. Pub. 6–9–70. Filed 12–11–69.

S97,211. ROYAL CHEF. Anaconda Aluminum Company. SN 346,592. Pub. 6–9–70. Filed 12–18–69.

Class 15 — Oils and Greases

S97,212. DRYGAS. Cristy Chemical Corporation. SN 297,918. Pub. 6–9–70. Filed 5–13–68.

S97,213. SAFETY LUBE. Chem-Trend Incorporated. SN 302,715. Pub. 6–9–70. Filed 7–15–68.

S97,214. SAFETY-LUBE-SUPER. Chem-Trend Incorporated. SN 302,716. Pub. 6–9–70. Filed 7–15–68.

S97,215. METREET-MOLY. Chemtrust Industries Corp. SN 332,027. Pub. 6–9–70. Filed 7–8–69.

S97,216. T O R N A D O. Turner Corporation. MULTIPLE CLASS (Classes 15 and 34). SN 339,781. Pub. 4–28–70. Filed 10–6–69.

S97,217. CHEMDRAW. H. L. Blachford Limited. SN 339,990. Pub. 6–9–70. Filed 10–7–69.

Class 16 — Protective and Decorative Coatings

S97,167. (See Class 4 for this trademark.)

S97,177. (See Class 12 for this trademark.)

S97,218. SPRA-FLAKE. Groweo, Inc. SN 320,948. Pub. 6–9–70. Filed 3–6–69.

S97,219. TORNESIT. Perry-Austen Manufacturing Co. SN 336,167. Pub. 6–9–70. Filed 8–25–69.

S97,220. TARTAN-CLAD. Minnesota Mining and Manufacturing Company. SN 344,062. Pub. 6–9–70. Filed 11–20–69.

S97,221. CAVENDISH. Debevoise Company, d.b.a. The Cavendish Company. SN 354,258. Pub. 6–9–70. Filed 3–17–70.

Class 17 — Tobacco Products

S97,222. MAC BAREN'S DARK TWIST. Harald Halberg. SN 304,782. Pub. 6–9–70. Filed 8–9–68.

S97,223. SANTOS-DUMONT AND DESIGN. Rothman's of Pall Mall Limited. SN 318,982. Pub. 6–9–70. Filed 2–12–69.

S97,224. DANISH PRIDE. Lane Limited. SN 321,241. Pub. 6–9–70. Filed 3–10–69.

S97,225. PAST & PRESENT. Godfrey Phillips, Limited. SN 325,893. Pub. 6–9–70. Filed 4–29–69.

S97,226. MARIANOS. Alvaro Gonzalez Gonzalez, d.b.a. Fabrica de Tabacos Alvaro. SN 329,350. Pub. 6–9–70. Filed 6–6–69.

S97,227. FLORETES. Alvaro Gonzalez Gonzalez, d.b.a. Fabrica de Tabacos Alvaro. SN 329,351. Pub. 6–9–70. Filed 6–6–69.

S97,228. DUNHILL ETC. AND DESIGN. Alfred Dunhill, Limited. SN 337,483. Pub. 6–9–70. Filed 9–10–69.

S97,229. MACBETH. Lane Limited. SN 338,582. Pub. 6–9–70. Filed 9–22–69.

S97,230. GOLDEN CASTLE. Lane Limited. SN 338,583. Pub. 6–9–70. Filed 9–22–69.

S97,231. OBELISK. Douwe Egberts Koninklijke Tabaksfabriek-Koffiebranderijen-Theehandel N.V. SN 353,459. Pub. 6-16-70. Filed 3-9-70.

S97,232. TEDDY AND DESIGN. Gesty Trading and Manufacturing Corp. SN 339,319. Pub. 6-9-70. Filed 9-30-69.

S97,233. GRIFFIN. Svenska Tobaks AB. SN 339,607. Pub. 6-9-70. Filed 10-2-69.

S97,234. ISLANDER LEVANT. Island Matrix, Inc. SN 343,450. Pub. 6-9-70. Filed 11-13-69.

S97,235. ISLANDER CARIB. Island Matrix, Inc. SN 343,451. Pub. 6-9-70. Filed 11-13-69.

S97,236. ISLANDER NORDIC. Island Matrix, Inc. SN 343,452. Pub. 6-9-70. Filed 11-13-69.

S97,237. HIGHWAYMAN. Bayúk Cigars Incorporated. SN 344,211. Pub. 6-9-70. Filed 11-21-69.

S97,238. FRONTIER. Liggett & Myers Incorporated. SN 344,556. Pub. 6-9-70. Filed 11-25-69.

S97,239. QUEST. Liggett & Myers Incorporated. SN 344,558. Pub. 6-9-70. Filed 11-25-69.

S97,240. QUOTA. Liggett & Myers Incorporated. SN 344,559. Pub. 6-9-70. Filed 11-25-69.

S97,241. MACEDONIAN. Theodorus Niemeyer Inc. SN 345,660. Pub. 6-9-70. Filed 12-8-69.

S97,242. SIGNAL. American Brands, Inc. SN 347,854. Pub. 6-9-70. Filed 1-7-70.

S97,243. AS YOU LIKE IT. Universal Cigar Corporation. SN 351,394. Pub. 6-9-70. Filed 2-16-70.

S97,244. RECON. American Brands, Inc. SN 353,125. Pub. 6-9-70. Filed 3-5-70.

S97,245. TRIO. R. J. Reynolds Tobacco Company. SN 354,360. Pub. 6-9-70. Filed 3-18-70.

S97,246. AMBER. R. J. Reynolds Tobacco Company. SN 354,361. Pub. 6-9-70. Filed 3-18-70.

S97,247. FLING. R. J. Reynolds Tobacco Company. SN 354,362. Pub. 6-9-70. Filed 3-18-70.

S97,248. BRITE. R. J. Reynolds Tobacco Company. SN 354,364. Pub. 6-9-70. Filed 3-18-70.

S97,249. BROOKWOOD. R. J. Reynolds Tobacco Company. SN 354,365. Pub. 6-9-70. Filed 3-18-70.

S97,250. CONCEPT. R. J. Reynolds Tobacco Company. SN 354,366. Pub. 6-9-70. Filed 3-18-70.

S97,251. CARBOND. R. J. Reynolds Tobacco Company. SN 354,367. Pub. 6-9-70. Filed 3-18-70.

Class 18 — Medicines and Pharmaceutical Preparations

S97,252. BETASONE. Schering Corporation. SN 265,340. Pub. 8-1-67. Filed 2-23-67.

S97,253. MASTICORT. Agway, Inc. SN 278,457. Pub. 4-15-69. Filed 8-17-67.

S97,254. DIS-CO. A. H. Robins Company, Incorporated. SN 279,096. Pub. 7-16-68. Filed 8-25-67.

S97,255. PORT-A-PAK. Merck & Co., Inc. SN 307,496. Pub. 6-9-70. Filed 9-16-68.

S97,256. U-JECT. The Upjohn Company. SN 317,406. Pub. 6-9-70. Filed 1-23-69.

S97,257. SH 714. Schering Aktiengesellschaft. SN 318,333. Pub. 6-9-70. Filed 2-4-69.

S97,258. RH-GAMMAGEE. Merck & Co., Inc. SN 320,165. Pub. 2-3-70. Filed 2-26-69.

S97,259. GROSTRONG. Moorman Manufacturing Company. SN 321,964. Pub. 6-9-70. Filed 3-17-69.

S97,260. ACNO AND DESIGN. Cummins Pharmaceutical Company, Inc. SN 324,124. Pub. 6-9-70. Filed 4-10-69.

S97,261. ACNO AND DESIGN. Cummins Pharmaceutical Company, Inc. SN 324,125. Pub. 6-9-70. Filed 4-10-69.

S97,262. CLERASIL. Richardson-Merrell Inc. SN 332,670. Pub. 4-21-70. Filed 7-16-69.

S97,263. NU'LEVEN. Lemmon Pharmacal Company. SN 332,727. Pub. 6-9-70. Filed 7-16-69.

S97,264. ORAZINC. Schlicksup Drug Co., Inc. SN 332,773. Pub. 6-9-70. Filed 7-16-69.

S97,265. CONGESTEX. Colgate-Palmolive Company. SN 348,386. Pub. 6-9-70. Filed 1-13-70.

S97,266. SEA-WAVE. Carter-Wallace, Inc. SN 348,610. Pub. 6-9-70. Filed 1-15-70.

S97,267. SEA-WAY. Carter-Wallace, Inc. SN 348,611. Pub. 6-9-70. Filed 1-15-70.

S97,268. LONGULES. Carter-Wallace, Inc. SN 348,613. Pub. 6-9-70. Filed 1-15-70.

S97,269. BUPROCIN. The Upjohn Company. SN 348,619. Pub. 6-9-70. Filed 1-15-70.

S97,270. BUPROCID. The Upjohn Company. SN 348,620. Pub. 6-9-70. Filed 1-15-70.

S97,271. EYE WITNESS. Carter-Wallace, Inc. SN 348,720. Pub. 6-9-70. Filed 1-16-70.

S97,272. MEPROSULE. Carter-Wallace, Inc. SN 348,721. Pub. 6-9-70. Filed 1-16-70.

Class 19 — Vehicles

S97,273. INCA. Inca Metal Products Corporation. MULTIPLE CLASS (Classes 19, 23, and 32). SN 308,785. Pub. 6-9-70. Filed 10-3-68.

S97,274. MISCELLANEOUS DESIGN. Globestar Industries, Inc. SN 322,287. Pub. 6-9-70. Filed 3-20-69.

S97,275. UNISHELL ETC. AND DESIGN. Avco Corporation. SN 342,719. Pub. 6-9-70. Filed 11-5-69.

S97,276. MISCELLANEOUS DESIGN. American Motors Corporation. SN 345,287. Pub. 6-9-70. Filed 12-4-69.

S97,277. VANLITE. The Duralite Manufacturing Company. SN 350,376. Pub. 6-9-70. Filed 2-3-70.

S97,278. CHECK THE SPECS. The Duralite Manufacturing Company. SN 350,377. Pub. 6-9-70. Filed 2-3-70.

S97,279. TRAVELMASTER. Travelmaster, Inc. SN 350,622. Pub. 6-9-70. Filed 2-5-70.

S97,280. MOHAWK. American Photocopy Equipment Company. SN 350,663. Pub. 6-9-70. Filed 2-6-70.

S97,281. VOYAGER. Textron Inc. SN 351,081. Pub. 6-9-70. Filed 2-11-70.

Class 20 — Linoleum and Oiled Cloth

S97,282. AQUAFLEX. GAF Corporation. SN 351,653. Pub. 6-9-70. Filed 2-18-70.

S97,283. RESIFLEX. GAF Corporation. SN 351,654. Pub. 6-9-70. Filed 2-18-70.

Class 21 — Electrical Apparatus, Machines, and Supplies

S97,284. STANDARD. Standard Kollsman Industries, Inc. SN 236,851. Pub. 6-9-70. Filed 1-19-66.

S97,285. CERTIFIED CHEMICAL & EQUIPMENT CO. Certified Chemical and Equipment Company. SN 246,443. Pub. 4-28-70. Filed 5-24-66.

S97,286. SA AND DESIGN. Scientific-Atlanta, Inc. SN 282,931. Pub. 11-11-69. Filed 10-19-67.

S97,287. ORE AND DESIGN. Ocean Research Equipment, Inc. MULTIPLE CLASS (Classes 21 and 26). SN 293,973. Pub. 6-9-70. Filed 3-25-68.

S97,288. IDENTIMAT. Identimation Corporation, assignee of Sibany Manufacturing Corporation. SN 300,848. Pub. 8-12-69. Filed 6-19-68.

S97,289. LILIBETH. Maro International, Ltd. SN 303,917. Pub. 6-9-70. Filed 7-30-68.

S97,290. ROME ADP. Cyprus Mines Corporation, d.b.a. Rome Cable Division. SN 320,035. Pub. 6-9-70. Filed 2-25-69.

S97,291. CERMALLOY AND DESIGN. Bala Electronics Corp., assignee of Conshohocken Chemicals, Inc. SN 322,972. Pub. 6-9-70. Filed 3-27-69.

S97,292. THERMASWISS. Therma A.G. (Therma S.A.) (Therma Ltd.) SN 323,388. Pub. 6-9-70. Filed 4-1-69.

S97,293. POWER MASTER. Shure Brothers Incorporated. SN 333,608. Pub. 6-9-70. Filed 7-25-69.

S97,294. VISUAL VECTOR-VV AND DESIGN. Unitron International Systems, Inc. SN 333,618. Pub. 6-9-70. Filed 7-25-69.

S97,295. "PYROBLOC." Thomson-CSF. SN 334,496. Pub. 6-9-70. Filed 8-5-69.

S97,296. MANAIRCO AND DESIGN. Mansfield Aircraftsmen Company. SN 339,627. Pub. 6-9-70. Filed 10-2-69.

S97,297. SABER. The Louis Allis Company. SN 340,345. Pub. 4-28-70. Filed 10-10-69.

S97,298. LINEBACKER. Allen Electric and Equipment Company. SN 342,385. Pub. 6-9-70. Filed 11-3-69.

S97,299. ADAM. Burton Instrumentation, Inc. SN 342,406. Pub. 6-9-70. Filed 11-3-69.

S97,300. U-LUME. Thomas Industries Inc. SN 344,034. Pub. 6-9-70. Filed 11-19-69.

S97,301. TRIMPACK. Bourns, Inc. SN 345,434. Pub. 6-9-70. Filed 12-5-69.

S97,302. AIR-TEX. Intertherm, Inc. SN 353,136. Pub. 6-9-70. Filed 3-5-70.

Class 22 — Games, Toys, and Sporting Goods

S97,303. LET'S DRIVE. Solomon Bernstein. SN 315,145. Pub. 6-9-70. Filed 12-24-68.

S97,304. SITZSKI. Spectra Sports, Inc. SN 318,238. Pub. 6-9-70. Filed 2-3-69.

S97,305. PISTOL POOL. Thaddeus A. Koniecki, d.b.a. Pistol Pool Company. SN 319,611. Pub. 6-9-70. Filed 2-19-69.

S97,306. SKY HIGH. Skor-Mor Corporation. SN 321,084. Pub. 6-9-70. Filed 3-7-69.

S97,307. RAVENSBURGER TOYS VITALI AND DESIGN. Otto Maier Verlag Ravensburg. SN 321,533. Pub. 6-9-70. Filed 3-12-69.

S97,308. JOG-N-PLACE. Frank M. Childers. SN 323,258. Pub. 6-9-70. Filed 4-1-69.

S97,309. CLACKITY TRACKS. Rainbow Crafts, Inc. SN 323,363. Pub. 6-9-70. Filed 4-1-69.

S97,310. STRAPLOCK. Wilson Sporting Goods Co. SN 323,503. Pub. 6-9-70. Filed 4-2-69.

S97,311. CONVERSATION-MAKER. Bernard Green. SN 323,559. Pub. 6-9-70. Filed 4-3-69.

S97,312. SUPER CUBAL AND DESIGN. K. Zysset & Co. AG. SN 328,926. Pub. 6-9-70. Filed 6-2-69.

S97,313. JIM-N-E CRICKET AND BAITS DESIGN. Jim-N-E Cricket Bait Co., Inc. SN 329,244. Pub. 6-9-70. Filed 6-5-69.

S97,314. MIDRIFITSTIK. Arden Zinn. SN 329,398. Pub. 6-9-70. Filed 6-6-69.

S97,315. TEPA SPORT. Recreational Equipment Company of Pennsylvania, Inc. SN 330,627. Pub. 6-9-70. Filed 6-20-69.

S97,316. ACTIONBACK. Marty Gilman, Inc. SN 332,015. Pub. 6-9-70. Filed 7-8-69.

S97,317. K MART AND DESIGN. S. S. Kresge Company. SN 334,348. Pub. 6-9-70. Filed 8-4-69.

S97,318. FIRECRACKER. Mattel, Inc. SN 337,232. Pub. 6-9-70. Filed 9-8-69.

S97,319. TINGLE DINGLE. Mattel, Inc. SN 337,234. Pub. 6-9-70. Filed 9-8-69.

S97,320. PLASTI-ROD. Plastilite Corporation. SN 343,918. Pub. 6-9-70. Filed 11-19-69.

S97,321. SKELTER HELTER. Mattel, Inc. SN 345,557. Pub. 6-9-70. Filed 12-8-69.

S97,322. FURRY HURRY. Mattel, Inc. SN 345,758. Pub. 6-9-70. Filed 12-10-69.

S97,323. SNO-JOB AND DESIGN. Sperco Tool & Mfg. Co. Inc. SN 346,703. Pub. 6-9-70. Filed 12-19-69.

S97,324. CALIFORNIA M70. Mattel, Inc. SN 354,086. Pub. 6-9-70. Filed 3-16-70.

S97,325. QUEEN B. The United States Playing Card Company. SN 354,279. Pub. 6-9-70. Filed 3-17-70.

S97,326. HITORGAN. Paolo Bontempi, d.b.a. Sigma Bontempi di Dott. Ing. Paolo Bontempi. SN 354,346. Pub. 6-9-70. Filed 3-18-70.

S97,327. GROWIN' PRETTY. Mattel, Inc. SN 354,355. Pub. 6-9-70. Filed 3-18-70.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

S97,157. (See Class 2 for this trademark.)

S97,273. (See Class 19 for this trademark.)

S97,328. SEMCO. Semco Shipper's Equipment Mfg. Co. SN 298,359. Pub. 6-9-70. Filed 5-16-68.

S97,329. B. The Buehler Corporation. MULTIPLE CLASS (Classes 23 and 103). SN 307,376. Pub. 6-9-70. Filed 9-16-68.

S97,330. BOTTLE PACK. Kocher Plastic H. Bohmer KG. SN 308,249. Pub. 6-9-70. Filed 9-26-68.

S97,331. FIX 'N' SAVE. NMS Industries, Inc. SN 313,959. Pub. 6-9-70. Filed 12-9-68.

S97,332. VIT-KIT. Societe des Carburateurs Solex. SN 324,244. Pub. 6-9-70. Filed 4-10-69.

S97,333. "THE SNACKER FASTEST ORANGE PEELER IN THE WEST." Sunkist Growers, Inc. SN 325,633. Pub. 6-9-70. Filed 4-25-69.

S97,334. ZIPPO. Zippo Manufacturing Company. SN 325,913. Pub. 6-9-70. Filed 4-29-69.

S97,335. E AND DESIGN. Excellon Industries. MULTIPLE CLASS (Classes 23 and 26). SN 327,187. Pub. 6-9-70. Filed 5-14-69.

S97,336. SUPERSET. Turbo Machine Company. SN 327,703. Pub. 6-9-70. Filed 5-19-69.

S97,337. MONARCH AND DESIGN. Monarch Road Machinery Company. SN 328,882. Pub. 6-9-70. Filed 6-2-69.

S97,338. MAGIC WEEDER. Hardware Products Company. SN 332,585. Pub. 6-9-70. Filed 7-15-69.

S97,339. SHUR-KIT. Shur-Lok Corporation. SN 338,961. Pub. 6-9-70. Filed 9-25-69.

S97,340. ATLAS VAC MACHINE. Clopay Corporation. SN 342,831. Pub. 6-9-70. Filed 11-6-69.

S97,341. AV (DESIGN). Clopay Corporation. SN 342,832. Pub. 6-9-70. Filed 11-6-69.

S97,342. MCL (DESIGN). McLaughlin Manufacturing Company. SN 343,575. Pub. 6-9-70. Filed 11-14-69.

S97,343. MIGHTY MOLE. McLaughlin Manufacturing Company. SN 343,576. Pub. 6-9-70. Filed 11-14-69.

S97,344. DELTA WING. North American Rockwell Corporation. SN 346,103. Pub. 6-9-70. Filed 12-12-69.

S97,345. EVASET. Hunt & Moscrop Limited. SN 346,379. Pub. 6-9-70. Filed 12-16-69.

S97,346. DC DESIGN. Data Card Corporation. SN 352,295. Pub. 6-9-70. Filed 2-25-70.

S97,347. SIOUX AND DESIGN. Sioux Steam Cleaner Corporation. SN 353,965. Pub. 6-9-70. Filed 3-13-70.

S97,348. CARVEL HALL. Towle Manufacturing Company. SN 354,101. Pub. 6-9-70. Filed 3-16-70.

Class 24 — Laundry Appliances and Machines

S97,159. (See Class 2 for this trademark.)

Class 25 — Locks and Safes

S97,349. SPHINX-DOOR. Robert Bellanger. SN 332,656. Pub. 6-9-70. Filed 7-16-69.

S97,350. ULTRALOCK. Constellation Science and Technology Corporation. SN 353,692. Pub. 6-9-70. Filed 3-11-70.

Class 26 — Measuring and Scientific Appliances

S97,287. (See Class 21 for this trademark.)

S97,335. (See Class 23 for this trademark.)

S97,351. Comparison-Chart. Paul S. Heltman, d.b.a. Gem-Mounts and Gem-Masks Co. SN 284,911. Pub. 6-9-70. Filed 11-15-67.

S97,352. CINCINNATI. Cincinnati Milacron Inc., by change of name from The Cincinnati Milling Machine Co. SN 305,313. Pub. 4-15-69. Filed 8-16-68.

S97,353. DATACOUPLER. Computer Systems, Inc. SN 308,601. Pub. 12-16-69. Filed 10-1-68.

S97,354. ZEPHYR. Mutoh Industry Ltd. SN 316,666. Pub. 7-22-69. Filed 1-15-69.

S97,355. MEDI-SPOON. Kingly Products Corporation. SN 332,276. Pub. 6-9-70. Filed 7-10-69.

S97,356. Lumicyte. Propper Manufacturing Company, Inc. SN 344,066. Pub. 6-9-70. Filed 11-20-69.

S97,357. CONTEMPORA. American Optical Corporation. SN 346,443. Pub. 6-9-70. Filed 12-17-69.

S97,358. CRUXLITE. American Optical Corporation. SN 351,647. Pub. 6-9-70. Filed 2-18-70.

S97,359. COSMELITE. American Optical Corporation. SN 351,648. Pub. 6-9-70. Filed 2-18-70.

S97,360. CALOLITE. American Optical Corporation. SN 351,649. Pub. 6-9-70. Filed 2-18-70.

Class 27 — Horological Instruments

S97,361. KAR-VIC. Kar-Vic Jewelry Co., Inc. SN 313,112. Pub. 6-9-70. Filed 11-26-68.

S97,362. WYLER WATER REX. Fabrique des Montres Wyler Societe Anonyme. SN 317,832. Pub. 6-9-70. Filed 1-29-69.

S97,363. CHATEAU. E. Gluck Trading Company, d.b.a. Precision Watch Company. SN 325,033. Pub. 6-9-70. Filed 4-21-69.

S97,364. GYRODATE. Girard Perregaux Corp., by change of name from Jean R. Graef, Inc. SN 329,076. Pub. 6-9-70. Filed 6-4-69.

S97,365. SAFEGUARD. Longines-Wittenauer Watch Co., Inc. SN 342,056. Pub. 6-9-70. Filed 10-29-69.

Class 28 — Jewelry and Precious-Metal Ware

S97,366. ASTRO "70." Warren W. Welch, d.b.a. Wil-Aren Originals. SN 315,968. Pub. 6-9-70. Filed 1-6-69.

S97,367. LAPPONIA. Lapponia Jewelry Ltd.-Kruunukoru Oy, by change of name from Kruunu-Koru Oy. SN 328,429. Pub. 6-9-70. Filed 5-27-69.

Class 29 — Brooms, Brushes, and Dusters

S97,159. (See Class 2 for this trademark.)

Class 31 — Filters and Refrigerators

S97,368. PAMECO-AIRE. Bangor Punta Operations, Inc. MULTIPLE CLASS (Classes 31 and 34). SN 311,008. Pub. 6-9-70. Filed 10-31-68.

S97,369. CARBO-CIRC. Kenco Products Corporation. SN 321,064. Pub. 6-9-70. Filed 3-7-69.

S97,370. M/B. Master-Bilt Refrigeration Manufacturing Company. SN 322,310. Pub. 6-9-70. Filed 3-20-69.

S97,371. MOUNTAIN FRESH HOSPITAL PURE AND DESIGN. H. Read Miner. SN 322,801. Pub. 6-9-70. Filed 3-26-69.

S97,372. ZIP ZERO. Zip Zero Corporation. SN 342,921. Pub. 6-9-70. Filed 11-6-69.

Class 32 — Furniture and Upholstery

S97,273. (See Class 19 for this trademark.)

S97,373. REPOSE. New York Feather Co., Inc. SN 290,874. Pub. 4-22-69. Filed 2-12-68.

S97,374. NEWPORTER. Wall Tube and Metal Products Company. SN 313,753. Pub. 6-9-70. Filed 12-5-68.

S97,375. TUFLAR. Clear-View Shade Co. SN 325,719. Pub. 6-9-70. Filed 4-28-69.

S97,376. WACO QUEEN AND CROWN DESIGN. Watkins Cabinet Co., Inc. SN 329,783. Pub. 6-9-70. Filed 6-11-69.

S97,377. ROBERT JOHN. Robert John Company. SN 330,200. Pub. 6-9-70. Filed 6-16-69.

S97,378. COMFORMATIC. Broyhill Furniture Industries. SN 330,715. Pub. 6-9-70. Filed 6-23-69.

S97,379. K-F. Kwik-File, Inc. SN 335,922. Pub. 6-9-70. Filed 8-22-69.

S97,380. EDUCUBE. Monsanto Company. SN 337,947. Pub. 6-9-70. Filed 9-15-69.

Class 34 — Heating, Lighting, and Ventilating Apparatus

S97,216. (See Class 15 for this trademark.)

S97,368. (See Class 31 for this trademark.)

S97,381. ECONOPAK. Schaub Engineering Company. SN 315,789. Pub. 6-9-70. Filed 1-3-69.

S97,382. FT AND OVAL DESIGN. Automation Industries, Inc. SN 316,971. Pub. 6-9-70. Filed 1-21-69.

S97,383. FORNEY. Forney Engineering Company. SN 320,475. Pub. 6-9-70. Filed 3-3-69.

S97,384. DEI AND DESIGN. Development Engineering, Inc. SN 327,007. Pub. 6-9-70. Filed 5-12-69.

S97,385. WHIRLPOWER. Dunham-Bush, Inc. SN 327,752. Pub. 6-9-70. Filed 5-20-69.

S97,386. CVD. Loren Cook Company. SN 331,399. Pub. 6-9-70. Filed 6-30-69.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

S97,387. VANGUARD. Anderson Tires, Inc. SN 190,688. Pub. 11-17-64. Filed 4-9-64.

S97,388. GLOBAL TIRE AND RUBBER CO., LTD., AND DESIGN. Global Tire and Rubber Co., Ltd. SN 321,796. Pub. 6-9-70. Filed 3-14-69.

S97,389. LOW PROFILE AND DESIGN. Amerace Esna Corporation. SN 335,286. Pub. 6-9-70. Filed 8-14-69.

Class 36 — Musical Instruments and Supplies

S97,390. EDI ELECTRO DATA AND DESIGN. Electrodata, Inc. SN 328,969. Pub. 6-9-70. Filed 6-3-69.

S97,391. ELKHART. The Magnavox Company. SN 330,290. Pub. 6-9-70. Filed 6-17-69.

S97,392. ELDORADO. A. Cohen & Sons Corporation. SN 340,881. Pub. 6-9-70. Filed 10-16-69.

Class 37 — Paper and Stationery

S97,393. REDIALUX. Pirelli Sapsa S.p.A. SN 326,903. Pub. 6-9-70. Filed 5-9-69.

S97,394. TWIN PRINT AND DESIGN. Dennison Manufacturing Company. SN 338,711. Pub. 6-9-70. Filed 9-24-69.

Class 38 — Prints and Publications

S97,395. BEAUTY BEAT AND DESIGN. Yardley of London, Inc. SN 314,996. Pub. 6-9-70. Filed 12-20-68.

S97,396. QB AND DESIGN. Quarterback Publishing Company of America, Inc. SN 337,352. Pub. 6-9-70. Filed 9-8-69.

S97,397. QUARTERBACK. Quarterback Publishing Company of America, Inc. SN 337,353. Pub. 6-9-70. Filed 9-8-69.

S97,398. "PRICE GUARD." Continental Label Company. SN 337,524. Pub. 6-9-70. Filed 9-10-69.

S97,399. LUI. Presse-Office, Societe Anonyme. SN 338,263. Pub. 6-9-70. Filed 9-18-69.

S97,400. ROY ROGERS ROUNDUP. Marriott Corporation. SN 351,341. Pub. 6-9-70. Filed 2-13-70.

S97,401. METROLINES AND DESIGN. Simmons-Boardman Publishing Corporation. SN 352,676. Pub. 6-9-70. Filed 2-27-70.

Class 39 — Clothing

S97,159. (See Class 2 for this trademark.)

S97,164. (See Class 3 for this trademark.)

S97,402. MISCELLANEOUS DESIGN. Robert Lewis Inc., by change of name from United Sheeplined Clothing Company, Inc. SN 199,932. Pub. 6-8-65. Filed 8-14-64.

S97,403. AVRELIA AND DESIGN. Soc. Acc. Sempl. Albino Botto & Figli di Eligio Botto & C. MULTIPLE CLASS (Classes 39, 42, and 43). SN 307,159. Pub. 6-9-70. Filed 9-12-68.

S97,404. WIL-GARD AND DESIGN. Becton, Dickinson and Company. SN 310,203. Pub. 6-9-70. Filed 10-22-68.

S97,405. VANYLAIRE. Van Raalte Company, Inc., assignee of M. C. Schrank Company, Inc. SN 329,635. Pub. 12-9-69. Filed 6-10-69.

S97,406. BARCO FROM CALIFORNIA. Barco of California. SN 330,897. Pub. 6-9-70. Filed 6-25-69.

S97,407. SUPER STREEPER. PepsiCo, Inc. SN 334,526. Pub. 6-9-70. Filed 8-6-69.

S97,408. BARCLAY. Barclay Knitwear Co., Inc. SN 334,968. Pub. 6-9-70. Filed 8-11-69.

S97,409. FAMOUS MAKER WHITE STAG AND DESIGN. White Stag Manufacturing Co. SN 338,509. Pub. 6-9-70. Filed 9-22-69.

S97,410. COVERALLS. Scott Paper Company. SN 339,235. Pub. 6-9-70. Filed 9-29-69.

S97,411. SKIIN DRY AND DESIGN. Harlemark International, Inc. SN 352,424. Pub. 6-16-70. Filed 2-26-70.

S97,412. MINI-TRICO. Maidenform, Inc. SN 346,349. Pub. 6-9-70. Filed 12-16-69.

S97,413. PROTECTOR AND DESIGN. Interco, Incorporated. SN 347,409. Pub. 6-9-70. Filed 12-30-69.

S97,414. FLAIR BY CAMP. Camp and McInnes, Inc. SN 353,127. Pub. 6-9-70. Filed 3-5-70.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

S97,159. (See Class 2 for this trademark.)

S97,403. (See Class 39 for this trademark.)

S97,415. WUNDERWALE 100. Textiles Inc. SN 284,755. Pub. 6-18-68. Filed 11-13-67.

S97,416. E AND DESIGN. Edson, Incorporated. SN 326,218. Pub. 6-9-70. Filed 5-2-69.

S97,417. REXOTHERM. Societe Anonyme: "Rexor." SN 329,281. Pub. 6-9-70. Filed 6-5-69.

S97,418. ORCOTUFT AND DESIGN. Eagle-Picher Industries, Inc. SN 329,845. Pub. 6-9-70. Filed 6-12-69.

S97,419. PEARLTONE. American Hospital Supply Corporation. SN 330,468. Pub. 6-9-70. Filed 6-19-69.

S97,420. MORTWIST. E. T. Barwick Industries, Inc. SN 349,112. Pub. 6-9-70. Filed 1-21-70.

S97,421. SHAGFLOR. E. T. Barwick Industries, Inc. SN 349,118. Pub. 6-9-70. Filed 1-21-70.

S97,422. STARBRIGHT. E. T. Barwick Industries, Inc. SN 349,124. Pub. 6-9-70. Filed 1-21-70.

Class 43 — Thread and Yarn

S97,403. (See Class 39 for this trademark.)

S97,423. MYSTIQUE. Spinnerin Yarn Co., Inc. SN 314,922. Pub. 6-9-70. Filed 12-19-68.

Class 44 — Dental, Medical, and Surgical Appliances

S97,424. "Q-T." Densco, Incorporated. SN 256,828. Pub. 4-23-68. Filed 10-20-66.

S97,425. SAFEDWEL. Becton, Dickinson and Company. SN 321,895. Pub. 6-9-70. Filed 3-17-69.

S97,426. GOLDILOCK. Revlon, Inc. SN 327,411. Pub. 6-9-70. Filed 5-15-69.

S97,427. SUPREME. Pyramid International, Inc. SN 330,195. Pub. 6-9-70. Filed 6-16-69.

S97,428. MEDICAL SEAL. Popper & Sons, Inc. SN 332,136. Pub. 6-9-70. Filed 7-9-69.

S97,429. SENTROMETER. Seymour B. London, d.b.a. Circulation Monitoring Systems-Monitor Instruments. SN 340,313. Pub. 6-9-70. Filed 10-10-69.

S97,430. PHANTOM LEVEL. Seymour B. London, d.b.a. Circulation Monitoring Systems-Monitor Instruments. SN 340,314. Pub. 6-9-70. Filed 10-10-69.

S97,431. TEMPLUS II. Philip Morris Incorporated. SN 343,057. Pub. 6-9-70. Filed 11-10-69.

S97,432. KWIKSERT. Johnson & Quin, Inc. SN 348,218. Pub. 6–9–70. Filed 1–12–70.

S97,433. TAKE CARE. Johnson & Johnson, d.b.a. Personal Products Company. SN 352,908. Pub. 6–9–70. Filed 3–3–70.

Class 45 — Soft Drinks and Carbonated Waters

S97,434. DESIGN OF HAMBURGER. Minit Burger Corporation. MULTIPLE CLASS (Classes 45, 46, and 100). SN 291,227. Pub. 8–12–69. Filed 2–16–68.

S97,435. MINIT BURGER AND DESIGN. Minit Burger Corporation. MULTIPLE CLASS (Classes 45, 46, and 100). SN 291,229. Pub. 9–30–69. Filed 2–16–68.

S97,436. HELMS AND DESIGN. Helms Beverages, Inc. SN 307,840. Pub. 6–9–70. Filed 9–20–68.

S97,437. TOPSY RED POP. Theonett & Co. SN 318,244. Pub. 6–9–70. Filed 2–3–69.

S97,438. J AND DESIGN. Meister Brau, Inc., assignee of Jero Products Company. SN 319,904. Pub. 6–9–70. Filed 2–24–69.

S97,439. CHATEAU JERO. Meister Brau, Inc., assignee of Jero Products Company. SN 319,905. Pub. 6–9–70. Filed 2–24–69.

S97,440. LIMOSA. Meister Brau, Inc., assignee of Jero Products Company. SN 319,907. Pub. 6–9–70. Filed 2–24–69.

S97,441. LEMOSA. Meister Brau, Inc., assignee of Jero Products Company. SN 319,908. Pub. 6–9–70. Filed 2–24–69.

S97,442. CUSTOM. Custom Beverage Packers, Inc. SN 325,727. Pub. 6–9–70. Filed 4–28–69.

Class 46 — Foods and Ingredients of Foods

S97,434. (See Class 45 for this trademark.)

S97,435. (See Class 45 for this trademark.)

S97,443. JACK FROST. United States Baking Company, Inc. SN 278,048. Pub. 4–16–68. Filed 8–10–67.

S97,444. MISCELLANEOUS DESIGN. National Biscuit Company. SN 282,202. Pub. 7–16–68. Filed 10–10–67.

S97,445. MISCELLANEOUS DESIGN. Hot Dogs Plus, Inc. SN 285,231. Pub. 1–14–69. Filed 11–20–67.

S97,446. AMUROL AND DESIGN. Amurol Products Company. SN 299,935. Pub. 6–9–70. Filed 6–7–68.

S97,447. OXFORD. Oxford Pickle Co., Inc. SN 306,270. Pub. 6–9–70. Filed 8–29–68.

S97,448. FEED STANDARD'S QUALITY PREMIXES AND DESIGN. Standard Chemical Manufacturing Company. SN 307,244. Pub. 6–9–70. Filed 9–12–68.

S97,449. POW WOWS AND DESIGN. One-O-One Corporation. SN 309,288. Pub. 6–9–70. Filed 10–9–68.

S97,450. ALL STAR FRIED CHICKEN. All Star International, Inc. MULTIPLE CLASS (Classes 46 and 100). SN 315,509. Pub. 6–9–70. Filed 1–2–69.

S97,451. THINGS. A. H. Robins Company, Incorporated. SN 315,958. Pub. 6–9–70. Filed 1–6–69.

S97,452. NEW ENGLAND FARMS AND DESIGN. DiMare Brothers, Inc. SN 316,003. Pub. 6–9–70. Filed 1–7–69.

S97,453. FOAM HEAD. Meister Brau, Inc., assignee of Jero Products Company. SN 319,909. Pub. 6–9–70. Filed 2–24–69.

S97,454. BEEFAMATO. Duffy-Mott Company, Inc. SN 326,082. Pub. 4–14–70. Filed 5–1–69.

S97,455. SHIELD DESIGN. American Home Products Corporation. SN 326,473. Pub. 6–9–70. Filed 5–6–69.

S97,456. MISCELLANEOUS DESIGN. American Inn Foods, Inc. SN 330,812. Pub. 6–9–70. Filed 6–24–69.

S97,457. PUP CAKES. Interstate Bakeries Corporation. SN 330,935. Pub. 6–9–70. Filed 6–25–69.

S97,458. TATERINOS. American Home Products Corporation. SN 333,869. Pub. 6–9–70. Filed 7–30–69.

S97,459. FLOWER DESIGN. Morning Fresh Dairy, Inc. SN 334,279. Pub. 6–9–70. Filed 8–4–69.

S97,460. BARILLA AND TWO ELLIPSES DESIGN. Barilla G. e R. F.lli S.p.A. SN 337,215. Pub. 6–9–70. Filed 9–5–69.

S97,461. RUANE'S. Gold Cup Baking, Inc., d.b.a. Ruane's Bakery. SN 340,713. Pub. 6–9–70. Filed 10–15–69.

S97,462. MISCELLANEOUS DESIGN. Sunkist Growers, Inc. SN 340,838. Pub. 6–9–70. Filed 10–15–69.

S97,463. HALF TIME. H. C. Brill Company, Inc. SN 341,137. Pub. 6–9–70. Filed 10–20–69.

S97,464. FLEET. General Mills, Inc. SN 342,358. Pub. 6–9–70. Filed 11–3–69.

S97,465. HAPPY DAY. General Mills, Inc. SN 342,363. Pub. 6–9–70. Filed 11–3–69.

S97,466. SWEET STREET AND DESIGN. General Mills, Inc. SN 346,347. Pub. 6–9–70. Filed 12–16–69.

S97,467. DAFFY-DILLS. SCM Corporation, d.b.a. Durkee Famous Foods. SN 343,590. Pub. 6–9–70. Filed 11–14–69.

S97,468. STA-O-PAQUE. A. E. Staley Manufacturing Company. SN 343,767. Pub. 6–9–70. Filed 11–17–69.

S97,469. SKI-MO. Eskimo Pie Corporation. SN 343,831. Pub. 6–9–70. Filed 11–18–69.

S97,470. AZALEA. Baird-Neece Packing Corporation. SN 344,208. Pub. 6–9–70. Filed 11–21–69.

S97,471. FANTOASTIC. Lever Brothers Company. SN 352,905. Pub. 6–9–70. Filed 3–3–70.

S97,472. M DESIGN. Mar-Kes Foods. SN 353,373. Pub. 6–9–70. Filed 3–9–70.

S97,473. NACS. Pet Incorporated. SN 353,379. Pub. 6–9–70. Filed 3–9–70.

S97,474. DELICO. Kolb-Lena Cheese Co. SN 353,621. Pub. 6–9–70. Filed 3–10–70.

S97,475. CHEERI-BITS. General Mills, Inc. SN 354,077. Pub. 6–9–70. Filed 3–16–70.

S97,476. RATIO. General Mills, Inc. SN 354,078. Pub. 6–9–70. Filed 3–16–70.

Class 47 — Wines

S97,477. GOODMAN'S. A. Goodman and Sons, Inc. SN 329,974. Pub. 6–9–70. Filed 6–13–69.

Class 48 — Malt Beverages and Liquors

S97,478. W ETC. AND DESIGN. G. Heileman Brewing Company, Inc. SN 327,275. Pub. 6–9–70. Filed 5–14–69.

Class 50 — Merchandise Not Otherwise Classified

S97,479. LC–2. Durolith Corporation. SN 324,430. Pub. 6–9–70. Filed 4–14–69.

S97,480. CAPPLIQUE AND DESIGN. Carolyn E. Spillers, d.b.a. Custom Crafts. SN 339,402. Pub. 6–9–70. Filed 10–1–69.

Class 51 — Cosmetics and Toilet Preparations

S97,481. AVON ULTRA-DRY. Avon Products, Inc. SN 285,189. Pub. 6–9–70. Filed 11–20–67.

S97,482. HAIR MAGIC. John H. Breck, Inc. SN 292,075. Pub. 2–18–69. Filed 2–28–68.

S97,483. MILA. Laboratoire Lachartre S.A. SN 307,846. Pub. 6–9–70. Filed 9–20–68.

S97,484. YARDLEY. Yardley of London, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 309,501. Pub. 6–9–70. Filed 10–14–68.

S97,485. EXALIN. The Norwich Pharmacal Company (Delaware corporation), assignee of The Norwich Pharmacal Company (New York corporation). SN 310,797. Pub. 12–23–69. Filed 10–29–68.

S97,486. ROSE KISS. Century Creations, Incorporated. SN 322,405. Pub. 6–9–70. Filed 3–21–69.

S97,487. WHITE ENCHANTMENT. Ravel Perfume Corporation, d.b.a. Van Pell. SN 330,197. Pub. 6–9–70. Filed 6–16–69.

S97,488. LET'S LIFT IT. The Fleetwood Co. SN 335,219. Pub. 3–17–70. Filed 8–13–69.

S97,489. KINDNESS. Clairol Incorporated. MULTIPLE CLASS (Classes 51 and 52). SN 343,618. Pub. 6–9–70. Filed 11–14–69.

S97,490. BEAUTY SCHEME. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 344,492. Pub. 6–9–70. Filed 11–25–69.

S97,491. MEANINGS. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 344,494. Pub. 6–9–70. Filed 11–25–69.

S97,492. STILL. Union Carbide Corporation. SN 352,743. Pub. 6–9–70. Filed 3–2–70.

S97,493. FEMSKIN. Johnson & Johnson. SN 352,911. Pub. 6–9–70. Filed 3–3–70.

S97,494. EASY DAY. Carter-Wallace, Inc. SN 354,067. Pub. 6–9–70. Filed 3–16–70.

S97,495. DIAPER-TIME. Carter-Wallace, Inc. SN 354,068. Pub. 6–9–70. Filed 3–16–70.

Class 52 — Detergents and Soaps

S97,167. (See Class 4 for this trademark.)

S97,484. (See Class 51 for this trademark.)

S97,489. (See Class 51 for this trademark.)

S97,490. (See Class 51 for this trademark.)

S97,491. (See Class 51 for this trademark.)

S97,496. CERTIFIED CHEMICAL & EQUIPMENT CO. Certified Chemical and Equipment Company. SN 246,750. Pub. 4–28–70. Filed 5–27–66.

S97,497. SWEEP. The Drackett Company. SN 336,098. Pub. 6–9–70. Filed 8–25–69.

S97,498. VICRWASH. L. E. Carpenter & Company. SN 336,412. Pub. 6–9–70. Filed 8–27–69.

S97,499. BIO-JOHN. JBI, Inc. SN 337,055. Pub. 6–9–70. Filed 9–4–69.

S97,500. STEAMAGIC. David Joseph, d.b.a. Electronics Distributors. SN 337,323. Pub. 6–9–70. Filed 9–8–69.

S97,501. CLEARLY YOURS. Bristol-Myers Company. SN 339,547. Pub. 6–9–70. Filed 10–2–69.

S97,502. BORDER DESIGN. Malco Products, Inc. SN 340,570. Pub. 6–9–70. Filed 10–13–69.

S97,503. OPTA-BRITE. General Foods Corporation. SN 340,787. Pub. 6–9–70. Filed 10–15–69.

S97,504. NU-DECOR. Sentry Hardware Corporation. SN 342,524. Pub. 6–9–70. Filed 11–3–69.

S97,505. UOP. Universal Oil Products Company. SN 353,392. Pub. 6–9–70. Filed 3–9–70.

S97,506. NCF. Inter-Varsity Christian Fellowship of the United States of America. SN 318,909. Pub. 6–9–70. Filed 2–11–69.

S97,507. CARTIER. Cartier, Incorporated. MULTIPLE CLASS (Classes 100 and 103). SN 327,231. Pub. 6–9–70. Filed 5–14–69.

S97,508. W AND KING DESIGN. Winchell Donut House, Inc. SN 327,991. Pub. 6–9–70. Filed 5–21–69.

S97,509. WINCHELL'S AND KING DESIGN. Winchell Donut House, Inc. SN 327,992. Pub. 6–9–70. Filed 5–21–69.

S97,510. CHEF AND PIZZA DESIGN. Pizza Place Restaurants, Inc. SN 328,893. Pub. 6–9–70. Filed 6–2–69.

S97,511. WATCHBIRD. James L. Crawford, d.b.a. Watchbird Systems Company. SN 331,165. Pub. 6–9–70. Filed 6–27–69.

S97,512. IT'S UNBELIEVABLE AND DESIGN. It's Unbelievable, Inc. SN 331,384. Pub. 6–9–70. Filed 6–30–69.

S97,513. BUILDERAMIC DESIGN BY LEFRAK AND DESIGN. Lefrak Organization, Inc. SN 331,396. Pub. 6–9–70. Filed 6–30–69.

S97,514. SHELBY. GAF Corporation. SN 332,012. Pub. 6–9–70. Filed 7–8–69.

S97,515. KAR-GO. Arcon, Inc. SN 332,197. Pub. 6–9–70. Filed 7–10–69.

S97,516. SONESTA. Hotel Corporation of America. SN 333,337. Pub. 6–9–70. Filed 7–24–69.

S97,517. WEATHER-BEATER. International Minerals & Chemical Corporation. SN 333,340. Pub. 6–9–70. Filed 7–24–69.

S97,518. CTL AND DESIGN. Continental Telephone Corporation. SN 336,425. Pub. 6–9–70. Filed 8–27–69.

S97,519. AG DESIGN. Applied Geodata Systems, Inc. SN 338,007. Pub. 6–9–70. Filed 9–16–69.

S97,520. MULTICON. Multicon. SN 342,500. Pub. 6–9–70. Filed 11–3–69.

S97,521. A.R.A.P. Aeronautical Research Associates of Princeton, Inc. SN 345,700. Pub. 6–9–70. Filed 12–9–69.

S97,522. HOST FARM. Host Enterprises, Inc. SN 346,807. Pub. 6–9–70. Filed 12–22–69.

S97,523. SPACE BANK AND SB DESIGN. American Express Company. SN 347,053. Pub. 6–9–70. Filed 12–24–69.

S97,524. SPACE BANK. American Express Company. SN 347,054. Pub. 6–9–70. Filed 12–24–69.

S97,525. TITTLE TATTLE. Tittle Tattle, Ltd. SN 347,158. Pub. 6–9–70. Filed 12–29–69.

S97,526. A DESIGN. American Textile Manufacturers Institute, Inc. SN 347,545. Pub. 6–9–70. Filed 1–2–70.

S97,527. MARRIOTT INN AND DESIGN. Marriott Corporation. SN 347,556. Pub. 6–9–70. Filed 1–2–70.

S97,528. MARRIOTT INN MUCH MORE THAN THE REST AND DESIGN. Marriott Corporation. SN 347,557. Pub. 6–9–70. Filed 1–2–70.

S97,529. MUCH MORE THAN THE REST. Marriott Corporation. SN 347,558. Pub. 6–9–70. Filed 1–2–70.

S97,530. CLYDE'S. Clyde, Inc. SN 351,168. Pub. 6–9–70. Filed 2–12–70.

S97,531. GRIZZLY BEAR. Grizzly Bear, Inc. SN 353,135. Pub. 6–9–70. Filed 3–5–70.

S97,532. S SHERATON MOTOR INN AND DESIGN. ITT Sheraton Corporation of America. SN 353,371. Pub. 6–9–70. Filed 3–9–70.

S97,533. COUNTERWEIGHT AND DESIGN. General Mills, Inc. SN 354,350. Pub. 6–9–70. Filed 3–18–70.

Service Marks

Class 100 — Miscellaneous

S97,434. (See Class 45 for this trademark.)

S97,435. (See Class 45 for this trademark.)

S97,450. (See Class 46 for this trademark.)

Class 101 — Advertising and Business

S97,534. TINY TIGER. PAT Corporation. SN 322,900. Pub. 6–9–70. Filed 3–26–69.

S97,535. BILL'S DOLLAR STORE'S AND DESIGN. W. E. Walker Stores, Inc. SN 324,256. Pub. 6–9–70. Filed 4–10–69.

S97,536. THE MAMA B POTATO HOUSE AND DESIGN. Potato House, Inc. SN 327,048. Pub. 6-9-70. Filed 5-12-69.

S97,537. CARTIER. Cartier, Incorporated. SN 328,417. Pub. 6-9-70. Filed 5-27-69.

S97,538. MAN IN SPACE. Glendinning Companies, Inc. SN 330,381. Pub. 6-9-70. Filed 6-18-69.

S97,539. SAV-A-CHEK. Glendinning Companies, Inc. SN 332,708. Pub. 6-9-70. Filed 7-16-69.

S97,540. HORSE OF A DIFFERENT COLOR. Horse of a Different Color, Ltd. SN 333,336. Pub. 6-9-70. Filed 7-24-69.

S97,541. M-CO. Edgar B. Rumble, d.b.a. Michigan Hanger Company. SN 334,029. Pub. 6-9-70. Filed 7-31-69.

S97,542. S.U.C.C.E.S.S. IS CONTROL. Simplified Updated Computer Controlled Editing Systems Service, Inc. SN 336,301. Pub. 6-9-70. Filed 8-26-69.

S97,543. DIXIE VIM. Southern Stores, Inc. MULTIPLE CLASS (Classes 101 and 103). SN 337,240. Pub. 6-9-70. Filed 9-8-69.

S97,544. FROSTY JACK'S. United Refrigerated Vendors Corp. SN 339,973. Pub. 6-9-70. Filed 10-7-69.

S97,545. WONDERLAND. Wonderland, Inc. SN 344,646. Pub. 6-9-70. Filed 11-26-69.

S97,546. DATAPOINT. Datapoint Corporation. SN 347,373. Pub. 6-9-70. Filed 12-30-69.

S97,547. FOR YOU. For You, Inc. SN 347,996. Pub. 6-9-70. Filed 1-8-70.

S97,548. HS DESIGN. Harrison Services, Inc. SN 350,182. Pub. 6-9-70. Filed 2-2-70.

Class 102 — Insurance and Financial

S97,549. CHARGEX. Chargex Ltd.-Chargex Ltee., assignee of The Royal Bank of Canada. SN 305,758. Pub. 6-9-70. Filed 8-22-68.

S97,550. TRAVELERS EXPRESS COMPANY AND DESIGN. Travelers Express Company, Inc. SN 313,361. Pub. 6-9-70. Filed 11-29-68.

S97,551. BABS ETC. AND DESIGN. Lawrence G. Chait & Co., Inc. SN 316,618. Pub. 6-9-70. Filed 1-15-69.

S97,552. CV AND DESIGN. Convesto. SN 320,441. Pub. 6-9-70. Filed 3-3-69.

S97,553. LESLICO. Legal Security Life Insurance Company. SN 327,639. Pub. 6-9-70. Filed 5-19-69.

S97,554. CAREFREE 65. The Bank of Virginia. SN 331,716. Pub. 6-9-70. Filed 7-3-69.

S97,555. MISCELLANEOUS DESIGN. Continental Illinois National Bank and Trust Company of Chicago. SN 331,870. Pub. 6-9-70. Filed 7-7-69.

S97,556. AI DESIGN. Associated Insurors Corporation. SN 349,537. Pub. 6-9-70. Filed 1-26-70.

S97,557. HOSPITAL MONEY PLAN. Continental Casualty Company. SN 349,733. Pub. 6-9-70. Filed 1-27-70.

Class 103 — Construction and Repair

S97,329. (See Class 23 for this trademark.)

S97,507. (See Class 100 for this trademark.)

S97,543. (See Class 101 for this trademark.)

S97,558. NATIONAL AND DESIGN. National Home Inspection Service, Inc. SN 316,669. Pub. 6-9-70. Filed 1-15-69.

S97,559. BEECH. Beech Aircraft Corporation. SN 322,814. Pub. 6-9-70. Filed 3-26-69.

S97,560. ELECTRO PAINTERS. Electro Painters, Inc. SN 324,126. Pub. 6-9-70. Filed 4-10-69.

S97,561. BERNARD MANOR. B & H One Hour Martinizing Management, Inc. MULTIPLE CLASS (Classes 103 and 105). SN 324,879. Pub. 6-9-70. Filed 4-18-69.

S97,562. MANORIZING. B & H One Hour Martinizing Management, Inc. MULTIPLE CLASS (Classes 103 and 105). SN 324,880. Pub. 6-9-70. Filed 4-18-69.

S97,563. COMFORT SECURITY PLAN RAYMOND AND DESIGN. Raymond Services, Inc. SN 327,295. Pub. 6-9-70. Filed 5-14-69.

Class 105 — Transportation and Storage

S97,561. (See Class 103 for this trademark.)

S97,562. (See Class 103 for this trademark.

S97,564. TURBOSERVICE. Penn Central Transportation Company, by change of name from Penn Central Company. SN 332,517. Pub. 6-9-70. Filed 7-14-69.

S97,565. INTER COLLEGIATE HOLIDAY. Inter-Collegiate Holidays, Ltd. SN 340,883. Pub. 6-9-70. Filed 10-16-69.

Class 106 — Material Treatment

S97,566. GUAR-A-BOND. Putnam-Herzl Finishing Company, Inc. SN 308,397. Pub. 6-9-70. Filed 9-27-68.

S97,567. IMPACT AND DESIGN. Champion Spark Plug Company. SN 332,312. Pub. 6-9-70. Filed 7-11-69.

S97,568. EVERLUBE. Everlube Corporation of America, d.b.a. Everlube Corp. SN 345,753. Pub. 6-9-70. Filed 12-10-69.

Class 107 — Education and Entertainment

S97,569. COMMUNICATIONS WORKSHOP. Milo Baughman Design, Inc. SN 299,854. Pub. 6-9-70. Filed 6-6-68.

S97,570. MERCY. Jack B. Sigler, Sr. SN 325,084. Pub. 6-9-70. Filed 4-21-69.

S97,571. EL TRIO CONTINENTAL. Galmen Production Corporation. SN 325,191. Pub. 6-9-70. Filed 4-22-69.

S97,572. BE FEMININE. Avco Broadcasting Corporation. SN 327,347. Pub. 6-9-70. Filed 5-15-69.

S97,573. SEATTLE PILOTS. Pacific Northwest Sports, Inc. SN 328,330. Pub. 6-9-70. Filed 5-26-69.

S97,574. THE LADYBIRDS. Voss Enterprises, Inc. SN 342,214. Pub. 6-9-70. Filed 10-31-69.

S97,575. WSS AND DESIGN. Computer Learning and Systems Corporation. SN 350,653. Pub. 6-9-70. Filed 2-6-70.

S97,576. BETTER WAY. The Better Way, Inc. SN 350,994. Pub. 6-9-70. Filed 2-10-70.

S97,577. WSS. Computer Learning and Systems Corporation. SN 351,169. Pub. 6-9-70. Filed 2-12-70.

S97,578. IFA DESIGN. International Famous Agency. SN 352,728. Pub. 6-9-70. Filed 3-2-70.

Collective Membership Marks

Class 200

S97,579. GREEK LETTERS AND DESIGN. Phi Lambda Sigma National Fraternity, Inc. SN 311,174. Pub. 6-9-70. Filed 11-1-68.

S97,580. ANTRACOM. National Antracom Association. SN 317,086. Pub. 6-9-70. Filed 1-21-69.

S97,581. AET AND BADGE DESIGN. Alpha Sigma Tau Sorority. SN 341,123. Pub. 6-9-70. Filed 10-20-69.

S97,582. AET. Alpha Sigma Tau Sorority. SN 341,124. Pub. 6-9-70. Filed 10-20-69.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 1 — Raw or Partly Prepared Materials

S97,583. Agway, Inc., De Witt, N.Y. SN 331,303. Filed P.R. 6-30-69; Am. S.R. 5-25-70.

SPOT GREEN

For Lawn Grass Seed (Int. Cl. 31).
First use Feb. 14, 1969.

Class 2 — Receptacles

S97,584. CTP Industries Inc., Brooklyn, N.Y. SN 276,531. Filed P.R. 7-21-67; Am. S.R. 4-1-70.

C-THRU

For Plastic Bags (Int. Cl. 20).
First use May 1965.

Class 12 — Construction Materials

S97,585. The Flintkote Company, White Plains, N.Y. SN 321,430. Filed P.R. 3-12-69; Am. S.R. 5-13-70.

STABIL-LIME

For Hydrated Lime and Quicklime for Building Purposes (Int. Cl. 19).
First use May 1965.

Class 21 — Electrical Apparatus, Machines, and Supplies

S97,586. Gordon Engineering Company, Limited, Waltham, Mass. SN 275,009. Filed P.R. 6-29-67; Am. S.R. 12-18-69.

ANALOGIC

For Electronic Equipment—Namely, Power Supplies (Int. Cl. 9).
First use as early as May 25, 1967.

S97,587. P. R. Mallory & Co. Inc., Indianapolis, Ind. SN 276,673. Filed P.R. 7-24-67; Am. S.R. 10-13-69.

POCKET-PAK

For Container of a Plurality of Batteries and Primary and Rechargeable Electrical Energy Cells Permitting Individual Withdrawal of the Same (Int. Cl. 9).
First use June 5, 1967.

S97,588. Mathews Electronics Corporation, Mobile, Ala. SN 325,272. Filed P.R. 4-17-68; Am. S.R. 10-8-69.

UTILITY FROM PORTABLE ELECTRICITY

For Portable Vacuum Cleaner and Electric Motor (Int. Cls. 7 and 9).
First use at least as early as February 1968.

S97,589. Mathews Electronics Corporation, Mobile, Ala. SN 325,273. Filed P.R. 4-17-68; Am. S.R. 10-8-69.

MATHEWS CORDLESS

For Portable Vacuum Cleaner (Int. Cl. 9).
First use at least as early as February 1968.

Class 22 — Games, Toys, and Sporting Goods

S97,590. Milton Bradley Company, Springfield, Mass. SN 321,179. Filed P.R. 3-10-69; Am. S.R. 6-1-70.

SORT-A-CARD

For Set of Picture Cards and Word Cards and Matching Cards for the Teaching of Memory Skills (Int. Cl. 28).
First use Nov. 25, 1968.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

S97,591. O.E.M. Products Co., Des Plaines, Ill. SN 316,545. Filed P.R. 1-14-69; Am. S.R. 3-23-70.

INTERLOX

For Tail Pipes (Int. Cl. 6).
First use Nov. 20, 1968.

S97,592. Fossum Manufacturing, Yakima, Wash. SN 328,046. Filed P.R. 5-22-69; Am. S.R. 5-7-70.

FOSSUM

For Mobile Tree Trimmer (Int. Cl. 7).
First use Dec. 11, 1967.

Class 25 — Locks and Safes

S97,593. Norris Industries, Inc., Los Angeles, Calif. SN 329,502. Filed P.R. 6-9-69; Am. S.R. 5-25-70.

RAND

For Door Locks and Parts Thereof (Int. Cl. 6).
First use May 6, 1969.

Class 26 — Measuring and Scientific Appliances

897,594. Commodity Marketers, Inc., Salt Lake City, Utah. SN 338,891. Filed P.R. 9–25–69; Am. S.R. 6–2–70.

SURE-TIMER

For Automatic Pop-Up Roasting Gauges Used in Poultry and Red Meat Roasts (Int. Cl. 9).
First use Dec. 4, 1968.

897,595. Commodity Marketers, Inc., Salt Lake City, Utah. SN 338,892. Filed P.R. 9–25–69; Am. S.R. 6–2–70.

ROAST-READY

For Automatic Pop-Up Roasting Gauges Used in Poultry and Red Meat Roasts (Int. Cl. 9).
First use Oct. 15, 1968.

897,596. Commodity Marketers, Inc., Salt Lake City, Utah. SN 338,893. Filed P.R. 9–25–69; Am. S.R. 6–2–70.

ROAST-RITE

For Automatic Pop-Up Roasting Gauges Used in Poultry and Red Meat Roasts (Int. Cl. 9).
First use Jan. 5, 1967.

897,597. Commodity Marketers, Inc., Salt Lake City, Utah. SN 338,894. Filed P.R. 9–25–69; Am. S.R. 6–2–70.

TIMED-RITE

For Automatic Pop-Up Roasting Gauges Used in Poultry and Red Meat Roasts (Int. Cl. 9).
First use Jan. 6, 1969.

Class 28 — Jewelry and Precious-Metal Ware

897,598. Royal Bead Novelty Co., Incorporated, New York, N.Y. SN 318,102. Filed P.R. 1–31–69; Am. S.R. 4–15–70.

DEMI-CLIP

For Clip-On Earrings (Int. Cl. 14).
First use Nov. 22, 1968.

Class 34 — Heating, Lighting, and Ventilating Apparatus

897,599. H. K. Porter Company, Inc., Pittsburgh, Pa. SN 277,379. Filed P.R. 8–2–67; Am. S.R. 5–15–70.

DIALATEMP

For Units for Cooling, Humidifying, and/or Conditioning Air or Gas With or Without Filtering (Int. Cl. 11).
First use Oct. 29, 1958.

Class 36 — Musical Instruments and Supplies

897,600. Society for Visual Education, Inc., Chicago, Ill. SN 280,818. Filed P.R. 9–20–67; Am. S.R. 8–18–69.

LOOP RECORD

For Motion Picture Developed Films Accompanied by Phonograph Records (Int. Cl. 9).
First use on or before Sept. 13, 1967.

Class 39 — Clothing

897,601. Slack Bar, Miami Beach, Fla. SN 279,420. Filed P.R. 8–30–67; Am. S.R. 5–11–70.

SLACK BAR

For Men's Clothing—Namely, Slacks, Suits, Men's Jackets, Overcoats, Topcoats, and Raincoats (Int. Cl. 25).
First use in or before December 1947.

Class 46 — Foods and Ingredients of Foods

897,602. Doughboy Industries, Inc., New Richmond, Wis. SN 316,499. Filed P.R. 1–14–69; Am. S.R. 5–22–70.

DR. PARK'S

"Dr. Park's" is not the name of any particular living individual.
For Pet Food (Int. Cl. 31).
First use Dec. 17, 1968.

897,603. Freshpict Foods, Inc., Salinas, Calif. SN 325,422. Filed P.R. 4–23–69; Am. S.R. 4–28–70.

Freshpict

For Fresh Vegetables (Int. Cl. 31).
First use Mar. 1, 1969.

897,604. Pan-American Fruit Co., New York, N.Y. SN 325,806. Filed P.R. 4–28–69; Am. S.R. 6–4–70.

Rica

The Spanish word "Rica" means "rich" or "good" in English.
For Bananas in Their Natural State (Int. Cl. 31).
First use Oct. 17, 1968.

897,605. Bunte Candies, Inc., Oklahoma City, Okla. SN 330,716. Filed P.R. 6–23–69; Am. S.R. 6–5–70.

GUMMY BEARS

For Candy (Int. Cl. 30).
First use May 8, 1969.

897,606. Craig, Mostyn & Co. Pty. Limited, Sydney, New South Wales, Australia. SN 347,148. Filed P.R. 12–29–69; Am. S.R. 6–15–70.

GULF OF Carpentaria

For Frozen Fresh Shrimp and Other Crustaceans (Int. Cl. 29).
First use May 14, 1969; in commerce May 14, 1969.

Class 51 — Cosmetics and Toilet Preparations

897,607. Revlon, Inc., New York, N.Y. SN 322,337. Filed P.R. 3–20–69; Am. S.R. 2–16–70.

SHADES LIGHTER

For Hair Lightening Preparation (Int. Cl. 3).
First use Jan. 22, 1969.

897,608. Majestic Drug Co., Inc., Bronx, N.Y. SN 323,197. Filed P.R. 4–1–69; Am. S.R. 5–12–70.

TAN TONE

For Suntan Skin Preparation (Int. Cl. 3).
First use June 27, 1963.

TRADEMARK REGISTRATIONS RENEWED

75,301. URQUELL. Cl. 48 (Int. Cl. 32). 9–21–09.
78,320. NOVELLOGRAPH. Cl. 37 (Int. Cl. 16). 6–7–10.
78,333. MACY'S. Cl. 39 (Int. Cl. 25). 6–7–10.
78,411. IRONCLAD. Cl. 42 (Int. Cl. 24). 6–14–10.
78,690. "RAINBOW" AND DESIGN. Cl. 10 (Int. Cl. 1). 7–5–10.
80,196. P & L (MONOGRAM). Cl. 16 (Int. Cl. 2). 11–15–10.
267,844. "PURITAN MALT EXTRACT. Cl. 46 (Int. Cl. 31). 3–4–30.
268,727. BABY. Cl. 46 (Int. Cl. 30). 3–18–30.
269,425. GOOD HUMOR ICE CREAM. Cl. 46 (Int. Cl. 30). 4–8–30.
270,061. "ANTEME" AND DESIGN. Cl. 39 (Int. Cl. 25). 4–22–30.
271,085. REPRESENTATION OF CHECKERED BAND ENCIRCLING UPPER EDGE OF BODY PORTION OF AUTOMOBILE. Cl. 19 (Int. Cl. 12). 5–27–30.
271,543. BAL MASQUE. Cl. 42 (Int. Cl. 24). 6–10–30.
271,624. VITALIS. Cl. 51 (Int. Cl. 3). 6–17–30.
271,713. RAYBESTOS. Cl. 35 (Int. Cls. 7 and 17). 6–17–30.
271,829. "CHAMPKNIT" AND DESIGN. Cl. 39 (Int. Cl. 25). 6–17–30.
272,201. DOH-TONE. Cl. 46 (Int. Cl. 1). 7–1–30.
272,960. GRAFO. Cl. 37 (Int. Cl. 16). 7–15–30.
274,169. "TOMAHAWK" AND REPRESENTATION OF TOMAHAWK WITHIN CIRCULAR DESIGN. Cl. 39 (Int. Cl. 25). 8–19–30.
274,475. "TRAFF-O-MATIC" AND DESIGN. Cl. 21 (Int. Cl. 9). 8–26–30.
276,758. ZA-REX. Cl. 46 (Int. Cls. 29 and 30). 10–28–30.
443,731. SKANDIA. Cl. 46 (Int. Cl. 29). 2–7–50.
443,821. W & J SLOANE. Cl. 20 (Int. Cl. 27). 3–7–50.
443,915. STARFIELD. Cl. 46 (Int. Cl. 29). 4–11–50.
509,054. THE RECORD HOLDER AND DESIGN. Cl. 39 (Int. Cl. 25). 4–26–49.
516,598. PRESTIGE. Cl. 38 (Int. Cl. 16). 10–18–49.
517,431. LUSTRO-WARE. Cl. 50 (Int. Cl. 26). 11–8–49.
519,668. LYONS. Cl. 45 (Int. Cl. 32). 1–10–50.
521,005. RFL. Cl. 26 (Int. Cl. 9). 2–14–50.
521,815. LOCH LOMOND. Cl. 49 (Int. Cl. 33). 3–7–50.
523,067. RUB-WET. Cl. 4 (Int. Cl. 3). 3–28–50.
523,180. CONTINENTAL. Cl. 21 (Int. Cl. 11). 3–28–50.
523,300. MELCO. Cl. 34 (Int. Cl. 11). 4–4–50.
523,490. ERASMIC. Cl. 51 (Int. Cl. 3). 4–4–50.
523,878. NU-WELD. Cl. 23 (Int. Cl. 7). 4–11–50.
523,960. SWEET SLUMBER. Cl. 32 (Int. Cl. 20). 4–11–50.
524,710. KRAFTBILT. Cl. 32 (Int. Cl. 20). 5–2–50.
524,871. LIQUID LANOLIN AND DESIGN. Cl. 51 (Int. Cl. 3). 5–2–50.
525,678. RUGG-ED CHIEF AND DESIGN. Cl. 23 (Int. Cl. 7). 5–30–50.
526,030. FOXBORO. Cl. 26 (Int. Cl. 9). 6–6–50.
526,070. POT LUCK. Cl. 46 (Int. Cl. 30). 6–6–50.
526,104. EL MACCO. Cl. 17 (Int. Cl. 34). 6–6–50.
526,196. "SELF-CONFORMING." Cl. 39 (Int. Cl. 25). 6–13–50.
526,210. ROCHDALE. Cl. 39 (Int. Cl. 25). 6–13–50.
526,382. WOODLAWN. Cl. 43 (Int. Cl. 23). 6–13–50.
526,383. WOODLAWN. Cl. 40 (Int. Cl. 26). 6–13–50.
526,586. RAINAMIC. Cl. 39 (Int. Cl. 25). 6–20–50.
526,591. SILVERTONE AND DESIGN. Cl. 50 (Int. Cl. 16). 6–20–50.
526,604. FRANCHETTE. Cl. 39 (Int. Cl. 25). 6–20–50.
526,619. TAILORED BY MORRIS AND MORRIS. Cl. 39 (Int. Cl. 25). 6–20–50.
526,789. CENTENNIAL. Cl. 46 (Int. Cl. 30). 6–27–50.
526,917. GD. Cl. 6 (Int. Cl. 1). 6–27–50.
527,065. ALBRO. Cl. 23 (Int. Cl. 7). 7–4–50.
527,114. STUART MACGREGOR'S LOCH LOMOND AND DESIGN. Cl. 49 (Int. Cl. 33). 7–4–50.
527,525. BURBANK. Cl. 46 (Int. Cl. 29). 7–11–50.
528,291. HUDEE. Cl. 13 (Int. Cl. 6). 8–1–50.
528,615. GEM-GARD. Cl. 16 (Int. Cl. 2). 8–8–50.
528,647. DUNCAN PHYFE. Cl. 16 (Int. Cl. 2). 8–8–50.
528,723. MICO. Cl. 19 (Int. Cl. 12). 8–8–50.
528,813. BARDENHEIERS. Cl. 47 (Int. Cl. 33). 8–8–50.
529,027. INLAND. Cl. 26 (Int. Cl. 9). 8–15–50.
529,120. ANIMATED STYLE. Cl. 39 (Int. Cl. 25). 8–15–50.
529,191. REPRESENTATION OF MORTAR AND PESTLE. Cl. 18 (Int. Cl. 5). 8–15–50.
529,339. BRUNETTE. Cl. 46 (Int. Cl. 31). 8–22–50.
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599,131. CHOK-A FILL. Cl. 45. 12–7–54.
606,046. DO-AL WOOD PLATING CO. Cl. 16. 5–17–55.
838,352. MONOWELD. Cl. 26. 11–7–67.
841,710. SENECA. Cl. 46. 1–2–68.
843,794. CHRISTY AND BROOKS. Cl. 49. 2–6–68.
860,996. PHOTO-SCOPE AND DESIGN. Cl. 26. 11–26–68.

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30,487. DANMARK AND DESIGN. Cl. 30. 8–10–1897. Royal Copenhagen Porcelain Manufactory. Den Kongelige Porcelainsfabrik A/S, Copenhagen, Denmark. Amended: In the statement, column 1, lines 2 through 5 are deleted and in line 5, "Denmark" is deleted and *Den Kongelige Porcelainsfabrik A/S, also doing business as Royal Copenhagen Porcelain Manufactory Ltd. (Danish corporation)* is inserted.

310,662. PURCHASING AGENTS ETC. AND DESIGN. Cl. 38. 3–6–34. National Association of Purchasing Agents, Inc., New York, N.Y. Amended: In the certificate, lines 4 and 17, in the heading, signature and in the statement, column 1, line 2, after "Inc." *, now by change of name National Association of Purchasing Management, Inc.* is inserted.

310,663. THE BULLETIN OF THE NATIONAL ASSOCIATION OF PURCHASING AGENTS. Cl. 38. 3–6–34. National Association of Purchasing Agents, Inc., New York, N.Y. Amended: In the certificate, lines 4 and 17, in the heading, signature and in the statement, column 1, line 2, after "Inc." *, now by change of name National Association of Purchasing Management, Inc.* is inserted.

519,849. TRIPLETT. Cl. 26. 1–17–50. The Triplett Electrical Instrument Company, Bluffton, Ohio. Amended: In the certificate, lines 5 and 16, in the heading, signature and in the statement, column 1, line 1, after "Company" *, now owned by Triplett Corporation* is inserted.

521,120. SHOE-KEEPER. Cl. 50. 2–21–50. Rochester Shoe Tree Co., Inc., Rochester, N.Y. Amended to appear:

Shoe keepers

523,078. KRYLON. Cl. 16. 3–28–50. Foster & Kester Company, Inc. Borden, Inc., New York, N.Y. Amended to appear:

KRYLON

528,279. FARADEX. Cl. 21. 8–7–50. Steatite & Porcelain Products Limited, Stourport-on-Severn, England. Amended: In the certificate, line 5, and in the heading, "Slough" is deleted and *Stourport-on-Severn* is inserted, in the statement, column 1, line 3, "in Slough," is deleted, lines 4 and 5 are deleted and *at Bewdley Road, Stourport-on-Severn, Worcestershire, Eng-* is inserted

799,002. OPTRAN. Cl. 6. 11–23–65. The British Drug Houses Limited, London, England. Amended: In the statement, column 1, after line 1, *, now by change of name BDH Chemicals Limited* is inserted.

857,946. PLAN ETC. AND DESIGN. Cl. 38. 10–1–68. Plan Inc., doing business as Programmed Learning Aids National, Pine Bluff, Ark. Corrected: In the statement, column 1, lines 1 and 2 should be deleted and *Plan Inc. (Arkansas corporation), doing business as Programmed Learning Aids National* should be inserted.

888,943. KOTIQUE. Cl. 18. 4–7–70. Kimberly-Clark Corporation, Neenah, Wis. Corrected: In the statement, column 2, line 1, "tables" should be deleted and *tablets* should be inserted.

891,105. MULTISAMP. Cl. 101. 5–12–70. Stratmar Systems Inc., New York, N.Y. Corrected: In the statement, column 1, line 1, "New York" should be deleted and *Delaware* should be inserted.

891,200. STINGER AND DESIGN. Cl. 19. 5–19–70. Trail-A-Sled, Inc., Crosby, Minn. Corrected: In the statement, column 1, line 1, "Trial" should be deleted and *Trail* should be inserted.

891,917. TERRA-CAT. Cl. 19. 6–2–70. Rankin Manufacturing, Inc., Swartz Creek, Mich. Corrected: In the heading, "Ser. No. 332,189" should be deleted and *Ser. No. 322,189* should be inserted.

892,012. BARSCO BARBECK REFRIGERATION SUPPLY CO. AND DESIGN. Cl. 31. 6–2–70. Barbeck Refrigeration Supply Company of Dallas, Inc., Dallas, Tex. Corrected: In the statement, column 1, lines 5 through 9 should be deleted and in column 2, lines 3 through 5 should be deleted.

892,029. FLORAL DESIGN. Cl. 33. 6–2–70. Corning Glass Works, Corning, N.Y. Corrected: In the statement, column 2, lines 7 and 8, ", but color is not an essential feature of the mark" should be deleted, and the mark should appear as follows instead as in the original registration:



892,030. FLORAL DESIGN. Cl. 33. 6–2–70. Corning Glass Works, Corning, N.Y. Corrected: In the statement, column 2, lines 7 and 8, ", but color is not an essential feature of the mark" should be deleted, and the mark should appear as follows instead as in the original registration:



893,226. GOLDEN TOUCH. Cl. 23. 6–23–70. Imperial Knife Associated Companies, Inc., Providence, R.I. Corrected: In the statement, column 1, line 1, "Association" should be deleted and *Associated* should be inserted.

893,303. FANTASTIC FOUR. Cl. 38. 6–23–70. Magazine Management Co., Inc., doing business as Marvel Comics Group, assignee, by mesne assignment, of Magazine Management Company, doing business as Marvel Comics Group. Corrected: In the statement, column 1, after line 1, *doing business as Marvel Comics Group* should be inserted.

893,304. IRON MAN. Cl. 38. 6–23–70. Magazine Management Co., Inc., doing business as Marvel Comics Group, assignee, by mesne assignment, of Magazine Management Company, doing business as Marvel Comics Group, New York, N.Y. Corrected: In the statement, column 1, after line 1, *doing business as Marvel Comics Group* should be inserted.

893,789. ANTIQUE ANGEL AND DESIGN. Cl. 38. 6–30–70. Kirchcarpenter, Madison, Wis. Corrected: In the statement, column 2, line 3, "1969" should be deleted and *1968* should be inserted.

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AUGUST 25, 1970

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

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A-T-O Inc., Cleveland, Ohio. 525,678, ren. 8–25–70. Cl. 23.
Accurate Steel Rule Die Mfrs., New York, N.Y. 532,943, ren. 8–25–70. Cl. 23.
Ades-Lexington Dry Goods Co., Inc., Lexington, Ky. 509,054, ren. 8–25–70. Cl. 39.
Adler, Jane, Inc., Beverly Hills, Calif. 772,837, canc. Cl. 37.
Aeronautical Research Associates of Princeton, Inc., Princeton, N.J. 897,521, pub. 6–9–70. Cl. 100.
Agway, Inc., Dewitt, N.Y. 897,253, pub. 4–15–69. Cl. 18.
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Ainsworth Consolidated Industries Pty. Ltd., Rosebery, New South Wales, Australia. 772,739, canc. Cl. 22.
Airoil Burner Co., West Drayton, Middlesex, England. 897,175, pub. 6–9–70. Cl. 12.
Aktiebolget Astra, Apotekarnes Kemiska Fabriker, Sodertalje, Sweden. 772,695, canc. Cl. 18.
Albro Fillers & Engineering Co. Ltd., Ponders End, England. 527,065, ren. 8–25–70. Cl. 23.
Alim Association, Inc., Miami, Fla. 772,709, canc. Cl. 19.
Alim Corp., New York, N.Y. 772,755, canc. Cl. 23.
Alpha Sigma Tau Sorority, St. Louis, Mo. 897,582–3, pub. 6–9–70. Cl. 200.
Allen Electric & Equipment Co., Cleveland, Ohio. 897,298, pub. 6–9–70. Cl. 21.
Allis, Louis Co., The, Milwaukee, Wis. 897,297, pub. 4–28–70. Cl. 21.
All Star International, Inc., Winnipeg 2, Manitoba, Canada. 897,450, pub. 6–9–70. Multiple Class (Classes 46 and 100).
All-Steel Equipment Inc., Aurora, Ill. 532,326, ren. 8–25–70. Cl. 21.
Amerace Esna Corp., New York, N.Y. 897,389, pub. 6–9–70. Cl. 35.
American Allsafe Co., Inc., Buffalo, N.Y. 838,352, canc. Cl. 26.
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American Brands, Inc., New York, N.Y. 897,244, pub. 6–9–70. Cl. 17.
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American Hog Co., Broomfield, Colo. 772,638, canc. Cl. 12.
American Home Products Corp., New York, N.Y. 897,455, pub. 6–9–70. Cl. 46.
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American Hospital Supply Corp., Evanston, Ill. 897,419, pub. 6–9–70. Cl. 42.
American Inn Foods, Inc., Waukesha, Wis. 897,456, pub. 6–9–70. Cl. 46.
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American Metal Climax, Inc., New York, N.Y. 897,189, pub. 6–9–70. Cl. 12.
American Motors Corp., Kenosha, Wis. 897,276, pub. 6–9–70. Cl. 19.
American Optical Corp., Southbridge, Mass. 897,357–60, pub. 6–9–70. Cl. 26.
American Photocopy Equipment Co., Evanston, Ill. 897,280, pub. 6–9–70. Cl. 19.
American Textile Mfg. Institute, Charlotte, N.C. 897,526, pub. 6–9–70. Cl. 100.
American Welding & Mfg. Co., The, Warren, Ohio. 897,180, pub. 6–9–70. Cl. 12.
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Arcon, Inc., Phoenix, Ariz. 897,515, pub. 6–9–70. Cl. 100.
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Armour & Co., Chicago, Ill. 897,153–5, pub. 6–9–70. Cl. 1.
Armour Industrial Products Co., Chicago, Ill. 523,067, ren. 8–25–70. Cl. 4.
Ashland Oil & Refining Co.: *See*— Ashland Oil, Inc.
Ashland Oil, Inc., from Ashland Oil & Refining Co., Ashland, Ky. 897,170, pub. 6–9–70. Cl. 6.
Associated Insurors Corp., Providence, R.I. 897,556, pub. 6–9–70. Cl. 102.
Atlanta Products Corp., New York, N.Y. 532,855, ren. 8–25–70. Cl. 46.
Aton Planungs-und Baugesellschaft fur die Keramische Industrie m.b.H., Kolnerstr, Germany. 772,821, canc. Cl. 34.
Auto Transmissions Ltd., Coventry, England. 772,779, canc. Cl. 23.
Automatic Electric Mattress Co., Los Angeles, Calif. 772,815, canc. Cl. 32.
Automation Industries, Inc., Los Angeles, Calif. 897,382, pub. 6–9–70. Cl. 34.
Austin, Ted O., North Bend, Wash. 756,660, canc. Cl. 12.
Avco Broadcasting Corp., Cincinnati, Ohio. 897,572, pub. 6–9–70. Cl. 107.
Avco Corp., Tulsa, Okla. 897,275, pub. 6–9–70. Cl. 19.
Avon Products, Inc., New York, N.Y. 897,481, pub. 6–9–70. Cl. 51.
Avon Products, Inc., New York, N.Y. 897,490–1, 6–9–70. Multiple Class (Classes 51 and 52).
B & H One Hour Martinizing Management, Inc., Earle, Ark. 897,561–2, pub. 6–9–70. Multiple Class (Classes 103 and 105).
B & S Plastic Art, Inc., New York, N.Y. 772,889, canc. Cl. 42.
BRS Products Co., Clifton Heights, Pa. 754,615, canc. Cl. 32.
Babani, Maurice, Paris, France. 362,335, canc. Cl. 51.
Baird-Neece Packing Corp., Porterville, Calif. 897,470, pub. 6–9–70. Cl. 46.
Bala Electronics Corp., Conshohocken, from Conshohocken Chemicals, Inc., Rosemont, Pa. 897,291, pub. 6–9–70. Cl. 21.
Bangor Punta Operations, Inc., New York, N.Y. 897,368, pub. 6–9–70. Multiple Class (Classes 31 and 34).
Bank of Virginia, The, Richmond, Va. 897,554, pub. 6–9–70. Cl. 102.
Barbeck Refrigeration Supply Co. of Dallas, Inc., Dallas, Tex. 892,012, cor. Cl. 31.
Barclay Knitwear Co., Inc., New York, N.Y. 897,408, pub. 6–9–70. Cl. 39.
Barco of California, Gardena, Calif. 897,406, pub. 6–9–70. Cl. 39.
Bardenheier, John, Wine & Liquor Co., St. Louis, Mo. 528,813, ren. 8–25–70. Cl. 47.
Barilla, G. e R. F.lli S.p.A., Parma, Italy. 897,460, pub. 6–9–70. Cl. 46.
Barton Brands, Inc., Chicago, Ill. 521,815, ren. 8–25–70. Cl. 49.
Barton Brands, Inc., Chicago, Ill. 527,114, ren. 8–25–70. Cl. 49.
Barwick, E. T., Industries, Inc., Chamblee, Ga. 897,420–2, pub. 6–9–70. Cl. 42.
Baughman, Milo, Design, Inc., Wellesley, Mass. 897,569, pub. 6–9–70. Cl. 107.
Bay West Paper Co., Green Bay, Wis. 533,823, ren. 8–25–70. Cl. 37.
Bay West Paper Co., Green Bay, Wis. 533,825, ren. 8–25–70. Cl. 37.
Bayside Federal Savings & Loan Association, Little Neck, N.Y. 772,963, canc. Cl. 102.
Bayuk Cigars Inc., Philadelphia, Pa. 772,687, canc. Cl. 17.
Bayuk Cigars Inc., Philadelphia, Pa. 897,237, pub. 6–9–70. Cl. 17.
Beaver Products, Inc., Beaver Dam, Wis. 772,776, canc. Cl. 23.
Becker & Co. Ltd., London, England. 772,620, canc. Cl. 12.
Becton, Dickinson & Co., East Rutherford, N.J. 897,404, pub. 6–9–70. Cl. 39.
Becton, Dickinson & Co., East Rutherford, N.J. 897,425, pub. 6–9–70. Cl. 44.
Beech Aircraft Corp., Wichita, Kans. 897,559, pub. 6–9–70. Cl. 103.
Bellanger, Robert, Paris, France. 897,349, pub. 6–9–70. Cl. 25.
Bennett's of New Haven, Inc., New Haven, Ind. 772,870, canc. Cl. 39.
Berelson, D. B., & Co., d.b.a. Oak Barrell Products, San Francisco, Calif. 530,141, ren. 8–25–70. Cl. 46.
Bernstein, Solomon, Quincy, Mass. 897,303, pub. 6–9–70. Cl. 22.
Better Way, Inc., The, Boston, Mass. 897,576, pub. 6–9–70. Cl. 107.
Birtcher Corp., The, Los Angeles, Calif. 772,898, canc. Cl. 44.
Bishop Industries Inc., Union, N.J. 524,871, ren. 8–25–70. Cl. 51.
Blachford, H. L., Ltd., Montreal, Quebec, Canada. 897,217, pub. 6–9–70. Cl. 15.
Blair Fashions, Inc., Chicago, Ill. 772,986, canc. Cl. 39.
Blevins Popcorn Co., Inc., Nashville, Tenn. 531,687, ren. 8–25–70. Cl. 46.
Boehringer Ingleheim, G.m.b.H., Ingleheim am Rhein, Germany. 772,694, canc. Cl. 18.
Bonny Mfg. Corp., Maynard, Mass. 772,558, canc. Cl. 1.
Bontempi, Paolo, d.b.a. Sigma Bontempi di Dott Ing. Paolo Bontempi, Picena, Macerata, Italy. 897,326, pub. 6–9–70. Cl. 22.
Borden, Inc., New York, N.Y. 517,431, ren. 8–25–70. Cl. 50.
Borg-Warner Corp., Chicago, Ill. 897,204, pub. 6–9–70. Cl. 13.
Bourns, Inc., Riverside, Calif. 897,301, pub. 6–9–70. Cl. 21.
Bradley, Milton, Co., Springfield, Mass. 897,590. Cl. 22.
Bradshaw, Maxwell W., Alberta, Saskatchewan, Canada. 772,736, canc. Cl. 22.
Brassel, Richard H., d.b.a. Cheesehaven, Port Clinton, Ohio. 772,917, canc. Cl. 46.
Breck, John H., Inc., Wayne, N.J. 897,482, pub. 2–18–69. Cl. 51.
Bridgeport Fabrics, Inc., Bridgeport, Conn. 772,624, canc. Cl. 12.
Brill, H. C., Co., Inc., Cedar Grove, N.J. 897,463, pub. 6–9–70. Cl. 46.

Bristol-Myers Co., New York, N.Y. 271,624, ren. 8–25–70. Cl. 51.
Bristol-Myers Co., New York, N.Y. 529,191, ren. 8–25–70. Cl. 18.
Bristol-Myers Co., New York, N.Y. 897,501, pub. 6–9–70. Cl. 52.
Bristol Products Corp., Bristol, Ind. 897,200, pub. 6–9–70. Cl. 13.
British Drug Houses Ltd., The, London, England. 779,022. Am. 7(d). Cl. 6.
Brooks & Perkins, Inc., Southfield, Mich. 897,183, pub. 6–9–70. Cl. 12.
Brown, Robert A., Jr., d.b.a. Life Insurance Sales Clinic, Los Angeles, Calif. 772,843, canc. Cl. 38.
Broyhill Furniture Industries, Lenoir, N.C. 897,378, pub. 6–9–70. Cl. 32.
Buccaneer Mfg. Co., Inc., d.b.a. Buccaneer, Brooklyn, N.Y. 772,896, canc. Cl. 39.
Buckeye Valve & Mfg. Co., The, Columbus, Ohio. 772,651, canc. Cl. 13.
Bulova Watch Co., Inc., Flushing, N.Y. 533,398, ren. 8–25–70. Cl. 28.
Buehler Corp., The, Indianapolis, Ind. 897,329, pub. 6–9–70. Multiple Class (Classes 23 and 103).
Burbank Canning Co., Burbank, Calif. 527,525, ren. 8–25–70. Cl. 46.
Burrus Mills, Inc., Dallas, Tex. 531,739, ren. 8–25–70. Cl. 46.
Burton Instrumentation, Inc., Ft. Collins, Colo. 897,299, pub. 6–9–70. Cl. 21.
CITC Industries Inc., New York, N.Y. 897,152, pub. 6–9–70. Cl. 1.
CTP Industries Inc., Brooklyn, N.Y. 897,584. Cl. 2.
Calevas, George A., d.b.a. Calevas Laboratories, Washington, D.C. 526,070, ren. 8–25–70. Cl. 46.
Cameo-Parkway Records, Inc., d.b.a. Fairmount Records, Philadelphia, Pa. 772,829, canc. Cl. 36.
Camp and McInnes, Inc., Reading, Pa. 897,414, pub. 6–9–70. Cl. 39.
Canepa, John B., Co., The, Chicago, Ill. 268,727, ren. 8–25–70. Cl. 46.
Carborundum Co., The, Niagara Falls, N.Y. 897,192, pub. 6–9–70. Cl. 12.
Cardinal Paint Corp., St. Louis, Mo. 772,974, canc. Cl. 4.
Carnation Co., Los Angeles, Calif. 772,911, canc. Cl. 46.
Carpenter, L. E., & Co., Wharton, N.J. 897,498, pub. 6–9–70. Cl. 52.
Carter Products, Inc., New York, N.Y. 772,939, canc. Cl. 51.
Carter-Wallace, Inc., New York, N.Y. 897,266–8, pub. 6–9–70. Cl. 18.
Carter-Wallace, Inc., New York, N.Y. 897,271–2, pub. 6–9–70. Cl. 18.
Carter-Wallace, Inc., New York, N.Y. 897,494–5, pub. 6–9–70. Cl. 51.
Cartier, Inc., New York, N.Y. 897,507, pub. 6–9–70. Multiple Class (Classes 100 and 103).
Cartier, Inc., New York, N.Y. 897,537, pub. 6–9–70. Cl. 101.
Caryl, Joan L., d.b.a. Joan Caryl Studio, Washington, D.C. 772,625, canc. Cl. 12.
Castle & Cooke, Inc., d.b.a. F. M. Ball & Co., Honolulu, Hawaii. 533,809, ren. 8–25–70. Cl. 46.
Century Bonded Products, Inc., Erie, Pa. 772,595, canc. Cl. 6.
Century Creations, Inc., Venice, Calif. 897,486, pub. 6–9–70. Cl. 51.
Certified Chemical and Equipment Co., Cleveland, Ohio. 897,496, pub. 4–28–70. Cl. 52.
Certified Dry Mat Corp., New York, N.Y. 526,591, ren. 8–25–70. Cl. 50.
Certified Chemical & Equipment Co., Cleveland, Ohio. 897,285, pub. 4–28–70. Cl. 21.
Chait, Lawrence G., & Co., Inc., New York, N.Y. 897,551, pub. 6–9–70. Cl. 102.
Champion Spark Plug Co., Toledo, Ohio. 897,567, pub. 6–9–70. Cl. 106.
Chargex Ltd.-Chargex Ltee., Ottawa 4, Ontario, from The Royal Bank of Canada, Montreal, Quebec, Canada. 897,549, pub. 6–9–70. Cl. 102.
Chase Manhattan Bank, The, New York, N.Y. 772,964, canc. Cl. 102.
Checker Motors Corp., Kalamazoo, Mich. 271,085, ren. 8–25–70. Cl. 19.
Chemetron Corp., Chicago, Ill. 531,729, ren. 8–25–70. Cl. 11.
Chemical Corporation of America, Tallahassee, Fla. 772,603, canc. Cl. 6.
Chem-Trend Inc., Howell, Mich. 897,213–14, pub. 6–9–70. Cl. 15.
Chemtrust Industries Corp., Maywood, Ill. 897,215, pub. 6–9–70. Cl. 15.
Childers, Frank M., Bethel Park, Pa. 897,308, pub. 6–9–70. Cl. 22.
Chun King Corp., The, Duluth, Minn. 772,908, canc. Cl. 46.
Cincinnati Milacron Inc., from The Cincinnati Milling Machine Co., Cincinnati, Ohio. 897,352, pub. 4–15–69. Cl. 26.
Cincinnati Milling Machine Co., The: *See*— Cincinnati Milacron Inc.
Clairol Inc., New York, N.Y. 897,489, pub. 6–9–70. Multiple Class (Classes 51 and 52).
Clarise Sportswear Co., Inc., New York, N.Y. 772,875, canc. Cl. 39.
Clayton, S. C., Co., Inc., Boston, Mass. 276,758, ren. 8–25–70. Cl. 46.
Clear-View Shade Co., Chicago, Ill. 897,375, pub. 6–9–70. Cl. 32.
Clopay Corp., Cincinnati, Ohio. 897,340–1, pub. 6–9–70. Cl. 23.
Cluett, Peabody, & Co., Inc., Troy, N.Y. 270,061, ren. 8–25–70. Cl. 39.
Cluett, Peabody, & Co., Inc., Troy, N.Y. 526,210, ren. 8–25–70. Cl. 39.
Clyde Inc., Washington, D.C. 897,530, pub. 6–9–70. Cl. 100.
Cohen, A., & Sons Corp., New York, N.Y. 897,392, pub. 6–9–70. Cl. 36.
Cohen, Harold, d.b.a. Chok-A-Fizz Products Co., Chicago, Ill. 599,131, canc. Cl. 45.
Colgate-Palmolive Co., New York, N.Y. 897,265, pub. 6–9–70. Cl. 18.
Commercial Solvents Corp., New York, N.Y. 533,669, ren. 8–25–70. Cl. 46.
Commodity Marketers, Inc., Salt Lake City, Utah. 897,594–7. Cl. 26.
Compagnie Nationale Air France, Paris, France. 758,575–6, canc. Cl. 105.
Computer Learning and Systems Corp., Rockville, Md. 897,575, pub. 6–9–70. Cl. 107.
Computer Learning and Systems Corp., Rockville, Md. 897,577, pub. 6–9–70. Cl. 107.
Computer Systems, Inc., Richmond, Va. 897,353, pub. 12–16–69. Cl 26.
Computron Inc., Waltham, Mass. 772,832, canc. Cl. 36.
Conco Inc., Mendota, Ill. 533,055, ren. 8–25–70. Cl. 23.
Conoflow Corp., Blackwood, N.J. 897,206, pub. 6–9–70. Cl. 13.
Conshohocken Chemicals, Inc.: *See*— Bala Electronics Corp.
Consolidated Foods Corp., Chicago, Ill. 519,668, ren. 8–25–70. Cl. 45.
Consolidated Testing Laboratories, Inc., New Hyde Park, N.Y. 772,968, canc. Cl. 106.
Constellation Science & Technology Corp., Oxon Hill, Md. 897,350, pub. 6–9–70. Cl. 25.
Construction Adhesives Co., Paterson, N.J. 897,179, pub. 6–9–70. Cl. 12.
Cook, Loren, Co., Berea, Ohio. 897,386, pub. 6–9–70. Cl. 34.
Continental Casualty Co., Chicago, Ill. 897,557, pub. 6–9–70. Cl. 102.
Continental Label Co., Detroit, Mich. 897,398, pub. 6–9–70. Cl. 38.
Continental Telephone Corp., St. Louis, Mo. 897,518, pub. 6–9–70. Cl. 100.
Convesto, Seattle, Wash. 897,552, pub. 6–9–70. Cl. 102.
Continental Illinois National Bank and Trust Co. of Chicago, Chicago, Ill. 897,555, pub. 6–9–70. Cl. 102.
Corning Glass Works, Corning, N.Y. 892,029, cor. Cl. 33.
Corning Glass Works, Corning, N.Y. 892,030, cor. Cl. 33.
Costa, John, d.b.a. Costa & Co., Stockton, Calif. 529,339, ren. 8–25–70. Cl. 46.
Crompton Co., New York, N.Y. 533,493, ren. 8–25–70. Cl. 42.
Courtaulds, Ltd., London, England. 772,559–61, canc. Cl. 1.
Craig, Mostyn & Co. Pty. Ltd., Sydney, New South Wales, Australia. 897,606. Cl. 46.
Crawford, James L., d.b.a. Watchbird Systems Co., Wichita, Kans. 897,511, pub. 6–9–70. Cl. 100.
Cristy Chemical Corp., Worcester, Mass. 897,212, pub. 6–9–70. Cl. 15.
Crotty Corp., Quincy, Mich. 533,485, ren. 8–25–70. Cl. 35.
Crouse-Hinds Co., Syracuse, N.Y. 772,978, canc. Cl. 21.
Crouch, Horace W., d.b.a. Continental Laboratories, Fort Worth, Tex. 534,151, ren. 8–25–70. Cl. 51.
Crown Aluminum Industries Corp., Pittsburgh, Pa. 772,649, canc. Cl. 12.
Crow's Hybrid Corn Co., Milford, Ill. 897,146–8, pub. 6–9–70. Cl. 1.
Cummins Pharmaceutical Co., Inc., Beaumont, Tex. 897,260–1, pub. 6–9–70. Cl. 18.
Custom Beverage Packers, Inc., Aurora, Ohio. 897,442, pub. 6–9–70. Cl. 45.
Cyprus Mines Corp., d.b.a. Rome Cable Division, Rome, N.Y. 897,290, pub. 6–9–70. Cl. 21.
Daniel, William H., Tulsa, Okla. 772,650, canc. Cl. 12.
Data Card Corp., Minneapolis, Minn. 897,346, pub. 6–9–70. Cl. 23.
Datapoint Corp., New York, N.Y. 897,546, pub. 6–9–70. Cl. 101.
Debevoise Co., d.b.a. The Cavendish Co., Brooklyn, N.Y. 897,221, pub. 6–9–70. Cl. 16.
Delapenha, Robert S., Jersey City, N.J. 843,794, canc. Cl. 49.
De Luxe Reading Corp., Newark, N.J. 772,734, canc. Cl. 22.
De Luxe Reading Corp., Elizabeth, N.J. 772,749, canc. Cl. 22.
Dennison Mfg. Co., Framingham, Mass. 897,394, pub. 6–9–70. Cl. 37.
Densco, Inc., Denver, Colo. 897,424, pub. 4–23–68. Cl. 44.
Derby Day, Inc., New York, N.Y. 772,901, canc. Cl. 45.
De Ruiter, David, d.b.a. Davlin Paint Co., Oakland, Calif. 897,177, pub. 6–9–70. Multiple Class (Classes 12 and 16).
Detrex Chemical Industries, Inc., Detroit, Mich. 772,792, canc. Cl. 24.
Development Engineering, Inc., Denver, Colo. 897,384, pub. 6–9–70. Cl. 34.
Diamond National Corp., New York, N.Y. 772,791, canc. Cl. 24.
Diamond National Corp., New York, N.Y. 772,894–5, canc. Cl. 44.
Diamond Shamrock Corp., Cleveland, Ohio. 531,067–70, ren. 8–25–70. Cl. 6.
Diamond Shamrock Corp., Cleveland, Ohio. 531,072, ren. 8–25–70. Cl. 6.
Dierks Forests, Inc., Hot Springs, Ark. 897,151, pub. 6–9–70. Cl. 1.
Dimare Bros., Inc., Boston, Mass. 897,452, pub. 6–9–70. Cl. 46.
Dispersed, Akron, Ohio. 897,168, pub. 6–9–70. Cl. 5.
Doughboy Industries, Inc., New Richmond, Wis. 897,602. Cl. 46.
Doughboy Industries, Inc., New Richmond, Wis. 772,744–5, canc. Cl. 22.

Douwe Egberts Koninklijke Tabaksfabriek-Koffiebranderijen-Theehandel N.V., Joure, Netherlands. 897,231, pub. 6–16–70. Cl. 17.
Drambuie Liqueur Co. Ltd., Edinburgh, Scotland. 532,671, ren. 8–25–70. Cl. 49.
Dreckett Co., The, Cincinnati, Ohio. 897,497, pub. 6–9–70. Cl. 52.
Dresser Industries, Inc., Dallas, Tex. 772,790, canc. Cl. 23.
Dubrowsky & Joseph, Inc., New York, N.Y. 526,619, ren. 8–25–70. Cl. 39.
Duffy-Mott Co., Inc., New York, N.Y. 897,454, pub. 4–14–70. Cl. 46.
Dunham-Bush, Inc., Harrisonburg, Va. 897,385, pub. 6–9–70. Cl. 34.
Dunhill, Alfred, Ltd., London, England. 897,228, pub. 6–9–70. Cl. 17.
Du Pont de Nemours, E. I., & Co., Wilmington, Del. 897,156, pub. 6–9–70. Cl. 1.
Duralite Mfg. Co., The, Baltimore, Md. 897,277–8, pub. 6–9–70. Cl. 19.
Durolith Corp., Easton, Md. 897,479, pub. 6–9–70. Cl. 50.
Dynachem Corporation, Downey, Calif. 772,599, canc. Cl. 6.
Eagle-Picher Industries, Inc., Cincinnati, Ohio. 897,418, pub. 6–9–70. Cl. 42.
Ebauches S.A., Neuchatel, Switzerland. 772,802, canc. Cl. 27.
Edson, Inc., Chicago, Ill. 897,416, pub. 6–9–70. Cl. 42.
Electric Auto-Lite Co., The, Toledo, Ohio. 772,720, canc. Cl. 21.
Electrodata, Inc., Danbury, Conn. 897,390, pub. 6–9–70. Cl. 36.
Electro Engineering Products Co., Inc., Chicago, Ill. 772,728, canc. Cl. 21.
Electro Painters, Inc., Indianapolis, Md. 897,560, pub. 6–9–70. Cl. 103.
Elpo Industries Inc., Fair Lawn, N.J. 897,157, pub. 10–1–68. Multiple Class (Classes 2 and 23).
Erickson Petroleum Corp., Minneapolis, Minn. 772,958–9, canc. Cl. 101.
Eskimo Pie Corp., Richmond, Va. 533,818, ren. 8–25–70. Cl. 46.
Eskimo Pie Corp., Richmond, Va. 897,469, pub. 6–9–70. Cl. 46.
Etablissements Tourneur Freres, Coulommiers (Seine-Et-Marne), France. 534,310, ren. 8–25–70. Cl. 1.
Evans, Samuel Wm., d.b.a. Do-All Wood Plating Co., Canoga Park, Calif. 506,046, canc. Cl. 16.
Everlube Corp. of America, d.b.a. Everlube Corp., N. Hollywood, Calif. 897,568, pub. 6–9–70. Cl. 106.
Excellon Industries, Torrance, Calif. 897,335, pub. 6–9–70. Multiple Class (Classes 23 and 26).
Faber, Castell, A. W., Nuremberg, Germany. 71,572, canc. Cl. 37.
Faber, Castell, A. W., Pencil Co., Inc., Newark, N.J. 78,320, ren. 8–25–70. Cl. 37.
Fabrique des Montres Wyler Societe Anonyme, Bienne, Switzerland. 897,362, pub. 6–9–70. Cl. 27.
Farac Oil and Chemical Co., Chicago, Ill. 772,674, canc. Cl. 16.
Fastener Systems Corp., Danbury, Conn. 897,207, pub. 6–9–70. Cl. 13.
Federal Publications Inc., Washington, D.C. 534,390, ren. 8–25–70. Cl. 38.
Fedtro, Inc., Rockville Centre, N.Y. 897,201, pub. 6–9–70. Cl. 13.
Fence City, Inc., East Amherst, N.Y. 897,178, pub. 6–9–70. Multiple Class (Classes 12 and 13).
Fieldcrest Mills, Inc., Eden, N.C. 533,859, ren. 8–25–70. Cl. 42.
Flakebord Corp., Jamestown, N.Y. 772,645, canc. Cl. 12.
Fleetwood Co., The, Chicago, Ill. 897,488, pub. 3–17–70. Cl. 51.
Flintkote Co., The, New York, N.Y. 772,628, canc. Cl. 12.
Flintkote Co., The, White Plains, N.Y. 897,585. Cl. 12.
Forney Engineering Co., Dallas, Tex. 897,383, pub. 6–9–70. Cl. 34.
For You, Inc., Van Nuys, Calif. 897,547, pub. 6–9–70. Cl. 101.
Fossum Mfg., Yakima, Wash. 897,592. Cl. 23.
Foster & Kester Co., Inc., to Borden, Inc., New York, N.Y. 523,078, Am. 7(d). Cl. 16.
Foxboro Co., The, Foxboro, Mass. 526,030, ren. 8–25–70. Cl. 26.
Freshpict Foods, Inc., Salinas, Calif. 897,603. Cl. 46.
Fulgurit-Vertriebsgesellschaft m.b.H., Luthe via Wunstorf, Germany. 897,161, pub. 6–9–70. Cl. 2.
GAF Corp., New York, N.Y. 897,282–3, pub. 6–9–70. Cl. 20.
GAF Corp., New York, N.Y. 897,514, pub. 6–9–70. Cl. 100.
G-G-B Chemical Co., Westbury, N.Y. 772,580, canc. Cl. 4.
Gallery 63, Inc., New York, N.Y. 772,863, canc. Cl. 38.
Galmen Production Corp., N.Y., New York, N.Y. 897,571, pub. 6–9–70. Cl. 107.
Gardens Services, Inc., Pine Mountain, Ga. 772,743, canc. Cl. 22.
Garland Chemical Products Co., Garland, Tex. 772,591, canc. Cl. 6.
Gaylord Products, Inc., Chicago, Ill. 532,477, ren. 8–25–70. Cl. 40.
General Battery Corp., Reading, Pa. 529,861, ren. 8–25–70. Cl. 21.
General Foods Corp., White Plains, N.Y. 897,503, pub. 6–9–70. Cl. 52.
General Mills, Inc., Minneapolis, Minn. 897,464–6, pub. 6–9–70. Cl. 46.
General Mills, Inc., Minneapolis, Minn. 897,475–6, pub. 6–9–70. Cl. 46.
General Mills, Inc., Minneapolis, Minn. 897,533, pub. 6–9–70. Cl. 100.
Genesco Inc., Nashville, Tenn. 772,871, canc. Cl. 39.
Gershenhorn, Sol, d.b.a. Green's Southern California Sports Service, Los Angeles, Calif. 772,857, canc. Cl. 38.
Gesty Trading & Mfg. Corp., New York, N.Y. 897,232, pub. 6–9–70. Cl. 17.
Gilman, Marty, Inc., Gilman, Conn. 897,316, pub. 6–9–70. Cl. 22.
Glendinning Companies, Inc., Westport, Conn. 897,538–9, pub. 6–9–70. Cl. 101.
Global Tire and Rubber Co., Ltd., Findlay, Ohio. 897,388, pub. 6–9–70. Cl. 35.
Globestar Industries, Inc., Elkhart, Ind. 897,274, pub. 6–9–70. Cl. 19.
Gluck, E., Trading Co., d.b.a. Precision Watch Co., New York, N.Y. 897,363, pub. 6–9–70. Cl. 27.
Godfrey Phillips, Ltd., London, England. 897,225, pub. 6–9–70. Cl. 17.
Gold Cup Baking, Inc., d.b.a. Ruane's Bakery, Chicago, Ill. 897,461, pub. 6–9–70. Cl. 46.
Gonzalez, Alvaro Gonzalez, d.b.a. Fabrica de Tabacoa Alvaro, Laguna de Tenerife, Islas Canarias, Spain. 897,226–7, pub. 6–9–70. Cl. 17.
Good Humor Corp., Englewood Cliffs, N.J. 269,425, ren. 8–25–70. Cl. 46.
Goodman, A., & Sons, Inc., Long Island City, N.Y. 897,477, pub. 6–9–70. Cl. 47.
Gordon Engineering Co., Waltham, Mass. 897,586. Cl. 21.
Graef, Jean R., Inc.: *See*— Perregaux, Girard Corp.
Graflex, Inc., Rochester, N.Y. 532,516, ren. 8–25–70. Cl. 26.
Green, Bernard, Glen Oaks, N.Y. 897,311, pub. 6–9–70. Cl. 22.
Grizzly Bear, Inc., Ontario, Oreg. 897,531, pub. 6–9–70. Cl. 100.
Gross, Morton B., d.b.a. Theurgene Chemical Co., Minneapolis, Minn. 407,422, canc. Cl. 18.
Growco, Inc., Tampa, Fla. 897,218, pub. 6–9–70. Cl. 16.
H-Brace, Inc., Miami, Fla. 772,976, canc. Cl. 12.
H & H Plastics Mfg. Co., Grand Rapids, Mich. 897,158, pub. 6–9–70. Cl. 2.
Haakenson, Alvin C., Ardmore, Pa. 897,163, pub. 6–9–70. Cl. 3.
Halberg, Harald, Svendborg, Denmark. 897,222, pub. 6–9–70. Cl. 17.
Hardware Products Co., Boston, Mass. 897,338, pub. 6–9–70. Cl. 23.
Harlemark International, Inc., Framingham, Mass. 897,411, pub. 6–16–70. Cl. 39.
Harrison Services, Inc., New York, N.Y. 897,548, pub. 6–9–70. Cl. 101.
Hayden Publishing Co., Inc., New York, N.Y. 772,846, canc. Cl. 38.
Heitman, Paul S., d.b.a. Gem-mounts & Gem-masks Co., New York, N.Y. 897,351, pub. 6–9–70. Cl. 26.
Helms Beverages, Inc., Los Angeles, Calif. 897,436, pub. 6–9–70. Cl. 45.
Hickey-Freeman Co., Rochester, N.Y. 772,880, canc. Cl. 39.
Hinger, Fred D., Churchville, Pa. 772,830–1, canc. Cl. 36.
Hochstein, Bernard, New York, N.Y. 897,174, pub. 6–9–70. Cl. 8.
Hornell Brewing Co., Inc., Hornell, N.Y. 772,927, canc. Cl. 48.
Horse of a Different Color, Ltd., Chicago, Ill. 897,540, pub. 6–9–70. Cl. 101.
Host Enterprises, Inc., East Lampeter Township, Pa. 897,522, pub. 6–9–70. Cl. 100.
Hot Dogs Plus, Inc., Mount Prospect, Ill. 897,445, pub. 1–14–69. Cl. 46.
Hotel Corp. of America, Boston, Mass. 897,516, pub. 6–9–70. Cl. 100.
Howard, Bert, Inc., Lansing, Mich. 772,704, canc. Cl. 19.
Howard, John C., Chicago, Ill. 772,853, canc. Cl. 38.
Hudson Pulp & Paper Corp., New York, N.Y. 772,835, canc. Cl. 37.
Hunt & Moscrop Ltd., Middleton Junction, Lancaster, England. 897,345, pub. 6–9–70. Cl. 23.
ITT Sheraton Corp. of America, Boston, Mass. 897,532, pub. 6–9–70. Cl. 100.
Identimation Corp., from Sibany Mfg. Corp., Riverside, Conn. 897,288, pub. 8–12–69. Cl. 21.
Illinois Tool Works Inc., Chicago, Ill. 772,656, canc. Cl. 13.
Illinois Tool Works, Inc., Chicago, Ill. 897,199, pub. 6–9–70. Cl. 13.
Imperial Knife Associated Co., Inc., Providence, R.I. 772,771, canc. Cl. 23.
Imperial Knife Associated Companies, Inc., Providence, R.I. 893,226, cor. Cl. 23.
Inca Metal Products Corp., Carrollton, Tex. 897,273, pub. 6–9–70. Multiple Class (Classes 19, 23, and 32).
Inland Mfg. Co., Omaha, Nebr. 529,027, ren. 8–25–70. Cl. 26.
Interco, Inc., St. Louis, Mo. 897,413, pub. 6–9–70. Cl. 39.
Inter-Collegiate Holidays, Ltd., Oceanside, N.Y. 897,565, pub. 6–9–70. Cl. 105.
Intercontinental Hotels Corp., New York, N.Y. 772,957, canc. Cl. 100.
International Famous Agency, New York, N.Y. 897,578, pub. 6–9–70. Cl. 107.
International Medikinn, Orange, Calif. 772,955, canc. Cl. 100.
International Minerals & Chemical Corp., Skokie, Ill. 78,690, ren. 8–25–70. Cl. 10.
International Minerals & Chemical Corp., Skokie, Ill. 897,197, pub. 6–9–70. Cl. 12.
International Minerals & Chemical Corp., Skokie, Ill. 897,517, pub. 6–9–70. Cl. 100.
International Rectifier Corp., El Segundo, Calif. 772,793, canc. Cl. 26.
Interstate Bakeries Corp., Kansas City, Mo. 897,457, pub. 6–9–70. Cl. 46.
Intertherm, Inc., St. Louis, Mo. 897,302, pub. 6–9–70. Cl. 21.
Inter-Varsity Christian Fellowship of the United States of America, Chicago, Ill. 897,506, pub. 6–9–70. Cl. 100.
Island Matrix, Inc., Sparta, N.J. 897,234–6, pub. 6–9–70. Cl. 17.

It's Unbelievable, Inc., East Rochester, N.Y. 897,512, pub. 6–9–70. Cl. 100.
JBI, Inc., Jenkintown, Pa. 897,499, pub. 6–9–70. Cl. 52.
Jamison Bedding, Inc., Nashville, Tenn. 523,960, ren. 8–25–70. Cl. 32.
Jenkins Bros., New York, N.Y. 530,279, ren. 8–25–70. Cl. 35.
Jero Products Co.: *See*—
Meister Brau, Inc.
Jim-N-E Cricket Bait Co., Inc., East St. Louis, Ill. 897,313, pub. 6–9–70. Cl. 22.
John, Robert, Co., King of Prussia, Pa. 897,377, pub. 6–9–70. Cl. 32.
Johns-Manville Corp., New York, N.Y. 897,184–5, pub. 6–9–70. Cl. 12.
Johnson & Johnson, d.b.a. Personal Products Co., New Brunswick, N.J. 897,433, pub. 6–9–70. Cl. 44.
Johnson & Johnson, New Brunswick, N.J. 897,493, pub. 6–9–70. Cl. 51.
Johnson & Quin, Inc., Chicago, Ill. 897,432, pub. 6–9–70. Cl. 44.
Jonac, Inc., Warrington, Pa. 533,432, ren. 8–25–70. Cl. 23.
Joseph, David, d.b.a. Electronics Distributors, Brooklyn, N.Y. 897,500, pub. 6–9–70. Cl. 52.
Kaiser Aluminum & Chemical Corp., Oakland, Calif. 897,193, pub. 6–9–70. Cl. 12.
Kar-Vic Jewelry Co., Inc., New York, N.Y. 897,361, pub. 6–9–70. Cl. 27.
Kenco Products Corp., Englewood, N.J. 897,369, pub. 6–9–70. Cl. 31.
Kessler, William B., Inc., Hammonton, N.J. 529,120, ren. 8–25–70. Cl. 39.
Keystone Custodian Funds, Inc., Boston, Mass. 772,962, canc. Cl. 102.
Kimberly-Clark Corp., Neenah, Wis. 888,943, cor. Cl. 18.
Kingly Products Corp., Bellmore, N.Y. 897,355, pub. 6–9–70. Cl. 26.
Kirchcarpenter, Madison, Wis. 893,789, cor. Cl. 38.
Kirsch Co., Sturgis, Mich. 897,205, pub. 6–9–70. Cl. 13.
Kocher Plastic H., Bohmer KG, Laufen am Kocher, Germany. 897,330, pub. 6–9–70. Cl. 23.
Koh-i-noor, tuzkarna L., & C. Hardtmuth, narodni podnik, Ceske Budejovice, Czechoslovakia. 272,960, ren. 8–25–70. Cl. 37.
Kolb-Lena Cheese Co., Lena, Ill. 897,474, pub. 6–9–70. Cl. 46.
Konieckl, Thaddeus A., d.b.a. Pistol Pool Co., Southfield, Mich. 897,305, pub. 6–9–70. Cl. 22.
Koracorp Industries Inc., San Francisco, Calif. 526,196, ren. 8–25–70. Cl. 39.
Koracorp Industries Inc., San Francisco, Calif. 526,586, ren. 8–25–70. Cl. 39.
Kresge, S. S., Co., Detroit, Mich. 897,186–7, pub. 6–9–70. Cl. 12.
Kresge, S. S., Co., Detroit, Mich. 897,317, pub. 6–9–70. Cl. 22.
Kroetch, Arthur A., d.b.a. Wickomatic Oiler Co., Philip, S. Dak. 772,770, canc. Cl. 23.
Kruunu-Koru Oy: *See*—
Lapponia Jewelry Ltd.-Kruunukoru Oy.
Krutulis, Stanley B., Bridgeport, N.Y. 897,171, pub. 6–9–70. Cl. 6.
Kurz, Leonhard, Futrh, Bavaria, Germany. 897,208, pub. 6–9–70. Cl. 14.
Kwik-File, Inc., Minneapolis, Minn. 897,379, pub. 6–9–70. Cl. 32.
LFE Corp., Waltham, Mass. 274,475, ren. 8–25–70. Cl. 21.
Laboratoire Lachartre S.A., Paris 12, France. 897,483, pub. 6–9–70. Cl. 51.
Lane Ltd., New York, N.Y. 897,224, pub. 6–9–70. Cl. 17.
Lane Ltd., New York, N.Y. 897,229–30, pub. 6–9–70. Cl. 17.
Langangne, Henri Paul Jean, Croix, (Nord), France. 772,667, canc. Cl. 14.
Lapponia Jewelry Ltd.-Kruunukoru Oy, Helsinki 17, from Kruunu-Koru Oy, Helsinki 17, Finland. 897,267, pub. 6–9–70. Cl. 28.
Lefrak Organization, Inc., Forest Hills, N.Y. 897,513, pub. 6–9–70. Cl. 100.
Legal Security Life Insurance Co., Dallas, Tex. 897,553, pub. 6–9–70. Cl. 102.
Leggett, Francis H., & Co., Carlstadt, N.J. 772,900, canc. Cl. 45.
Lemmon Pharmacal Co., Sellersville, Pa. 897,263, pub. 6–9–70. Cl 18.
Leon's Fashions, Inc., Waco, Tex. 897,164, pub. 6–9–70. Multiple Class (Classes 3 and 39).
Lever Brothers Co., New York, N.Y. 897,471, pub. 6–9–70. Cl. 46.
Lewis, Robert, Inc., New York, from United Sheepllned Clothing Co., Inc., New York, N.Y. 897,402, pub. 6–8–65. Cl. 39.
Liggett & Myers Inc., New York, N.Y. 897,238–40, pub. 6–9–70. Cl. 17.
Light, Alexander, Rockville Centre, N.Y. 897,165, pub. 6–9–70. Cl. 3.
Lionel Toy Corp., The, Wilmington, Del. 772,794, canc. Cl. 26.
London, Seymour B., d.b.a. Circulation Monitoring Systems-Monitor Instruments, Miami Beach, Fla. 897,429–30, pub. 6–9–70. Cl. 44.
Long, W. H., Marketing, Inc., Greensboro, N.C. 772,848, canc. Cl. 38.
Longines-Wittnauer Watch Co., Inc., New York, N.Y. 897,365, pub. 6–9–70. Cl. 27.
Lovable Co., The, Atlanta, Ga. 533,444, ren. 8–25–70. Cl. 39.
Macy, R. H., & Co., Inc., New York, N.Y. 78,333, ren. 8–25–70. Cl. 39.
Magazine Management Co., Inc., d.b.a. Marvel Comics Group, from Magazine Management Co., d.b.a. Marvel Comics Group, New York, N.Y. 893,303, cor. Cl. 38.
Magazine Management Co., Inc., d.b.a. Marvel Comics Group, from Magazine Management Co., d.b.a. Marvel Comics Group, New York, N.Y. 893,304, cor. Cl. 38.
Magic Powders Inc., Long Island City, N.Y. 772,596, canc. Cl. 6.
Magid, Meyer, d.b.a. The Magi-Dyes Co., Palo Alto, Calif. 754,-412, canc. Cl. 6.
Magnesium Association, The, Detroit, Mich. 772,864, canc. Cl. 38.
Magnavox Co., The, Fort Wayne, Ind. 897,391, pub. 6–9–70. Cl. 36.
Maidenform, Inc., New York, N.Y. 897,412, pub. 6–9–70. Cl. 39.
Maier, Otto, Verlag Ravensburg, Ravensburg, Germany. 897,-307, pub. 6–9–70. Cl. 22.
Majestic Drug Co., Inc., Bronx, N.Y. 897,608. Cl. 51.
Major Pool Equipment Corp., Clifton, N.J. 897,195, pub. 6–9–70. Cl. 12.
Malco Products, Inc., Barberton, Ohio. 897,502, pub. 6–9–70. Cl. 52.
Mallory, P. R., & Co. Inc., Indianapolis, Ind. 897,587. Cl. 21.
Mandoval Ltd., London, England. 897,181, pub. 6–9–70. Cl. 12.
Mannington Mills, Inc., Salem, N.J. 529,958, ren. 8–25–70. Cl. 20.
Mannington Mills, Inc., Salem, N.J. 532,449, ren. 8–25–70. Cl. 20.
Mansfield Aircraftsmen Co., Mansfield, Ohio. 897,296, pub. 6–9–70. Cl. 21.
Mappin & Webb Ltd., London, England. 163,118, canc. Cl. 50.
Mappin & Webb Ltd., London, England. 162,303, canc. Cl. 28.
Mappin & Webb Ltd., London, England. 149,447, canc. Cl. 23.
Mar-Kes Foods, Compton, Calif. 897,472, pub. 6–9–70. Cl. 46.
Maro International, Ltd., New York, N.Y. 897,289, pub. 6–9–70. Cl. 21.
Marriott Corp., Washington, D.C. 897,527–9, pub. 6–9–70. Cl. 100.
Marriott Corp., Washington, D.C. 897,400, pub. 6–9–70. Cl. 38.
Master-Bilt Refrigeration Mfg., New Albany, Miss. 897,370, pub. 6–9–70. Cl. 31.
Mastercraft Pipes, Inc., New York, N.Y. 752,349, canc. Cl. 8.
Mathews Electronics Corp., Mobile, Ala. 897,588–9. Cl. 21.
Mattel, Inc., Hawthorne, Calif. 772,751, canc. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 897,318–19, pub. 6–9–70. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 897,321–2, pub. 6–9–70. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 897,324, pub. 6–9–70. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 897,327, pub. 6–9–70. Cl. 22.
Matthews, Jas. H., & Co., Pittsburgh, Pa. 532,646, ren. 8–25–70. Cl. 23.
McHutchison & Co., Ridgefield, N.J. 772,934, canc. Cl. 50.
McLaughlin Mfg. Co., Plainfield, Ill. 897,342–3, pub. 6–9–70. Cl. 23.
McNeil Machine & Engineering Co., The, Akron, Ohio. 772,760, canc. Cl. 23.
Meister Brau, Inc., from Jero Products Co., Chicago, Ill. 897,438–41, pub. 6–9–70. Cl. 45.
Meister Brau, Inc., from Jero Products Co., Chicago, Ill. 897,453, pub. 6–9–70. Cl. 46.
Melchior, Armstrong, Dessou, Inc., Ridgefield, N.J. 523,300, ren. 8–25–70. Cl. 34.
Merck & Co., Inc., Rahway, N.J. 897,255, pub. 6–9–70. Cl. 18.
Merck & Co., Inc., Rahway, N.J. 897,258, pub. 2–3–70. Cl. 18.
Merrill Anderson Co., Inc., The, New York, N.Y. 772,847. canc. Cl. 38.
Metal Industries, Inc., Amarillo, Tex. 772,985, canc. Cl. 34.
Metrodynamics Corp., The, Caldwell Township, County of Essex, N.J. 772,726, canc. Cl. 21.
Meyer, H. B., & Son, Inc., Dallas, Tex. 897,167, pub. 6–9–70. Multiple Class (Classes 4, 6, 12, 16, and 52).
Michigan Lithographing Co., Grand Rapids, Mich. 516,598, ren. 8–25–70. Cl. 38.
Mid-West Hydro-Pierce, Inc., Detroit, Mich. 532,374, ren. 8–25–70. Cl. 23.
Miller, Herman, Inc., Zeeland, Mich. 772,818, canc. Cl. 32.
Milwaukee Lubricants Co., Milwaukee, Wis. 271,041, canc. Cl. 52.
Miner, H. Read, Decatur, Ill. 897,371, pub. 6–9–70. Cl. 31.
Minit Burger Corp., Nashville, Tenn. 897,434–5, pub. 8–12–69. Multiple Class (Classes 45, 46, and 100).
Minnesota Automotive, Inc., Mankato, Minn. 528,723, ren. 8–25–70. Cl. 19.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 897,220, pub. 6–9–70. Cl. 16.
Mishawaka Rubber Co., Inc., Mishawaka, Ind. 533,054, ren. 8–25–70. Cl. 39.
Monarch Road Machinery Co., Grand Rapids, Mich. 897,337, pub. 6–9–70. Cl. 23.
Monsanto Co., St. Louis, Mo. 897,150, pub. 6–9–70. Cl. 1.
Monsanto Co., St. Louis, Mo. 897,380, pub. 6–9–70. Cl. 32.
Moorman Mfg. Co., Quincy, Ill. 897,259, pub. 6–9–70. Cl. 18.
Morning Fresh Dairy, Inc., Minneapolis, Minn. 897,459, pub. 6–9–70. Cl. 46.
Morris, Philip, Inc., New York, N.Y. 897,431, pub. 6–9–70. Cl. 44.
Mueller Co., Decatur, Ill. 534,196, ren. 8–25–70. Cl. 23.
Multicon, Columbus, Ohio. 897,520, pub. 6–9–70. Cl. 100.
Multnomah Plywood Corp., Portland, Oreg. 897,191, pub. 6–9–70. Cl. 12.
Mystik Tape, Inc., Chicago, Ill. 772,585, canc. Cl. 5.
National Antracom Association, Denver, Colo. 897,580, pub. 6–9–70. Cl. 200.

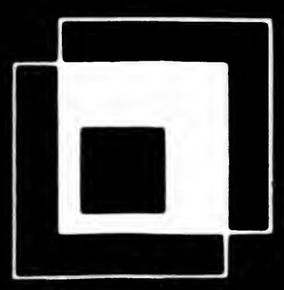
National Association of Purchasing Agents, Inc., New York, N.Y. 310,662–3. Am. 7(d). Cl. 38.
National Biscuit Co., New York, N.Y. 897,444, pub. 7–16–68. Cl. 46.
National Cigar Co., Frankfort, Ind. 526,104, ren. 8–25–70. Cl. 17.
National Gypsum Co., Buffalo, N.Y. 772,629–30, canc. Cl. 12.
National Home Inspection Service, Inc., Baltimore, Md. 897,558, pub. 6–9–70. Cl. 103.
National Polychemicals, Inc., Wilmington, Mass. 772,557, canc. Cl. 1.
Nesbitt Fruit Products, Inc., Los Angeles, Calif. 772,916, canc. Cl. 46.
Nestle Co., Inc., The, White Plains, N.Y. 841,710, canc. Cl. 46.
Nethercutt Laboratories, d.b.a. Cosgenic Labs, Hollywood, Calif. 772,938, canc. Cl. 51.
New York Feather Co., Inc., New York, N.Y. 897,373, pub. 4–22–69. Cl. 32.
Niemeyer, Theodorus, Inc., Louisville, Ky. 897,241, pub. 6–9–70. Cl. 17.
North American Rockwell Corp., Pittsburgh, Pa. 897,344, pub. 6–9–70. Cl. 23.
Northfield Cheese Co., Newark, N.J. 443,915, ren. 8–25–70. Cl. 46.
Norris Industries, Inc., Los Angeles, Calif. 897,593. Cl. 25.
Norwich Mills, Inc., Norwich, N.Y. 271,829, ren. 8–25–70. Cl. 39.
Norwich Pharmacal Co., The, Norwich, from The Norwich Pharmacal Co., Norwich, N.Y. 897,485, pub. 12–23–69. Cl. 51.
Notob Products, Inc., New York, N.Y. 772,693, canc. Cl. 17.
NMS Industries, Inc., Chicago, Ill. 897,331, pub. 6–9–70. Cl. 23.
O. E. M. Products Co., Des Plaines, Ill. 897,591. Cl. 23.
O.K. Rubber Welders, Inc., Littleton, Colo. 772,827, canc. Cl. 35.
Ocean Research Equipment, Inc., Falmouth, Mass. 897,287, pub. 6–9–70. Multiple Class (Classes 21 and 26).
One-O-One Corp., Mount Laurel, N.J. 897,449, pub. 6–9–70. Cl. 46.
Organon Inc., West Orange, N.J. 772,702, canc. Cl. 18.
Orro Products Co., Akron, Ohio. 772,973, canc. Cl. 2.
Otis Elevator Co., New York, N.Y. 530,650, ren. 8–25–70. Cl. 23.
Owens-Illinois Glass Co., Toledo, Ohio. 772,972, canc. Cl. 2.
Oxford Pickle Co., Inc., Cambridge, Mass. 897,447, pub. 6–9–70. Cl. 46.
PAT Corp., Pierre, S. Dak. 897,534, pub. 6–9–70. Cl. 101.
Pacific Northwest Sports, Inc., Seattle, Wash. 897,573, pub. 6–9–70. Cl. 107.
Panacon Corp., Cincinnati, Ohio. 533,344, ren. 8–25–70. Cl. 16.
Pan-American Fruit Co., New York, N.Y. 897,604. Cl. 46.
Pascal, P., Inc., Yonkers, N.Y. 532,307, ren. 8–25–70. Cl. 46.
Pedigree Fabrics, Inc., New York, N.Y. 772,885–87, canc. Cl. 42.
Penn Central Co.: *See*—
Penn Central Transportation Co.
Penn Central Transportation Co., Philadelphia, from Penn Central Co., Philadelphia, Pa. 897,564, pub. 6–9–70. Cl. 105.
Pennsylvania Pump & Compressor Co., Easton, Pa. 772,979, canc. Cl. 23.
Pennwalt Corp., Philadelphia, Pa. 272,201, ren. 8–25–70. Cl. 46.
Pennwalt Corp., Philadelphia, Pa. 897,172, pub. 6–9–70. Cl. 6.
Pepsi Co., Inc., New York, N.Y. 897,497, pub. 6–9–70. Cl. 39.
Perregaux, Girard, Corp., from Jean R. Graef, Inc., New York, N.Y. 897,364, pub. 6–9–70. Cl. 27.
Perry-Austen Mfg. Co., Staten Island, N.Y. 897,219, pub. 6–9–70. Cl. 16.
Pet Inc., St. Louis, Mo. 897,474, pub. 6–9–70. Cl. 46.
Phi Lambda Sigma National Fraternity, Inc., Auburn, Ala. 897,579, pub. 6–9–70. Cl. 200.
Philadelphia Quartz Co., Philadelphia, Pa. 526,917, ren. 8–25–70. Cl. 6.
Philco Corp., Philadelphia, Pa. 772,971, canc. Cl. 107.
Phillips Petroleum Co., Bartlesville, Okla. 772,772, canc. Cl. 23.
Phoenix Products Co., Milwaukee, Wis. 533,142, ren. 8–25–70. Cl. 21.
Photogem Co., New York, N.Y. 772,805, canc. Cl. 28.
Pirelli Sapsa, S.P.A., Milan, Italy. 897,393, pub. 6–9–70. Cl. 37.
Pizza Place Restaurants, Inc., Kansas City, Mo. 897,510, pub. 6–9–70. Cl. 100.
Plan Inc., d.b.a. Programmed Learning Aids National, Pine Bluff, Ark. 857,946, cor. Cl. 38.
Plastilite Corp., Omaha, Nebr. 897,320, pub. 6–9–70. Cl. 22.
Playtime U.S.A. Inc., Buffalo, N.Y. 897,188, pub. 6–9–70. Cl. 12.
Plzensky Prazdroj Narodni podnik, Plzen, Czechoslovakia. 75,-301, ren. 8–25–70. Cl. 48.
Poly-Pak Corporation of America, Springdale, Conn. 772,723, canc. Cl. 21.
Popper & Sons, Inc., New York, N.Y. 897,428, pub. 6–9–70. Cl. 44.
Portec, Inc., Oak Brook, Ill. 897,210, pub. 6–9–70. Cl. 14.
Porter Clothing Co., Inc., New Orleans, La. 269,758, canc. Cl. 39.
Porter, H. K., Co., Inc., Pittsburgh, Pa. 897,599. Cl. 34.
Porters, H., of Tucson, Tucson, Ariz. 897,166, pub. 6–9–70. Cl. 3.
Potato House, Inc., Montgomery, Ala. 897,536, pub. 6–9–70. Cl. 101.
Prak-T-Kal Corp., Elizabeth, N.J. 772,899, canc. Cl. 44.
Pratt & Lambert-Inc., Buffalo, N.Y. 80,196, ren. 8–25–70. Cl. 16.
Premier Malt Products, Inc., Milwaukee, Wis. 267,844, ren. 8–25–70. Cl. 46.
Presse-Office, Societe Anonyme, Paris 83, France. 897,399, pub. 6–9–70. Cl. 38.
Pretty Products, Inc., Coshochton, Ohio. 772,575, canc. Cl. 2.
Pretty Products, Inc., Coshocton, Ohio. 772,650–60, canc. Cl. 13.
Pretty Products, Inc., Coshocton, Ohio. 772,706–7, canc. Cl. 19.
Pretty Products, Inc., Coshocton, Ohio. 772,878–9, canc. Cl. 39.
Propper Mfg. Co., Inc., Long Island City, N.Y. 897,356, pub. 6–9–70. Cl. 26.
Providence Braid Co., Pawtucket, R.I. 526,382–83, ren. 8–25–70. Cl. 45.
Pure Oil Co., The, Palatine, Ill. 772,676, canc. Cl. 16.
Putman-Herzl Finishing Co., Inc., New York, N.Y. 897,566, pub. 6–9–70. Cl. 106.
Pyramid International, Inc., Ravenna, Ohio. 897,427, pub. 6–9–70. Cl. 44.
Quarles, Ida P., d.b.a. Mrs. Pearl Quarles, Akron, Ohio. 340,564, canc. Cl. 18.
Quarterback Publishing Co. of America, Inc., New York, N.Y. 897,396–7, pub. 6–9–70. Cl. 38.
RFL Industries, Inc., Boonton, N.J. 521,005, ren. 8–25–70. Cl. 26.
Rainbow Crafts, Inc., Cincinnati, Ohio. 897,309, pub. 6–9–70. Cl. 22.
Rankin Mfg., Inc., Swartz Creek, Mich. 891,917, cor. Cl. 19.
Ravel Perfume Corp., d.b.a. Van Pell, New York, N.Y. 897,487, pub. 6–9–70. Cl. 51.
Raybestos-Manhattan, Inc., Passaic, N.J. 271,713, ren. 8–25–70. Cl. 35.
Raymond Services, Inc., Atlanta, Ga. 897,563, pub. 6–9–70. Cl. 103.
Recreational Equipment Co. of Pennsylvania, Inc., York, Pa. 897,315, pub. 6–9–70. Cl. 22.
Reddy Kilowatt, Inc., New York, N.Y. 405,696, canc. Cl. 38.
Reinoehl, Richard L., Shillington, Pa. 753,674, canc. Cl. 22.
Resin Systems Inc., Woodside, N.Y. 897,182, pub. 6–9–70. Cl. 12.
Revlon, Inc., New York, N.Y. 897,426, pub. 6–9–70. Cl. 44.
Revlon, Inc., New York, N.Y. 897,607. Cl. 51.
Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 897,245–51, pub. 6–9–70. Cl. 17.
Richardson-Merrell Inc., New York, N.Y. 897,262, pub. 4–21–70. Cl. 18.
Robins, A. H., Co., Inc., Richmond, Va. 897,254, pub. 7–16–68. Cl. 18.
Robins, A. H., Co., Inc., Richmond, Va. 897,451, pub. 6–9–70. Cl. 46.
Rochester Shoe Tree Co., Inc., Rochester, N.Y. 521,120. Am. 7(d). Cl. 50.
Rochester Silo Co., Rochester, Minn. 897,162, pub. 6–9–70. Multiple Class (Classes 2 and 12).
Ross-Martin Co., Tulsa, Okla. 524,710, ren. 8–25–70. Cl. 32.
Rothmans of Pall Mall Ltd., Zurich, Switzerland. 897,223, pub. 6–9–70. Cl. 17.
Royal Bank of Canada, The: *See*—
Chargex Ltd.-Chargex Ltee.
Royal Bead Novelty Co., Inc., New York, N.Y. 897,598. Cl. 28.
Royal Copenhagen Porcelain Manufactory, Den Kongelige Porcelainsfabrik A/S, Copenhagen, Denmark. 30,487. Am. 7(d). Cl. 30.
Rumble, Edgar B., d.b.a. Michigan Hanger, Campbell, Ohio. 897,541, pub. 6–9–70. Cl. 101.
SMC Corp., d.b.a. Durkee Famous Foods, Cleveland, Ohio. 897,467, pub. 6–9–70. Cl. 46.
Sachs, Sidney, Paramus, N.J. 897,176, pub. 6–9–70. Cl. 12.
Safeway Stores, Inc., Oakland, Calif. 533,412, ren. 8–25–70. Cl. 52.
Sams, Howard W., & Co., Inc., Indianapolis, Ind. 772,856, canc. Cl. 38.
Schaeren, Mido G., & Co. S.A., Bienne, Switzerland. 531,943, ren. 8–25–70. Cl. 27.
Schalk Chemicals, Inc., Union, N.J. 531,967, ren. 8–25–70. Cl. 52.
Schaub Engineering Co., Downers Grove, Ill. 897,381, pub. 6–9–70. Cl. 34.
Schering Aktiengesellschaft, Berlin, Germany. 897,257, pub. 6–9–70. Cl. 18.
Schering Corp., Bloomfield, N.J. 897,252, pub. 8–1–67. Cl. 18.
Schlicksup Drug Co., Inc., Peoria, Ill. 897,264, pub. 6–9–70. Cl. 18.
Schmeing Gebr., Weseke, Germany. 897,203, pub. 6–9–70. Cl. 13.
Schrank, M. C., Co., Inc.: *See*—
Van Raalte Co., Inc.
Scientific-Atlanta, Inc., Atlanta, Ga. 897,286, pub. 11–11–69. Cl. 21.
Scott Paper Co., Philadelphia, Pa. 897,410, pub. 6–9–70. Cl. 39.
Screw Conveyor Corp., Hammond, Ind. 523,878, ren. 8–25–70. Cl. 23.
Scripps, E. W., Co., The, Cincinnati, Ohio. 772,844, canc. Cl. 38.
Security Electronics, Inc., Omaha, Nebr. 860,996, canc. Cl. 26.
Sekisui Chemical Co. Ltd., Osaka, Japan. 897,145, pub. 10–23–62. Cl. 1.
Semco Shipper's Equipment Mfg. Co., Pharr, Tex. 897,328, pub. 6–9–70. Cl. 23.
Senor, Sam H., d.b.a. The Sylvania Chemical Co., Cleveland, Ohio. 757,597, canc. Cl. 16.
Sentry Hardware Corp., Cleveland, Ohio. 897,504, pub. 6–9–70. Cl. 52.

Servus Rubber Co., The, Rock Island, Ill. 274,169, ren. 8–25–70. Cl. 39.
Shoemaker, Henry S., d.b.a. H. S. Shoemaker & Son, Rayville, La. 772,773, canc. Cl. 23.
Shull, Leo, Publications, Inc., New York, N.Y. 753,739, canc. Cl. 38.
Shure Bros. Inc., Evanston, Ill. 897,293, pub. 6–9–70. Cl. 21.
Shur-Lok Corp., Santa Ana, Calif. 897,339, pub. 6–9–70. Cl. 23.
Sibany Mfg. Corp.: *See*—
Identimation Corp.
Sigler, Jack B., Sr., Tampa, Fla. 897,570, pub. 6–9–70. Cl. 107.
Silbrico Corp., Hodgkins, Ill. 897,194, pub. 6–9–70. Cl. 12.
Simmons-Boardman Publishing Corp., New York, N.Y. 897,401, pub. 6–9–70. Cl. 38.
Simplified Updated Computer Controlled, Fair Lawn, N.J. 897,542, pub. 6–9–70. Cl. 101.
Simpson Timber Co., Seattle, Wash. 897,196, pub. 6–9–70. Cl. 12.
Slou- Steam Cleaner Corp., Beresford, S.D. 897,347, pub. 6–9–70. Cl. 23.
Skandiakenserv AB, Stockholm, Sweden. 443,731, ren. 8–25–70. Cl. 46.
Ski Speed Co., Los Angeles, Calif. 772,742, canc. Cl. 22.
Skor-Mor Corp., Anaheim, Calif. 897,306, pub. 6–9–70. Cl. 22.
Slack Bar, Miami Beach, Fla. 897,601. Cl. 39.
Sloane, W., & J., Inc., New York, N.Y. 443,821, ren. 8–25–70. Cl. 20.
Snomaster, Inc., Grand Rapids, Mich. 772,759, canc. Cl. 23.
Soc. Acc. Sempl. Albino Botto & Figli Di Eligio Botto & C., Milan, Italy. 897,403, pub. 6–9–70. Multiple Class (Classes 39, 42, and 43).
Societe Anonyme: "Rexor", Paris, France. 897,417, pub. 6–9–70. Cl. 42.
Societe des Carburateurs Solex, Nanterre, Hauts-de-Seine, France. 897,332, pub. 6–9–70. Cl. 23.
Society for Visual Education, Inc., Chicago, Ill. 897,600. Cl. 36.
Solar Steel Corp., Cleveland, Ohio. 897,209, pub. 6–9–70.
Southern Solid State Electronics, Inc., Memphis; Tenn. 772,-833, canc. Cl. 36.
Southern Stores, Inc., Jacksonville, Fla. 897,543, pub. 6–9–70. Multiple Class (Classes 101 and 103).
Southwest Tablet Mfg. Co., Dallas, Tex. 533,716, ren. 8–25–70. Cl. 37.
Spearman Brewing Co., The, Pensacola, Fla. 772,928, canc. Cl. 48.
Spectra Sports, Inc., San Francisco, Calif. 897,304, pub. 6–9–70. Cl. 22.
Sperco Tool & Mfg. Co., Inc., Minneapolis, Minn. 897,323, pub. 6–9–70. Cl. 22.
Springs Mills, Inc., Fort Mill, S.C. 78,411, ren. 8–25–70. Cl. 42.
Springs Mills, Inc., Fort Mill, S.C. 271,543, ren. 8–25–70. Cl. 42.
Spillers, Carolyn E., d.b.a. Custom Crafts, Austin, Tex. 897,-480, pub. 6–9–70. Cl. 50.
Spinnerin Yarn Co., Inc., South Hackensack, N.J. 897,423, pub. 6–9–70. Cl. 43.
Staley, A. E., Mfg. Co., Decatur, Ill. 897,468, pub. 6–9–70. Cl. 46.
Standard Chemical Mfg. Co., Omaha, Nebr. 897,448, pub. 6–9–70. Cl. 46.
Standard Kollsman Industries, Inc., Melrose Park, Ill. 897,-284, pub. 6–9–70. Cl. 21.
Steatite & Porcelain Products Ltd., Stourport-on-Severn, England. 528,279. Am. 7(d). Cl. 21.
Sterling Drug Inc., New York, N.Y. 772,696, canc. Cl. 18.
Sternco Industries, Inc., Allendale, N.J. 772,680, canc. Cl. 16.
Stratmar Systems Inc., New York, N.Y. 891,105, cor. Cl. 101.
Stuart, D. A., Oil Co., Ltd., Chicago, Ill. 533,782, ren. 8–25–70. Cl. 15.
Success Brands, Inc., Pittsford, N.Y. 772,601, canc. Cl. 6.
Sunkist Growers, Inc., Los Angeles, Calif. 897,333, pub. 6–9–70. Cl. 23.
Sunkist Growers, Inc., Los Angeles, Calif. 897,462, pub. 6–9–70. Cl. 46.
Surrounding Sound, Inc., Los Angeles, Calif. 772,721, canc. Cl. 21.
Svenska Tobaks AB, Stockholm, Sweden. 897,233, pub. 6–9–70. Cl. 17.
Swedish Crucible Steel Co., Detroit, Mich. 772,567, canc. Cl. 2.
Tecumseh Peat Co., Adrian, Mich. 772,613, canc. Cl. 10.
Teledyne Industries, Inc., Los Angeles, Calif. 523,180, ren. 8–25–70. Cl. 21.
Temple Health Studios, Inc., d.b.a. Holiday Health Clubs, Baltimore, Md. 772,954, canc. Cl. 100.
Tested Papers of America, Inc., Chicago, Ill. 533,615, ren. 8–25–70. Cl. 37.
Textron Inc., Providence, R.I. 897,281, pub. 6–9–70. Cl. 19.
Textiles Inc., Fall River, Mass. 897,415, pub. 6–18–68. Cl. 42.
Textron Inc., Providence, R.I. 529,564, ren. 8–25–70. Cl. 28.
Theonett & Co., Chicago, Ill. 897,437, pub. 6–9–70. Cl. 45.
Therma A.A. (Therma S.A.) (Therma Ltd.), Schwanden, Switzerland. 897,292, pub. 6–9–70. Cl. 21.
Therm-O-Disc, Inc., Mansfield, Ohio. from Thermo-Disc, Inc., Boston, Mass. 897,160, pub. 1–21–69. Cl. 2.
Thomas Industries Inc., Louisville, Ky. 897,300, pub. 6–9–70. Cl. 21.
Thomson-CSF, Paris, France. 897,295, pub. 6–9–70. Cl. 21.
Thomson-Porcelite Paint Co., Philadelphia, Pa. 533,501, ren. 8–25–70. Cl. 16.
Tittle Tattle, Ltd., New York, N.Y. 897,525, pub. 6–9–70. Cl. 100.
Tom Boy, Inc., St. Louis, Mo. 533,570, ren. 8–25–70. Cl. 46.
Towle Mfg. Co., Newburyport, Mass. 897,348, pub. 6–9–70. Cl. 23.
Trail-A-Sled, Inc., Crosby, Minn. 891,200, cor. Cl. 19.
Travelers Express Co., Inc., Minneapolis, Minn. 897,550, pub. 6–9–70. Cl. 102.
Travelmaster, Inc., Elkhart, Ind. 897,279, pub. 6–9–70. Cl. 19.
Triplett Electrical Instrument Co., The, Bluffton, Ohio. 519,-849. Am. 7(d). Cl. 26.
Truly Tubular Fitting Corp., Mount Vernon, N.Y. 897,202, pub. 6–9–70. Cl. 13.
Turbo Machine Co., Lansdale, Pa. 897,336, pub. 6–9–70. Cl. 23.
Turner Corp., Sycamore, Ill. 897,216, pub. 4–28–70. Multiple Class (Classes 15 and 34).
Turtle Wax, Inc., Chicago, Ill. 772,711, canc. Cl. 19.
Udylite Corp., The, Detroit, Mich. 772,597, canc. Cl. 6.
Unilever Ltd., Port Sunlight, Wirral, England. 523,490, ren. 8–25–70. Cl. 51.
Union Bag-Camp Paper Corp., New York, N.Y. 772,578, canc. Cl. 2.
Union Carbide Corp., New York, N.Y. 427,410, canc. Cl. 21.
Union Carbide Corp., New York, N.Y. 897,492, pub. 6–9–70. Cl. 51.
United Church of Religious Science, Los Angeles, Calif. 528,-291, ren. 8–25–70. Cl. 13.
United Piece Dye Works, The, Lodi, N.J. 529,384, ren. 8–25–70. Cl. 39.
United Refrigerated Vendors Corp., Pittsburgh, Pa. 897,544, pub. 6–9–70. Cl. 101.
United Sheeplined Clothing Co., Inc.: *See*—
Lewis, Robert, Inc.
United States Baking Co., Inc., Terre Haute, Ind. 897,443, pub. 4–16–68. Cl. 46.
United States Playing Card Co., The, Cincinnati, Ohio. 897,325, pub. 6–9–70. Cl. 22.
Unitron International Systems, Inc., Hayward, Calif. 897,294, pub. 6–9–70. Cl. 21.
Universal Cigar Corp., New York, N.Y. 897,243, pub. 6–9–70. Cl. 17.
Universal Oil Products Co., Des Plaines, Ill. 897,173, pub. 6–9–70. Cl. 6.
Universal Oil Products Co., Des Plaines, Ill. 897,505, pub. 6–9–70. Cl. 52.
Upjohn Co., The, Kalamazoo, Mich. 897,256, pub. 6–9–70. Cl. 18.
Upjohn Co., The, Kalamazoo, Mich. 897,269–70, pub. 6–9–70. Cl. 18.
VWR United Corp., Portland, Oreg. 526,789, ren. 8–25–70. Cl. 46.
Valspar Corp., The, Rockford, Ill. 528,615, ren. 8–25–70. Cl. 16.
Valspar Corp., The, Rockford, Ill. 528,647, ren. 8–25–70. Cl. 16.
Van Raalte Co., Inc., from M. C. Schrank Co., Inc., New York, N.Y. 897,405, pub. 12–9–69. Cl. 39.
Vernors Inc., Detroit, Mich. 529,641, ren. 8–25–70. Cl. 45.
Verona-Pharma Chemical Corp., Union, N.J. 772,607, canc. Cl. 6.
Virg Davidson-Chudacoff Co., Culver City, Calif. 756,161, canc. Cl. 46.
Vita Craft Corp., Kansas City, Mo. 772,765, canc. Cl. 23.
Vita Food Products, Inc., New York, N.Y. 531,428, ren. 8–25–70. Cl. 48.
Voorhis Tiebout Co., Inc., Red Hook, N.Y. 533,632, ren. 8–25–70. Cl. 13.
Voss Enterprises, Inc., San Francisco, Calif. 897,574, pub. 6–9–70. Cl. 107.
Walker, W. E., Stores, Inc., Columbia, Miss. 897,535, pub. 6–9–70. Cl. 101.
Wall Tube and Metal Products Co., Beverly, N.J. 897,374, pub. 6–9–70. Cl. 32.
Watkins Cabinet Co., Inc., Germantown, Md. 897,376, pub. 6–9–70. Cl. 32.
Wayne-Gossard Corp., Humboldt, Tenn. 533,848, ren. 8–25–70. Cl. 39.
Welch, Warren W., d.b.a. Wil-Aren Originals, Colorado Springs, Colo. 897,366, pub. 6–9–70. Cl. 28.
Werna Watch Corp., Birmingham, Ala. 772,804, canc. Cl. 27.
Western Co. of North America, The, d.b.a. The Western Co., Fort Worth, Tex. 897,169, pub. 6–9–70. Cl. 6.
Western Electrodynamics, Inc., Colorado Springs, Colo. 772,-798, canc. Cl. 26.
Western Peat Moss Ltd., New Westminster, British Columbia, Canada. 772,562, canc. Cl. 1.
Wheeler, Joseph S., Jr., Anaheim, from Huntington Tile, Inc., Westminster, Calif. 897,190, pub. 6–9–70. Cl. 12.
White Stag Mfg. Co., Portland, Oreg. 897,409, pub. 6–9–70. Cl. 39.
Wilkens Instrument & Research, Inc., Walnut Creek, Calif. 772,799, canc. Cl. 26.
Wilson Sporting Goods Co., River Grove, Ill. 897,310, pub. 6–9–70. Cl. 22.
Winchell Donut House, Inc., South El Monte, Calif. 897,-508–9, pub. 6–9–70. Cl. 100.
Wisner Mfg. Corp., Mountainside, N.J. 772,757, canc. Cl. 23.
Wonderland, Inc., Newton, Mass. 897,545, pub. 6–9–70. Cl. 101.
Yardley of London, Inc., New York, N.Y. 897,395, pub. 6–9–70. Cl. 38.
Yardley of London, Inc., New York, N.Y. 897,484, pub. 6–9–70. Multiple Class (Classes 51 and 52).
Zippo Mfg. Co., Bradford, Pa. 897,334, pub. 6–9–70. Cl. 23.
Zip Zero Corp., Torrance, Calif. 897,372, pub. 6–9–70. Cl. 31.
Zinn, Arden, Atlanta, Ga. 897,314, pub. 6–9–70. Cl. 22.
Zysset, K., & Co. AG, Bern, Switzerland. 897,312, pub. 6–9–70. Cl. 22.

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